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NEW CRIMINAL LAWS 2023 AND THE STATUS OF FORENSIC SCIENCE IN INDIA

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ABSTRACT

The Bharatiya Nagarik Suraksha Sanhita (BNSS) Act – 2023, which has taken the place of the old Code of Criminal Procedure, 1973, has made the collection of forensic evidence mandatory in serious crime cases to improve the quality of investigation and to enhance the conviction rate. Section 176 (3) of BNSS mandates the collection of forensic evidence at the scene of the crime by a forensic expert for offences punishable by imprisonment of seven years or more. This provision prescribes five years for implementation. This paper attempts to discuss the present status of forensic science in India. It also highlights the challenges and infrastructural requirements to implement mandatory collection of forensic evidence under section 176 (3) of BNSS in serious crime cases.

Keywords: *Forensic evidence, Scene of crime, Forensic expert, Serious crime cases, Bharatiya Nagarik Suraksha Sanhita (BNSS) Act, 2023.*

INTRODUCTION

The criminal justice system in the world remained dependent upon oral evidence from eyewitnesses for centuries. The oral evidence was always full of hassles due to the decreasing moral values in society, and eyewitnesses turned unreliable and hostile in the courts of law. These witnesses could also be won over due to threats, pressures, and monetary offers. The practice of stock witnesses has also been a black spot on the face of the criminal justice system, which was undesirable in society. It was only in the 18th century onwards that forensic practice started taking shape in the world. Several forensic disciplines like anthropometry, fingerprints, toxicology, footprint, and photography emerged and developed in the 19th and 20th centuries. More disciplines like ballistics, physics, chemistry, and documents were developed and adopted in practice. The courts appreciated this evidence and took help from science and technology to disseminate justice. Forensic science developed in India in the 19th century, with the then-British rulers' opening of the Chemical Examiner's Laboratory at Madras, now Chennai. Later on, forensic networking

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in India continued with the establishment of more Chemical Examiner's Laboratories at Agra, the Central Finger Print Bureau at Kolkata in 1897, and the Government Examiner of Questioned Documents (GEQD) office at Shimla in 1904. It did not stop there but gained momentum to establish Central and State Forensic Science Laboratories in various regions and states. At present, there are 7 Central Forensic Science Laboratories (CFSLs), 32 State Forensic Science Laboratories (SFSLs) in States and Union Territories (UTs) and 97 Regional Forensic Science Laboratories (RFSLs). Fingerprint Bureau also works in almost every state in India. Moreover, 529 District Mobile Forensic Units (MFU) also work in various districts in various states.

India is the only country in the world that has established one National Forensic Sciences University (NFSU) with several campuses in the country and one in Uganda. The university provides forensic education to create trained manpower in forensic sciences. Not only this but more than a hundred other universities in India also provide forensic education. Rashtriya Raksha University (RRU) provides training in Forensic Science to the Police, Central Armed Para Military Forces (CAPFs), defence personnel, judges, and public prosecutors. Further, the Govt. of India has launched a "National Forensic Infrastructure Enhancement Scheme (NFIES)" and has approved on 19th June 2024 a total outlay of Rs. 2,254.43 crores from the financial year 2024-2025 to 2028-2029 for establishing 09 additional off-campuses of NFSU and 07 additional CFSLs in the country other than the one already approved to be established in Samba, Jammu [1–3]. This has been done to clear the pendency of cases in FSLs to provide trained manpower and meet the enhanced workload of cases in SFSLs and CFSLs, given the New Criminal Laws that mandate the collection of forensic evidence in all cases where the quantum of punishment is seven or more years [1]. Further, under the "Scheme for Modernization of Forensic Capacities", 433 mobile forensic vans are being set up by the States and UTs in India [1].

NEW LEGAL PROVISIONS

1. Section 176 (3) of BNSS (Bharatiya Nagarik Suraksha Sanhita), 2023, mandates the collection of forensic evidence at the scene of the crime by a forensic expert for offences that are punishable by imprisonment of seven years or more.
2. Section 349 of BNSS, 2023, empowered first–class magistrates to order sample collection for investigations offering a broader scope, including finger impressions and voice samples. It allows sample collection without prior arrest.
3. Section 329 of BNSS, 2023, allows a government scientific expert to submit his report to the court of law without requiring oral testimony. It has also expanded the categories of government experts and included "any other scientific expert" specified only by the central government.
4. Section 330 of BNSS, 2023 states, "When any document is filed, its particulars must be included in a list. The prosecution or accused and their advocates must admit or deny each document's genuineness within thirty days of supply. At its discretion, the court may relax the time limit, and no expert can be called unless the expert report is disputed.

