FROM DISCRETION TO MANDATE: RE-ENGINEERING POLICE INVESTIGATION THROUGH FORENSIC SCIENCE UNDER THE BNSS, 2023: A SOCIO-LEGAL ANALYSIS OF SECTION 176 AND INVESTIGATIVE ACCOUNTABILITY

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ABSTRACT

However, the introduction of the Bharatiya Nagarik Suraksha Sanhita (BNSS), 2023 signifies a paradigm shift in the criminal procedure of India by making forensic investigation a statutory obligation instead of leaving it as the discretion of the investigating police force, particularly section 176(3) of the act, which mandates forensic examination of offenders who are liable for offences attracting seven years or more of imprisonment. In this regard, the paper attempts to conduct a doctrinal as well as socio-legal analysis on this shift and questions whether it has the power to revolutionize the investigative procedures or whether it merely formalizes the existing institutional constraints. In this connection, the research work makes an analysis based on the Due Process and Crime Control Models of criminal justice, and Institutional Theory on the interaction between BNSS and Bharatiya Sakshya Adhiniyam, 2023, along with judicial consideration of forensic evidence in cases like Prakash Nishad v. State of Maharashtra, Selvi v. State of Karnataka and Shafhi Mohammad v. State of Himachal Pradesh. It is clear from the paper that reform needs to be done through building up institutional capabilities, proper oversight of regulation by an independent body, and granting defense access to independent forensic testing. The paper makes some suggestions for immediate, mid, and long-term reforms and one suggestion includes the formation of a National Forensic Authority.

Introduction

The Indian criminal justice system has, over the last few years, turned towards the application of forensic science in order to make its investigations more accurate and less subject to errors that could be caused by human testimony. Notwithstanding this change, the challenges that were encountered have still threatened the promise of scientific evidence. Overcrowded forensic laboratories leading to investigative delays, wrongful convictions brought about by poor forensic practices, and poor consistency of expert reports have cast a deep shadow on the credibility of forensic contributions in the trial of criminal cases.[1] Cases have often been faced in the courts in which forensic evidence, instead of helping in the adjudication, has conclusively given rise to more doubts since it has been collected in an improper way, has been compromised in the chain of custody, or is not standardized. Such systemic gaps point to another underlying institutional issue: the increasing disjuncture between what is expected of forensic science and the truths of institutional reality that underlie its use.[2]

This difficulty results in a critical normative conflict that is central to modern criminal procedure. Although the recent law changes are moving towards increased use of forensic methods to increase objectivity and fairness, institutional capacity is uneven and is not sufficient in many cases.[3] Concurrently, courts are still vigilant in the assessment of forensic and expert evidence, and they know that science does not surpass the risk of human error, institutional and procedural bias, or infraction. The ensuing conflict between the idea of scientific objectivity and judicial safeguarding of the law raises important challenges of the place, scope, and regulation of forensic science in the criminal justice system.[4]

Research Statement

Although forensic science has been incorporated through the statutory provisions of the Bharatiya Nagarik Suraksha Sanhita and the Bharatiya Sakshya Adhiniyam, the very fact of statutory incorporation of forensic science in criminal investigations does not mean successful and dependable forensic integration. The lack of infrastructure, unequal investigative capability, and judicial distrust remain to be obstacles to the transformative power of forensic

[1] Jayanth K. Krishnan, *India's Shift to Forensic-Led Policing: Challenges Ahead*, 52 Econ. & Pol. Wkly. 32 (2017).
[2] *Id*.
[3] Ranita Ray, *Forensic Science in India: Infrastructure and Challenges*, 15 Nat'l L. Sch. India Rev. 89 (2023).
[4] Nat'l Acad. of Sci., *Strengthening Forensic Science in the United States: A Path Forward* 107–12 (2009).

science. This study explores the notion that legislative recognition is sufficient to make any meaningful changes to the practices of investigations without concurrent institutional, procedural, and rights-based protection.

Research Questions & Objectives

Research Questions

1. Whether the statutory mandate for forensic investigation has altered police investigative practices in India?

2. Whether increased reliance on forensic science strengthens procedural fairness and fair-trial guarantees?

3. Whether institutional and judicial limitations affect the effective use of forensic evidence in criminal trials?

4. Whether Indian courts evaluate forensic evidence as determinative proof or merely corroborative material?

Research Objectives

1. To examine whether the statutory mandate for forensic investigation has influenced police investigative practices in India.

2. To assess the impact of increased reliance on forensic science on procedural fairness and fair-trial safeguards.

3. To identify institutional, procedural, and judicial limitations affecting the effective use of forensic evidence within the criminal justice system.

