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FORENSICS FOR PROMOTING EFFICACY OF CRIMINAL JUSTICE IN INDIA

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ABSTRACT

Integrating forensic science with the judicial system is a paradigm shift in the latest laws introduced in India. Forensic Science plays an important role in the modern criminal justice system by providing scientific methods in the investigation process to ensure the conviction and exoneration on the fair part. Recent legal reforms have significantly improved the legal system, specifically in the part of mandatory involvement of forensic experts, zero FIR, capturing the crime scene with digital technology such as audio and video, victim-centered approach and so on. The study highlights the importance of applying forensics in the legal framework to strengthen the reliability and validity of evidence obtained from the crime scene and ensure justice to the individuals.

Keywords: Forensic Science Advancements, Bharatiya Nyaya Sanhita, Bharatiya Sakshya Adhiniyam, Bharatiya Nagarik Suraksha Sanhita, Criminal Justice System, etc.

INTRODUCTION

Forensic science has become an indispensable part of the investigative process and the judicial system which serves an important aspect while dealing with crime cases and delivering justice. In recent years, significant legal reforms have been introduced to strengthen the use of forensic science in crime scene investigations. However, the new laws put forward aim to improve and bolster the forensic aspect of evidence collection, enhance procedural integrity, and ensure the timely involvement of forensic experts at the crime scene. The new set of criminal and civil laws replaced the Indian Penal Code, 1860 with The Bharatiya Nyaya Sanhita Bill (BNS), 2023, Criminal Procedure Code, 1973 with The Bharatiya Nagarik Suraksha Sanhita Bill (BNSS), 2023 and the Indian Evidence Act, 1872 with The Bharatiya Sakshya Adhiniyam Bill (BSA), 2023. The three bills planned to be enacted to solidify and safeguard the judicial framework of India. The primary focus of laws from the British era was more inclined towards punishment, not the pursuit of justice but the proposed new bills fundamental shift in balancing both justice and punishment together. The core principle of the new bills is to uphold the constitutional rights of all

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citizens of India. The goal is not just punishment but rather to deliver justice through proper investigation to set an example for society. As part of this process, punishment may be necessary to deter future crimes. The government of modern India's bold move throws off old laws. These outdated rules served the interests of the then rulers, not the needs of Indian citizens. The new laws, in stark contrast, are built on the very foundation of India: freedom for all, basic rights, equal treatment and mandatory primary education under the laws.

Several issues were addressed leading to the introduction of new offenses which was not mentioned earlier such as terrorist acts concerning the national security of the country, organised crime, snatching, and the commission of any offence in India while being outside India. The new laws use gender-neutral language like 'he' when referring to individuals regardless of gender. Community service has been added as a potential punishment for offenders. The definition of voyeurism has been made gender-neutral along with several sections of the law, which have been modified to use gender-neutral language for both offenders and victims. A new provision specifically addresses the issue of mob lynching.

While talking about redefining the aspects of Police and Forensic investigation new provisions like zero FIR help to lodge FIRs at the police stations irrespective of the place of occurrence of crime. It helps victims complain about emergency that need immediate attention, aiding promptly, e-FIR and fast-track courts for timely justice.[1] [2] [3]

EVOLUTION OF FORENSICS

Apart from the general amendments, the introduction of three new bills has also caused an important shift in Forensic Science, leading to a major revolution. One of the most impactful changes is the mandatory photography and videography or live recording of crime scenes, especially in cases involving heinous offenses punishable by up to seven years or more imprisonment. This provision aims to document the crime scenes precisely and accurately, reducing the chances of evidence tampering or misinterpretation. Amendments in laws requiring mandatory visits of forensic experts lead to increased manpower. Forensic science laboratories have increased in number, currently, there are seven Central Forensic Science Laboratories (CFSL), thirty-two Forensic Science Laboratories (FSL), and ninety Regional FSLs (of which nine are under process of establishment in Bihar and one in Andaman & Nicobar) and five hundred twenty nine Mobile Forensic Unit (MFU). Uttar Pradesh has the highest MFUs, which is seventy-five and then comes Gujarat, Maharashtra and Madhya Pradesh having fifty MFUs each. [4] The development of forensic science in India had a significant series of milestones. In 1959, the Ministry of Home Affairs (MHA) established the Central Advisory Committee on Forensic Science, which led to the formation of organised State Forensic Science Laboratories in various regions such as Bombay, Madras, Punjab, Bihar, Rajasthan, and Madhya Pradesh. In 1972, the Committee was re-established as the apex advisory body for guiding the government on forensic science advancements. Over time, the Bureau of Police Research and Development (BPR&D) took over as the nodal agency responsible for coordinating the development of forensic science across the country. A specialised Directorate was later established under the BPR&D, led by a Chief Forensic Scientist, to oversee the growth and management of forensic institutions at both the central and state levels. In 2002, the Ministry of Home Affairs created the Directorate of Forensic Science Services (DFSS) following recommendations from the National Human Rights Commission and the Padmanabhaiah Committee on Police Reforms. The head of DFSS is a director-cum-Chief Forensic Scientist who manages Central Forensic Science Laboratories across India. This organizational structure has played a pivotal role in shaping forensic science services in India. [4]