These provisions of BNSS would permit timely forensic examinations, comparisons, and submission of reports. Moreover, the expert will have more time to work in the laboratory and at the crime scene. This provision must also be extended to medical officers who conduct medicolegal examinations and appear for evidence in a court of law.

BACKLOG/PENDENCY OF CASES IN FORENSIC SCIENCE LABORATORIES

Looking at the backlog/pendency of crime cases in the Central and State Forensic Science Laboratories in India does not present a rosy picture. There is a huge pendency of cases in the Indian courts of law. Efforts are consistently being made by the Government of India and the state governments, but a multipronged strategy is still required for the timely and quick disposal of cases. Some of the statistical figures available about the pending cases in forensic laboratories in India reveal that His Excellency Lieutenant Governor of Delhi visited the Forensic Science Laboratory of Delhi on 22nd June 2022 and found more than 20,000 cases pending examination [4]. Most of these cases pertain to chemistry, toxicology, biology, DNA, and cyber forensics specialities. Though it is difficult to assess any comprehensive picture of the nation based on the same, the reasons given for pendency were mainly attributed to the following:

- Backlog of cases
- Inadequate infrastructure
- Shortage of skilled manpower
- Complex evidence analysis in some cases
- Lack of proper collection of evidence by the investigation agencies [4]

The Bombay High Court on 30th January 2025

expressed grave concern over the huge pendency of cases. Over 45,000 cases have been pending in the Directorate of Forensic Science Laboratories in Mumbai and Thane for the last five years [5].

In total, 3,953 cases were pending till October 2024 in 07 CFSLs in India, which examine referral cases of various States and UTs in the country [1].

On 24th August 2024, the Punjab and Haryana High Court took suo moto cognizance of the delay in DNA reports and asked if proper and adequate infrastructural facilities were available. Later, the high court was concerned about the huge pendency of cases in both the state laboratories and constituted a three-member committee to submit its report regarding the forensic infrastructure available and the further requirements, if any, to deal with the timely disposal of crime cases by forensic laboratories in both the states. The committee submitted its report, and on 2nd November 2024, the High Court directed the Chief Secretaries of both states to provide adequate infrastructure, equipment, and manpower as recommended by the committee. It may be mentioned that on 7th February 2025. In Punjab FSL, as told in the High Court, more than 3,000 cases were pending, and due to a lack of facilities, the cases were being referred to CFSL Chandigarh [6,7].

In the State FSL of Himachal Pradesh and two regional FSLs, 3,185 cases were pending in 2022-2023 as per their annual administrative report – 2022-23 [8].

The Directorate of Forensic Science Laboratories, Karnataka, has 6,994 cases pending as of 11th February 2021 [9]. The data for Tamil Nadu could not be available. However, in Kerala, 60,381 cases were pending examinations in various chemical examiners and forensic laboratories on 29th October 2024 [10]. The High Court of Kerala has taken a tough stand and directed the government to provide the necessary facilities to tackle this pendency.

In Uttar Pradesh, 5,956 cases were pending in FSL at Agra and 2,600 cases were pending for over two years due to a lack of appropriate lab facilities [11]. On 23rd September 2021, the High Court order showed 8,927 cases pending at SFSL Lucknow. 9,972 DNA test samples were pending for one to two years. The total pendency of cases in UP forensic labs in 2021 was approximately 25,000 cases.

On 16th July 2024, the High Court of Bihar mentions the huge pendency of cases in FSL Patna. Similar was the view of the high courts at Rajasthan, Madhya Pradesh, Chhattisgarh, Manipur, West Bengal, and Gujarat states as per their different order available on the internet and media [12].

However, the pendency of cases in state and regional FSLs up to 31 December 2023 was 39007 cases in Rajasthan [13]. On 12th September 2024, the Rajasthan High Court asked the Home Department what steps have been taken to reduce the pendency and what the plan was for more infrastructure and manpower.

As per information available on the internet, there is no central data on pending cases in the SFSLs of Gujarat. However, a staff shortage at the Directorate of Forensic Science, Gandhinagar, has caused delays in several cases [14,15]. 455 cases of the Anti-Corruption Bureau (ACB) were pending in FSL [14]. On 16th December 2019, 2587 cases of computer forensics, 544 cases of voice spectrograph, 894 cases of documents, and 4025 cases were pending. In December 2024, 23 cases were pending with the National Forensic Science University.

Thus, it is pretty clear from the pendency of crime cases and the backlog in the Forensic Science Laboratories in India that, as per the existing workload, the manpower and infrastructure are insufficient and grossly inadequate.