4. To analyse the judicial approach towards forensic evidence, particularly whether it is treated as determinative or corroborative in criminal trials.

Scope and Limitations of the Study

The research paper is limited to the Indian criminal justice system, and the major focus of the research is the statutory law and judicial interpretation. Theoretically, criminal investigation

and evidentiary review is analyzed with no reference being made to civil or administrative cases. The study methodology is doctrinal and socio-legal, and it is based on statutes, case law, and secondary academic materials.[5] The research lacks empirical field work or laboratory-scale forensic examination due to limitations of access, time and the undergraduate level of research. Comparative allusions are minimal and descriptive, not comprehensive. These limitations are consciously acknowledged to preserve analytical depth and doctrinal clarity while avoiding over-generalisation.

Theoretical Framework

In this study, two complementary theoretical frameworks are anchored, which are the **Due Process** and **Crime Control Models** of criminal justice, and **Institutional Theory** concerning the regulation of scientific expertise. A combination of these frameworks gives a moderated perspective to analyze the change in discretionary use to mandatory use of forensic science under the Bharatiya Nagarik Suraksha Sanhita, 2023[6]. The **Crime Control Model** is more focused on efficiency, speed, and effective suppression of crime and pays much attention to investigative capabilities that will help identify and criminalize perpetrators as quickly as possible.[7] ***In this respect, the legal requirement of forensic investigation is an effort to increase the accuracy of the investigations, lessen the reliance on confession-based policing, and ensure the reliability of the evidence using a scientific approach.***[8] The growing use of forensic science associated with the BNSS goes hand in hand with the crime control purpose of generating technically sound and conviction-producing evidence. Nevertheless, there is also the risk of legitimizing hastened processes that can circumvent procedural protections to facilitate processes in a system where institutional capacity might be undermined.

On the contrary, the **Due Process Model** predicts fairness, accuracy, and protection of individual rights in the criminal process.[9] It requires high-level examination of evidence, openness in the investigating procedures, and legal care that nothing hasty or coercive is adopted. ***In this context, the importance of forensic science is esteemed not only because of its efficiency, but also because of its ability to contribute to elements of procedural fairness***

[5] Ministry of Home Affairs, *Annual Report 2023–24: Forensic Modernization* 56–62 (India).
[6] Bharatiya Nagarik Suraksha Sanhita, No. 45 of 2023, § 176(3) (India).
[7] Herbert L. Packer, *The Limits of the Criminal Sanction* 39–102 (Stanford Univ. Press 1968).
[8] U.N. Office on Drugs & Crime, *Forensic Capacity in South Asia* 34–40 (2022).
[9] E.H. Kaylor III, *Crime Control, Due Process, & Evidentiary Exclusion*, 2013 N.Y. St. Corr. Ass'n Proc. 55, 55–60 (Roger Williams Univ.), https://docs.rwu.edu/nyscaproceedings/vol2013/iss2013/6/.rwu

due to objective and verifiable evidence.[10] Simultaneously, the due process issues come into the limelight in cases when a poorly collected or a poorly analyzed or otherwise debilitated chain of custody is blindly accepted as such[11]. The due process lens thus warns against the inherent rights-protective nature of forensic mandates, lacks any safeguards[12].

Additional to these models, the **Institutional Theory** provides a structural explanation of the way scientific expertise is created, controlled, and applied to the legal systems.[13] It acknowledges that forensic science is not an autonomous system but exists as an institution, which is designed and managed through resource distribution, professional standards, and regulatory controls***. In this light, the success of the forensic mandate by the BNSS should not just be based on the legal force but the integrity, autonomy, and the ability of forensic institutions.*** The scientific objectivity that the law tries to capitalize on can be compromised by weak accreditation systems, lack of training, and backlog in the system. The implementation of these structures should be supported since they will allow a more delicate assessment of forensic mandates not only in terms of their possibility to control crime but also in terms of their alignment with due process values and institutional facts.

Research Methodology

Nature of Research

The given research author uses a **doctrinal** and **socio-legal research design** to investigate the change in criminal investigation due to the mandatory use of forensic science according to the Bharatiya Nagarik Suraksha Sanhita, 2023. The statutory framework of forensic investigation and evidentiary evaluation is analysed by a doctrinal approach and the institutional and practical implications of the legal requirements are assessed by a socio-legal perspective.