Today, there are dedicated Forensic Science Universities and Institutes across India. While Dr. Harisingh Gour University, situated in Sagar, Madhya Pradesh, was one of the first universities to offer a program in forensic science (M.Sc. Forensic Science) in 1959, the National Forensic Science University (formerly known as Gujarat Forensic Science University), established in 2009, is the first university dedicated solely to forensic science. The National Forensic Science University is actively working towards imparting knowledge and providing practical exposure through skill-based training in various sub-domains of forensic science to enable individuals to become proficient forensic experts. Rashtriya Raksha University (RRU), Gandhinagar, Gujarat, established in 2009, is an Institute of National Importance (INI) that focuses on law enforcement, police training and forensic science. Rshtriya Raksha University works to train and impart knowledge to individuals with specialized skills to

address the multifaceted challenges of financial and crime investigation, security and police education, and justice delivery. Apart from this, the institutes deliver knowledge, training, and workshops to National as well as international personnel to enhance their skills. Such universities collectively contribute to the advancement of forensic science education and its application in strengthening the justice system in India. [5] [6]

EMPHASIS OF SCIENTIFIC EVIDENCE

A crime scene is where a crime took place or incidents occurred. The crime scene is a prime investigation point where evidence tells its own story if properly identified, collected, preserved, and analysed. The importance of the crime scene lies in its role as the primary source of physical evidence, such as fingerprints, footprints, biological materials, weapons, or other trace elements, which are vital for solving the case. Crime scene investigation (CSI) is a systematic process involving skilled forensic experts who ensure that evidence is not contaminated or overlooked. A meticulous examination of the scene of the crime can help in identifying the nature of the crime and the type of evidence used for the commission of a crime. The mandatory presence of forensic experts at the crime scene enhances the quality and accuracy of evidence collection, enabling the application of scientific techniques for analysis. As everything progresses or changes with time, as stated by the law of progressive change, similarly, a crime scene goes into inevitable changes due to environmental factors, human interference and the natural progression of events that need immediate attention because the delay in evidence collection results in comprising the reliability of evidence. Proper crime scene investigation and meticulous approach ensure the establishment of the chain of custody and maintain the integrity of evidence, which is critical for the court of law. Additionally, by employing advanced scientific techniques and meticulous attention to detail, crime scene investigation bridges the gap between the scene and the laboratory, ultimately supporting law enforcement in achieving justice. India has made significant advancements and has come up with the latest technologies to enhance its forensic services to aid the Criminal Justice System. The Bharatiya Sakshya Adhiniyam Bill expanded the definition of ‘document’ to include electronic or digital records, e-mails, server logs, computers, smartphones, laptops, SMS, websites, locational evidence, emails, and messages on devices (PIB). It emphasises the importance of electronic and digital evidence to maintain its integrity and simplifies the process of evidence collection for a smooth flow of information. [2] [7] [8]

Similarly, the key advancements include the Forensic Intelligence Division, Digital Forensic (Forensic Electronics), and Forensic Engineering. Food forensic units are to be created in Himachal Pradesh FSLs, whereas the Andhra Pradesh Forensic Science Laboratory is planning to procure advanced software to deal with cases related to deepfake technology and artificial intelligence. [9] [10]

One significant advancement is the integration of blockchain technology in the workflow of forensics. The introduction of blockchain technology was done by the Forensic Science Laboratory, Delhi in collaboration with the Delhi Police. Through the e-forensic application, blockchain is now used to maintain a secure, tamper-proof chain of custody for forensic evidence, ensuring transparency and accountability in criminal investigations. Incorporated within the Inter-Operable Criminal Justice System (ICJS), this system allows seamless and confidential data sharing among police, forensic labs, courts, and prisons. Each step in the forensic procedure is recorded as a “block” in the blockchain which cannot be changed. It starts from case registration to collection of evidence, analysis and reporting secures the evidence journey. This initiative streamlines forensic workflows, promotes efficiency, and enhances trust in the criminal legal system, setting a benchmark for modern forensic practices in India. [11]

DIGITALISATION OF COURT

The digitalisation of courts has been reflected at various important stages in the system such as framing the charges, evidence collection, analysis and in the court of law maintaining the chain of custody and recording evidence through audio and video mode. Additionally, in BSA, the explanation of secondary evidence has been extended to include oral and written statements and evidence from someone who has reviewed the document as valid secondary evidence. Whereas primary evidence expands to Digital electronic recording, video recording and electronic record storage as a means of primary evidence. [7]

One of the significant challenges in forensic science has been the lesser number of forensic facilities across states. Many states lack adequate infrastructure,

which delays the processing of crucial evidence. To address this, a new law as per section-176 Procedure for Investigation, BNSS allows the states to utilize forensic resources from neighbouring states or other regions wherever possible until their facilities are developed. This provision ensures that the lack of local forensic infrastructure does not hinder the investigation process. or compromise the quality of evidence collected from the crime scene. By leveraging resources across states, these laws promote a more uniform application of forensic science nationwide. Addressing the sensitivity of crimes like rape, new laws have been introduced focusing on the victim-centred reforms. Recording a victim's statement should occur at a particular location of their choice or at the residential address to ensure comfort and safety. Whenever possible, the statement must be recorded by female police personnel and in the presence of a member of her family, guardian, or a trusted welfare worker.

CONCLUSION

The journey of transit from 'punishment to justice' is reshaping the Indian legal framework, shifting towards a more human approach to delivering justice. The new laws improve the aspect of the integration of forensic science with the legal system by forwarding a step towards modernising the criminal justice system. By indulging digital technology and ensuring accurate evidence collection, fostering collaboration between law enforcement and forensic experts, and prioritising victim safety and comfort, these reforms create a robust framework for achieving justice. Overall, the introduction of new laws brings some positive changes, especially in procedural investigation by setting clear timelines and implementing the use of technology in investigations and court processes. As forensic science continues to evolve, such legislative advancements will play a critical role in addressing the challenges of crime and ensuring fairness in legal proceedings.

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