ESTIMATED FUTURE WORKLOAD

The current population of India is 1,459,767,164 as of 08th March 2025 based on interpolation of the latest United Nations data or 1.46 billion as of 01st July 2025 [16]. Based on the population figures for 2020, there were only 0.33 forensic scientists per 0.1 million population in India [17]. However, in the countries abroad, it was 20 to 50 scientists per 0.1 million population [17]. This figure for India was calculated based on the then population of India, which was 138 crores (1.38 billion), and as per data from forensic scientists working at that time. Now, for a population of 1.46 billion in 2025, the requirement for forensic scientists has further increased [17]. Further, the referral rate of crime cases to FSLs in India was 10 to 12% of the total cases registered.

As per implementation of the provision of section 176(3) of the BNSS Act 2023, the forensic expert has to examine every crime scene, collect samples in the laboratory, and give a report on all serious crimes, with the punishment being seven or more years [18]. It is pertinent to mention here that when 10 to 12%

of cases were referred to forensic laboratories, most of the cases to which the samples pertained were of a serious nature. It indicates that if FSL must examine 100% of samples of all such cases, the referral rate will increase at least five times. The infrastructure and manpower shall also have to be increased at least five times compared to earlier.

Keeping in view the scene of crime, visit every case of serious crime for sample collection by forensic scientists, teaching and training of police, prosecutions, medical officers, and Judges. Further resources will be required to be placed in service.

ENHANCEMENT OF INVESTIGATION QUALITY AND BOOSTING CONVICTION RATES

Effective and impartial investigation is the foundation of justice in the Justice delivery system. There is no doubt that if investigation is done through the aids of forensic science instead of age-old oral testimony. Any system for this purpose requires forensically trained police and forensic investigators. For better quality of investigation, the police investigating officer should get timely underlay forensic reports from the forensic science laboratories. The provisions of BNSS Act – 23 in India are a welcome step in this direction that shall be implemented in the next five years, up to 2028-29. The government of India has made sufficient financial provisions, and states and UTs in India should take the lead in implementing the same to update their forensic infrastructure so that there is no pendency of cases in forensic laboratories.

To boost the conviction rate, five agencies- the police, prosecution, judiciary, forensic, and medical officers (Forensic medicolegal experts)- are responsible. The conviction or acquittal of a crime case always depends upon how the evidence has been collected, how the chain of custody has been maintained, how it has been examined and conclusive report prepared, how the prosecution in the court has presented the evidence, and how the court has evaluated the evidence. This all depends upon the training, expertise, and experience of all the supra-stated five agencies. There should be induction courses and refresher courses for all these agencies in various branches of forensic science. In this technology-driven age, everyone needs to be exposed to the fields of DNA analysis, cyber forensics, digital forensics, artificial intelligence, financial audits, and financial investigations. In India, several valuable documents in the form of reports have been prepared in the past, which can guide further. These reports are mentioned in an article [17].

DISCUSSION

India is a hub of forensic science education nowadays, where a large number of countries are getting training their officers from the criminal justice system trained in forensic science, law, security, management, and information technology, National Forensic Science University and Rashtriya Raksha University (RRU) at Gandhinagar Gujarat are conducting various courses under Indian Technical and Economic Cooperation (ITEC) Programme of Govt. of India, the police academies, judicial academics, and various other institutions are also imparting various trainings. All the universities and training institutions in the country are extending education and training facilities. Bureau of Police Research and Development (BPR&D), Directorate of Forensic Science Services (DFSS) New Delhi, Ministry of Home Affairs, Govt. of India are facilitating various training courses. Hundreds of universities and colleges are offering B.Sc. and M.Sc. Forensic Science courses are carrying out research and development in Forensic Science.

Section 176 (3) of BNSS is a welcome step taken by the Government of India, which will introduce more forensic evidence in criminal investigations and trials [18]. Forensic evidence will save innocent suspects and help to apprehend criminals more effectively. It will also help protect the human rights of the people languishing in prisons for want of early justice. The act shall improve the conditions of forensic laboratories and mortuaries in India.

The enhanced accredited extended forensic facilities are expected to mitigate the pendency of cases and backlog in forensic laboratories and shall provide effective forensic reports to the investigating agencies early, thereby facilitating early justice to every concerned individual in India. Since the criminal justice system in India will be more reliant on forensic evidence in future, it will be more appropriate if forensic science is included in the curriculum of law graduates and post-graduates in India as a compulsory paper.

CONCLUSION

The analysis of the foregoing discussions suggests that:

- The Indian Criminal Justice system will be more forensic and technology-based in the future.

- The forensic laboratories will have more infrastructure, manpower, and equipments to deal with the workload of cases effectively.
- Forensic institutions in India are generating the trained manpower to meet future challenges.
- Forensic science education has gained momentum in many educational institutions in India. It will be in the interest of the criminal justice system if a compulsory paper of forensic science is included by the educational institutions in India for graduates and post-graduates in law.

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