Method of Analysis

The **primary method of analysis** is doctrinal in nature and includes a thorough review of the applicable statutory texts, especially those that relate to the investigation and forensic

[10] V.A. Studocu, *Herbert Packer Model: Models of Criminal Procedure in India* (2024), https://www.studocu.com/in/document/vellore-institute-of-technology/jurisprudence/herbet-packer-model/107209333.
[11] Selvi V. State Of Karnataka, (2010) 7 Scc 263
[12] State Of Maharashtra V. Suresh, (2000) 1 Scc 471
[13] *Id*.

procedures, as well as the judicial interpretations of the application and admissibility of forensic and expert evidence. This approach allows a rigorous assessment of the legislative intent, interpretation of statutes, and dynamic judicial criteria.

The second approach involves a **social-legal analysis** of the institutional operations of the forensic systems in India. This incorporates an evaluation of structural problems, including laboratory capacity, accreditation procedures, investigative personnel training, and delays in procedures, as are contained in academic literature, policy reports, and court notes. This strategy makes it easier to learn about the disparity between the regulations developed by the law and their real-world application.

Empirical methodology has not been taken because data are not always available, especially when considering the case of forensic laboratories and investigative agencies, and the limited scope of undergraduate research. Moreover, issues of reliability and verifiability of primary data within a short period also explain the appropriateness of this option. The paper is accordingly based on statutory interpretation, judicial rationale, and minimized comparative insight to offer a consistent and practical analysis of the established academic parameters.

Literature Review

Bharatiya Nagarik Suraksha Sanhita, 2023[14]

Legislative Authority: Parliament of India

Year of Enactment: 2023

Key Findings:

The Bharatiya Nagarik Suraksha Sanhita, 2023, marks a significant departure from the discretionary model of criminal investigation under the Code of Criminal Procedure, 1973, by introducing a **statutory mandate for forensic investigation**. Of specific application is **Section 176(3) of the BNSS**, which puts obligatory forensic analysis in instances of offences that are punishable by seven years or more imprisonment. The intent behind this provision is legislative in nature, in that it aims to bring scientific practices to criminal investigation, discourage

[14] Bharatiya Nagarik Suraksha Sanhita, No. 45 of 2023, § 176(3) (India).

dependence on confession policing, and increase the reliability of investigations in a court of law. The BNSS aims at re-engineering police practices through integrating forensic science into the investigation process, starting at the crime-scene phase itself in order to make them consistent with the principles of objectivity, transparency, and procedural fairness.

Gaps in the Statute:

Although the BNSS is progressive, it pays insufficient attention to the **institutional preparedness**, such as the presence of accredited forensic laboratories, trained forensic staff, and prompt analysis. The law requires forensic participation, but does not provide on the specific measures of protection, independence of forensic scientists, or non-adherence. This poses a threat of **formal or token compliance** whereby the forensic processes are carried out in a mechanical manner without enhancing the results of the investigation.

Relevance:

The central point of the study is the **BNSS** because **it provides a legal basis of the change of discretionary to mandatory forensic investigation in India**. There is an urgent need to examine its provisions to establish whether reform of a legislative nature would be sufficient to reverse investigative behaviour or whether structural and institutional reforms are necessary to realise the promise of forensic science on criminal justice system.

Bharatiya Sakhya Adhiniyam, 2023[15]

Legislative Authority: Parliament of India

Year of Enactment: 2023

Key Findings:

The Bharatiya Sakshya Adhiniyam, 2023 replaces the colonial-era Evidence Act, 1872 and rearticulates the law governing admissibility and evaluation of evidence, including forensic and scientific evidence. The law still preserves the principle that expert opinion is relevant, but not decisive, and implicitly acknowledges the contemporary scientific and electronic evidence. The BSA is aimed at harmonizing the evidentiary standards of the contemporary investigation

[15] Bharatiya Sakshya Adhiniyam, No. 47 of 2023, §§ 39- 45 (India).

practice and the scientific evidence with the existing investigation standards by codifying the provisions on expert evidence, forensic reports, and scientific testification.

Gaps in the Statute:

Although the BSA modernizes the categories of evidence, it does not decisively transform the forensic evidence into a decisive one, so the judicial discretion remains mostly preserved. Clear guidelines in regard to the reliability evaluation, validation and institutional bias of forensic reports are not well developed.

Relevance:

The BSA focuses on the question of how BNSS forensic mandates are converted into the weight of evidence at trial to determine the courtroom acceptance of scientific evidence.

***Prakash Nishad v. State of Maharashtra*[16]**

Coram: Hon'ble Mr. Justice B.R. Gavai; Hon'ble Mr. Justice Sanjay Karol; Hon'ble Mr. Justice Vikram Nath

Forum: Supreme Court of India

Citation: Prakash Nishad v. State of Maharashtra, (2023) 16 SCC 357

Key Findings:

The case discussed by the Supreme Court was the admissibility of the forensic and circumstantial evidence against a broken chain of custody. The question was how much one could depend on the forensic material where the prosecution was unable to prove a continuous and believable chain connecting the material found at the scene of the crime to its examination and manufacture under court where it was presented. The Court decided that forensic evidence lacks automatic credibility and it should be backed so strongly by strict compliance with procedures, especially relating to seizure, sealing, storage, and transmission. A missing link or discrepancy in this chain not explained makes the forensic findings questionable.

[16] Prakash Nishad v. State of Maharashtra, (2023) 16 SCC 357.

Analysis:

The reasoning behind the decision is that the reinforcing of the concept that the use of forensic science as a cause of justice is only valid when the science is entrenched in the lawful investigative procedures. The Court has emphasized that the lapses made by the investigators cannot be repaired by scientific examination, and the courts have to be wary of accepting forensic reports as infallible. The judgment improved the judicial principles on the application of forensic evidence by the insistence on careful documentation and continuity of custody. This strategy has made an important contribution to the development of the forensic practice in India through focus on accountability, discipline in the procedure, and openness in the investigation.

Relevance:

Prakash Nishad is a precedent to the ***law-in-action boundaries*** of forensic evidence. It is especially applicable in the situation involving the BNSS, 2023, because it shows that statutory requirements on forensic investigation can only be effective when they are also be followed with strict adherence to chain-of-custody requirements and as such affect the process of judicial scrutiny and the process of reforming the investigations.

Invalid Forensic Science Testimony and Wrongful Convictions [17]

Authors: Brian L. Garrett and Peter J. Neufeld

Published in: *Virginia Law Review*, Vol. 95, No. 1 (2009)

Methodology: Empirical and doctrinal analysis

Key Findings:

Garrett and Neufeld take a critical look at the significance of a bad forensic science testimony in perpetrating wrongful convictions in the United States. The authors identify that, based on a case analysis of cases that were later exonerated by DNA evidence, forensic experts often gave evidence that emphasized scientific certitude, use of non-verified methods, or were not methodologically rigorous. The paper shows that the courts tended to accept such evidence

[17] Brian L. Garrett & Peter J. Neufeld, Invalid Forensic Science Testimony and Wrongful Convictions, 95 Va. L. Rev. 1 (2009). https://www.jstor.org/stable/25475240

blindly and regarded forensics evidence as an authority irrespective of its scientific insufficiency. The article raises system-wide problems as poor standards, absence of accreditation, and prosecutor pressure on forensic scientists, which undermines the belief that forensic science is objective or reliable.

Research Gaps and Recommendations:

The article is based on the U.S. jurisprudence primarily and does not address jurisdictions such as India where the forensic infrastructure and regulatory mechanisms vary greatly. It is also a longstanding practice prior to the recent statutory changes that require forensic investigation. The impact of legislative requirements on the creation of criminal justice systems should be studied in the future.

Relevance:

The article has a high applicability to the context especially in determining whether mandatory forensic investigation under the BNSS, 2023 can eliminate the same risk of overreliance and miscarriage of justice, without sufficient institutional protection.

The Development, Status and Future of Forensics in India[18]

Author: P. Kathane

Published in: *Forensic Science International: Reports* (ScienceDirect)

Methodology: Doctrinal and policy-oriented review with institutional analysis

Key Findings:

On his part, Kathane offers an elaborate evaluation of forensic science development in India, including the institutional potential of forensic labs, the presence of trained staff, implementation of technology, and systemic backlog. The article notes that although criminal justice systems continue to rely more on forensic evidence, the Indian forensic infrastructure is not even, is underfunded, and overworked. It names such issues as the delay in the forensic reporting, the absence of standardisation among laboratories, the inadequate accreditation

[18] P. Kathane, The Development, Status and Future of Forensics in India, Forensic Sci. Int'l: Reps. (2021). https://www.sciencedirect.com/science/article/pii/S2665910721000463

process, and the absence of training of investigators and experts. According to the author, such shortcomings are found to be the direct impediments to the reliability and prompt application of forensic evidence during the investigation and trial of a criminal case. Interestingly, the article emphasizes the point that the legislative or procedural concentration on forensic science is ineffective in the absence of structural changes.

Research Gaps and Recommendations:

The article does not reflect the recent statutory requirement such as those suggested by the BNSS, 2023, or even their legal implications. Further studies should focus on whether it is possible to make mandatory forensic investigation succeed without targeting the institutional deficits it has been found to have.

Relevance:

The article is very useful in the assessment of the feasibility of the BNSS forensic mandate in practice, which supports the thesis according to which institutional power cannot be replaced by legal power.

This paper will provide answers to these doctrinal and institutional silences by asking whether the meaning of the BNSS forensic mandate changes the investigative practice in significant ways under the current systemic limitations.

Socio-Legal Analysis of Forensic Science in Criminal Investigation

The Bharatiya Nagarik Suraksha Sanhita, 2023 (BNSS) is a decisive change in statute since it requires offences with a seven-year or longer sentence to be investigated in a way that will be scientific in nature, limiting discretion in investigations and introducing scientific approaches to criminal investigation. This requirement is paired with the Bharatiya Sakshya Adhiniyam, 2023 (BSA), which gives forensic and expert evidence direct legal status, and enhances its admissibility at the stage of criminal legal proceedings.[19] Combined, these enactments indicate a legislative desire to discontinue the focus on confession-based policing in favor of an evidence-based form of investigation based on scientific objectivity.

[19] Standing Comm. on Home Affairs, *Modernization of Forensic Labs* 12- 15 (Lok Sabha Secretariat 117th Rep. 2017)

Law in Text versus Law in Action

Although the statutory framework is a manifestation of reformist ambition, its operationalization demonstrates the existence of rather serious structural constraints. Scholars and forensic professionals alike have pointed out the lack of accredited labs, personnel, and standard procedures.[20] The problems of backlogs and unequal capacity in forensic institutions in India, highlighted by P. Kathane, are concerning because it appears that the mandating of forensic investigation may turn into a formal compulsion rather than a substantive reform. In this way, law in text envisions a homogeneous scientific inquiry, as compared to law in action, which is disjointed and lopsided.[21]

Impact on Criminal Investigation Practices

Forensic mandate can limit arbitrary police discretion and coercion through providing a basis of investigations in material evidence. Nevertheless, the inefficiency in the reporting of forensic investigations tends to destroy the efficiency of the investigations, causing the delay of custody and stagnation of the trial.[22] The Supreme Court has severally pointed to lack of investigative diligence such as late or shoddy forensic examination as a nullifier of indictments. As a result, the accuracy of forensic science can be sought even though the institutional flaws of its outputs can be counterintuitive to the results of investigations.

Forensic Science and the Rights of the Accused

In the right-based view, forensic science directly borders on Article 21 of the Constitution[23], which provides the right to a fair and prompt trial. In ***Manu Sharma v. State (NCT of Delhi)[24]***, The Supreme Court reminded that scientific facts should be evaluated with a lot of caution since abusive dependence on faulty expert testimony can bias the accused. Two interconnected negative effects of delayed forensic reporting and broken chain of custody are not only the loss of evidentiary value, but a violation of procedural fairness through postponed trials and loss of accountability.[25]

[20] Nat'l Crime Records Bureau, *Crime in India 2023* 45 (2024).
[21] Mukesh v. State (NCT of Delhi), (2017) 6 SCC 1, ¶¶ 785–90.
[22] *Id*.
[23] Indian Constitution, art. 21.
[24] Manu Sharma v. State (NCT of Delhi), (2010) 6 SCC 1, ¶¶ 455–60 (India).
[25] Hussainara Khatoon v. State of Bihar, (1980) 1 SCC 81, ¶ 19.

Judicial Attitudes towards Forensic and Expert Evidence

The Indian courts have always been very reserved in their approach towards forensic evidence, with expert opinion being considered as corroborative and not conclusive. Here, in the case of ***State of H.P. v. Jai Lal***[26]***,*** the court ruled that expert evidence is not binding and has to be weighed together with other evidence. Similarly, in ***Vijayee Singh v. The State of U.P*** [27], the Supreme Court emphasized the existence of a continuous chain of custody as it was meant to ensure reliability. The judicial observations may thus be considered as skeptical pragmatism which admits both the probative and fallibility of forensic science in adjudgment of crime cases.

Critical Analysis & Argumentation

From Discretion to Mandate: Has Forensic Science Transformed Investigation?

The transition from discretionary use of forensic tools to a statutory mandate under the Bharatiya Nagarik Suraksha Sanhita, 2023[28], represents a structural attempt to recalibrate police investigation in India. In the past, the focus of criminal investigations was on oral testimony, confessions, and circumstantial reconstruction, which could easily be accused of arbitrariness and coercion. The BNSS aims to bring objectivity, standardisation and evident reliability of evidence at the stage of investigation in a process, especially by establishing a requirement of forensic input, especially in big crimes.[29]

Principally, this transformation is transformative in nature. The applicability of forensic science was proven even before the BNSS: the National Crime Records Bureau records[30] have been steadily showing the increased conviction rates in cases with the scientific input, like DNA profiling and ballistic testing. Cases that have been decided by the judiciary have also put increased emphasis on scientific corroboration, especially in circumstantial evidence-based cases. The mandate, therefore, seeks to entrench the best practices systematically as opposed to investigative whimsicality.[31]

[26] State of H.P. v. Jai Lal, (1999) 7 SCC 280, ¶ 15 (India).
[27] Vijayee Singh v. State of U.P., (1990) 3 SCC 395, ¶ 23 (India).
[28] Bharatiya Nagarik Suraksha Sanhita, No. 45 of 2023, § 176(3) (India).
[29] *Id*.
[30] Nat'l Crime Records Bureau, *Crime in India 2023* 112–15 (2024).
[31] Selvi v. State of Karnataka, (2010) 7 SCC 263, ¶¶ 294–300.

The trend of early implementation, however, indicates that transformation has been unbalanced. Within a number of jurisdictions, forensic compliance has assumed a more procedural approach, that is, samples have been collected without any analysis or any significant incorporation into the investigative strategy.[32] This brings forth the issue that the mandate is at risk of being a box-ticking exercise instead of a form of substantive reform. Whether the shift toward a discretion to mandate is effective thus depends on whether the institutions are ready and whether they have the enforcement mechanisms.[33]

The Risk of Procedural Over-Scientificisation

One of the most significant unintended effects of the mandatory forensic reliance has been the threat of the over-scientificisation of the procedures, or what can be termed as forensic inflation. This is defined as the propensity to unduly objectivity and finality on forensic evidence simply because it is called scientific. This type of inflation may mask methodological limitations, human error, and institutional prejudice of forensic procedures.[34]

Through both national and international judicial experience, it has been shown that forensic evidence is not beyond being erroneous. Criminal cases of imperfect ballistic matching, damaged DNA samples or late chemical testing results highlight that science is a human-based process and interpretation system. Other forms of evidence, including witness testimony or circumstantial evidence, could also be marginalised by over-scientificisation, although they would be legally sound and contextually valid.[35]

In addition, forensic inflation also exposes the judicial reasoning to move beyond critical assessment and to acquiescence. Given the technical reports, courts might not be skilled enough to question the methodological validity, and thus, they turn to the perceived impartiality of science.[36] It gives a false sense of objectivity, in which the evidentiary weight is given without proper questioning of collection procedures, chain of custody or lab standards. In this regard, compulsory use of forensic evidence might unwillingly undermine, as opposed to bolstering,

[32] Shafhi Mohammad v. State of Himachal Pradesh, (2018) 5 SCC 311, ¶ 18.
[33] *Id*.
[34] Brandon L. Garrett & Peter J. Neufeld, *Invalid Forensic Science Testimony and Wrongful Convictions*, 95 Va. L. Rev. 1, 17–25 (2009).
[35] Rajendra Pralhadrao Wasnik v. State of Maharashtra, (2012) 4 SCC 300, ¶ 45 (India).
[36] Anvar P.V. v. P.K. Basheer, (2014) 10 SCC 473, ¶ 22 (India).

evidentiary reasoning unless it is supported by interpretive protections.[37]

Counter-Arguments against Mandatory Forensic Reliance

There are compelling arguments that emerge from opponents of mandatory forensic investigation. ***First***, there is a major challenge of systemic delays. There is a chronic backlog in the forensic laboratories in India; parliamentary committee reports have revealed pendency of months, and even years, in certain states. The enactment of mandatory forensic testing of serious crimes without the corresponding capacity increase is fraught with the danger of increasing the amount of time spent on investigations and violating the right to a speedy trial.

Secondly, implementation is not uniform due to capacity gaps.[38] The forensic infrastructure is not evenly spread in India, and the metropolitan areas are much better equipped than the rural or remote ones. Compulsory forensic conditions can thus have disproportional results, in that they are adhered to because of geographical location rather than legal enactments. This difference brings the issues of inequality in procedure and the selective application.[39]

Thirdly, there is the potential of misuse or mechanical dependence. The investigation officers can use the forensic reports as an alternative to an in-depth investigation and use scientific evidence to offset poor fact-finding. In the worst-case scenario, the selective application of forensic outcomes to reinforce prior interpretations can reinforce the presence of confirmation bias instead of getting rid of it.[40]

Lastly, the critics claim that obligatory forensic utilization can diminish investigative autonomy. When used responsibly, police discretion lets investigators to use methods to the circumstances of the case. Strict requirements may limit an adaptive inquiry and subject scientific procedures where they yield little probative value.[41]

Rebuttal: The Case for Regulated and Rights-Oriented Forensic Use

Although these counter-arguments bring up valid issues, they do not in any way dispel the normative worth of forensic mandates; instead, they provide an insight into the necessity of

[37] *Id*.
[38] Standing Comm. on Home Affairs, *Forensic Infrastructure in India* 23–28 (Rajya Sabha 2024).
[39] Nat'l Forensic Sci. Univ., *Annual Report 2024* 67 (2025).
[40] Directorate of Revenue v. Mohammed Nisar Holia, (2008) 3 SCC 720, ¶ 34 (India).
[41] Bureau of Police Rsch. & Dev., *Police Manual on Investigation* 89 (Gov't of India 2021).

controlled and rights-oriented practice. The fundamental weakness is on the lack of protective measures, as opposed to the mandate itself.[42]

To begin with, institutional reform should deal with delays and capacity gaps, rather than with the withdrawal of institutional discretion, through which historically, arbitrariness has been facilitated.[43] The experience of different countries proves that forensic mandates combined with investment and accreditation improve the quality of investigation. Phased implementation and prioritisation of offences and decentralisation of forensic services are the solution.

Second, the issue of misuse can be resolved with the help of **judicial control**. The courts are an important factor that requires transparency in terms of sample collection, chain of custody as well as laboratory methodology. Indian jurisprudence has always believed that the opinion of the expert is rather advisory and should be subjected to other pieces of evidence.[44] This rule

can be strengthened by the training of the judiciary personnel to reduce forensic inflation.

Thirdly, a rights-based model demands a balancing between the use of forensic evidence by the prosecutors and the defence's access to scientific knowledge. Institutionalized bias can be reduced through the provision of independent or court-appointed experts to reinforce adversarial fairness. This conforms the forensic mandates to the due process values, as opposed to crime-control expediency alone.[45]

Lastly, investigative culture can be recalibrated by employing forensic use that is regulated. Forensic science, when controlled correctly, can also become a deterrent to coercive practices by limiting the use of confessions and subjective judgments. In this regard, the mandate is emancipatory in the sense that it is entrenched on a system of accountability, accreditation, and transparency.

The move towards a mandate as a replacement of discretion by the BNSS has not yet completely reshaped the nature of criminal investigation, but it has permanently put its normative course on a different course. It is the actual difficulty to ensure that forensic mandates do not become procedures in formalism or scientific absolutism. The calibrated

[42] Nat'l Acad. of Sci., *Strengthening Forensic Science in the United States: A Path Forward* 107–12 (2009).
[43] State of Gujarat v. Kishanbhai, 2014 Cri LJ 243, ¶ 15 (Guj) (India).
[44] Mahmood v. State of U.P., (2008) 2 SCC 628, ¶ 18 (India).
[45] Dep't of Just., *Action Plan on Forensic Infrastructure* 34 (Gov't of India 2024).

approach, which acknowledges the strength of the forensic science and its weakness simultaneously, is necessary.[46] Mandatory use of forensic evidence when institutionalized via institutional response, judicial oversight and rights-based protection can be far more than a symbolic response and a real tool of investigative justice.

Comparative Perspective

A comparative analysis of forensic regulation in the United Kingdom, the United States and Singapore show that the success of forensic science is not determined by legal requirement but rather by regulatory structure, institutional independence, and judicial gatekeeping.

The forensic science in the **United Kingdom** is *engulfed in a culture of sound accreditation and quality assurance*. Investigative agencies must adhere to forensically prescribed nationally recognized standards, and courts remain apprehensive when it comes to expert evidence, where it is viewed as being persuasive and not definitive.[47] The UK study suggests that standard setting and external control is crucial to ensure that false or exaggerated forensic claims are kept out of court.

It is more confrontational in the **United States,** and *scientific evidence is strongly guarded by the judicial process*. The use of scientific evidence in courts is also subject to scrutiny by courts in the reliability and methodological soundness of the forensic testimony to admit it, a practice that indicates an awareness of the fact that scientific evidence is both strong and weak.[48] The US approach presents the necessity of judicial competence to assess the scientific methodology, not the unconditioned trust in the expert qualification.

Singapore provides a contrasting model characterised by *institutional integration and efficiency*. Forensic services are centrally structured, technologically oriented, and well-coordinated with the investigative agencies, hence the least delays and great compliance. Meanwhile, *the judicial supervision helps to make the forensic evidence context-dependent in its greater evidentiary context*.[49]

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[46] *Id*.
[47] Forensic Sci. Regulator, *Codes of Practice & Conduct: Issue 6* (U.K. Home Off. 2020), https://www.gov.uk/government/publications/statutory-code-of-practice-for-forensic-science-activities/forensic-science-regulator-code-of-practice-accessible.
[48] Daubert v. Merrell Dow Pharm., Inc., 509 U.S. 579, 589–95 (1993).
[49] Health Scis. Auth., *Forensic Med. Div.: Guidelines on Procedures* 12–18 (Sing. 2022), https://www.hsa.gov.sg/docs/default-source/hfs/forensic-medicine-guidelines.pdf.

In the case of **India**, what is taught clearly by these jurisdictions is that mandatory forensic use should be coupled with accreditation, judicial review, and institutional independence. In the absence of these protective mechanisms, statutory mandates will turn into mere symbols instead of the transformative mechanisms.

Findings & Suggestions

As observed in the analysis, the Bharatiya Nagarik Suraksha Sanhita, 2023,[50] represents a significant change in the Indian criminal procedure by shifting the role of forensic science as a discretionary tool of the investigation to a compulsory requirement. This shift is the result of a deliberate legislative effort to make criminal inquiry more objectively scientific and less dependent on confession-driven or intuitively driven policing. Nevertheless, this research confirms that the success of this requirement depends on the institutional ecosystem in which forensic science is practiced. Although the law aims at enhancing the reliability of the evidence, structural weaknesses such as insufficient laboratory resources, unequal preparation of the investigators, and the lag in forensic reporting pose a threat of turning the mandate into a mere procedural requirement and not a substantive reform.

This tension is also supported by judicial practice. The use of forensic evidence remains an area in which courts exercise caution in handling it since, in most instances, it is viewed as supportive of a case, but not conclusive. This demonstrates a judicial appreciation that scientific evidence has gained its credibility not by virtue of its technical character, but by the integrity of its collection, analysis, and presentation. This interaction of law, science and institutions therefore shows that just legal compulsion cannot assure scientific reliability or procedural fairness. Unless there is an equivalent institution strengthening, the forensic mandate of the new codes would inadvertently extend the delays and would give an illusion of objectivity but would not produce its stated benefits.

Recommendations for Reform

Short-Term Measures

Short-term changes include capacity building and procedural transparency. Coupled, standardised training units on forensic collection and chain-of-custody procedures should be

[50] Bharatiya Nagarik Suraksha Sanhita, No. 45 of 2023, § 176(3) (India).

inserted for investigating officers. Standard Operating Procedures to be used should be uniform across jurisdictions to reduce contamination and evidentiary anomalies. The sensitisation of courts Judicial sensitisation programmes can also ensure that the trial courts become less naive when assessing forensic reports by making sure that scientific evidence is not over-valued or simply put in a mechanical way.

Medium-Term Measures

Medium term, the forensic laboratories should be brought under strict and consistent standards of accreditation by an independent regulatory body. Neutrality and credibility can be improved through the creation of independent regional forensic institutions, which are not affected by prosecutors. The defence should also have the right to demand an independent forensic examination, which would enhance the balance of the adversary and enhance the guarantees of a fair trial.

Long-Term Measures

This long-term reform will require that there be a periodic review of the forensic mandates by the legislature to determine their real effect. The establishment of a **National Forensic Authority** having the power to oversee, set standards, and undertake audits would provide sustainable quality control. By making forensic capacity planning a part of the criminal justice policy, it is finally possible to make sure that scientific requirements change in line with the institutional preparedness, making forensic science a true pillar of justice instead of a mere legislative update.

Conclusion

The mandatory incorporation of forensic science under the Bharatiya Nagarik Suraksha Sanhita, 2023, represents a significant normative shift in Indian criminal procedure, signalling a move towards scientifically informed investigation and evidentiary reliability. The present research finds that the legislative framework aims to promote objectivity and procedural fairness, but all of these aspects can be successful only if an institution has the capacity to do so, regulatory protection, and judicial involvement. Without well-developed infrastructure, consistent standards, and a judiciary familiarity, the forensic mandates will be reduced to mere procedural requirements and not substantive tools of justice. Forensic science is only effective,

not only in its recognition under the law but also in how well it has been applied in the criminal justice system.

Empirical studies evaluating the actual effects of mandatory forensic investigation on conviction rates, length of investigation and false prosecutions by the prosecution system should be conducted in future research. The comparison of forensic mandates as impact assessments in various jurisdictions may provide useful information on the disparities in the region. Also, specific studies of defence access to independent forensic specialists would also shed more light on the role of adversarial balance as a tool to promote fair and reliable criminal adjudication.