
CRIMINOLOGY AS AN EVOLVING DISCIPLINE: ITS MEANING, SCOPE, NATURE IN 21ST CENTURY

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ABSTRACT

This study examines evolution and role play of criminology in 21st century including police accountability, factual investigation of crime patterns and evaluation of criminalization choices, penal proportionality, and victim redress as well as Digital Personal data Protection Act 2023. The discipline has gone beyond merely recording offences and characteristics of the offenders. It now examines how changes in technology, markets, migration, climate, and social media affect offending, victimization, investigation, and adjudication. The transformation was further amplified by the enactment of three new criminal justice statutes that have been instrumental in the everyday policing and trial practice by embedding digital processes and evidentiary norms. Bharatiya Nyaya Sanhita not only reshapes substantive offences by including various types of organized crime and terrorist acts as contemporary harms but also modifies the general exceptions as well as private defense. Bharatiya Nagarik Suraksha Sanhita is a re instrument for criminal procedure with features like e FIRs, audio video documentation, victim facing disclosure, and time bound investigation. Bharatiya Sakshya Adhiniyam modernizes the evidence law to recognize electronic records as documents and admissible proof of the same legal value as paper. Hence, the study focuses on the evolutionary as well as the contradiction of the advancement of discipline in the 21st century and further suggests measures and safeguards.

Keywords: Criminology, Police accountability, Investigation, BNS, BSA, Digital Personal Protection Act, crime patterns, criminal procedure, speedy trials, victims and punitive measures, etc.

Introduction

In the 21st century, criminology is the focus of legal scholarship and policy debate in India. It has become a far-reaching field that deals with the complexities of crime, which can be characterized as being data rich and trans jurisdictional. The discipline has gone beyond merely recording offences and characteristics of the offenders. It now examines how changes in technology, markets, migration, climate, and social media affect offending, victimization, investigation, and adjudication. The transformation was further amplified by the enactment of three new criminal justice statutes that have been instrumental in the everyday policing and trial practice by embedding digital processes and evidentiary norms. Bharatiya Nyaya Sanhita not only reshapes substantive offences by including various types of organized crime and terrorist acts as contemporary harms but also modifies the general exceptions as well as private defense. Bharatiya Nagarik Suraksha Sanhita is a re instrument for criminal procedure with features like e FIRs, audio video documentation, victim facing disclosure, and time bound investigation. Bharatiya Sakshya Adhiniyam modernizes the evidence law to recognize electronic records as documents and admissible proof of the same legal value as paper. Digital Personal Data Protection Act, 2023, comes as a covering to this framework with its provisions such as consent, purpose limitation, and children's data, which regulate the way the investigative bodies and courts handle the personal data during the inquiry and trial. These are the very acts that have caused the criminological study to realign its focus on the interfaces between regulation, digital traceability, and rights protective investigation.¹

The discipline's current definition is a combination of factual investigation of crime patterns and evaluation of criminalization choices, penal proportionality, and victim redress. It is a multidisciplinary study drawing from sociology, psychology, economics, data science, and forensic science; however, it maintains legal doctrine at its core since definitions, burdens, and remedies are provided by law and interpreted by courts. Criminology concerns the organization of offenses such as the most serious crimes under "Section 111 of the Bharatiya Nyaya Sanhita", less serious organized crime under "Section 112", and terrorist acts under "Section 113", where the purpose of the law is to not only deter individuals, but also networks. It analyzes the manner in which the right of private defense set out in "Sections 34 to 44" adjusts the use of force considered necessary by society, and how general exceptions in Chapter III serve to protect autonomy and fairness. Besides, it observes the extent to which "Section 173

¹ Sandra Walklate, "Whither Criminology: Its Global Futures", 11 *Asian Journal of Criminology* 47 (2016).

of the Bharatiya Nagarik Suraksha Sanhita” permits the giving of information about cognizable offences in an electronic mode, with e FIR confirmation within three days, thus facilitating access and at the same time imposing new requirements for protection against the wrong use of the e FIR. These statutory provisions provide modern criminology with an empirically backed, doctrinally accurate framework for addressing offending, policing, and judgment formation.

So, the scope of criminology in the twenty first century can be seen through the lens of issues such as digital evidence management, the ethics of surveillance, creating victim friendly procedures, and the proportionality of penal responses to new types of harm. The “Bharatiya Sakshya Adhiniyam” declares that “electronic and digital records” are recognized as documents, and electronically given statements are considered as oral evidence, thereby changing the methodologies of criminologists in handling proof, trust, and contamination risks in the chain of custody. The “Digital Personal Data Protection Act, 2023” introduces notice, consent, correction, and erasure obligations that come into contact with police powers, prosecutorial disclosure, and judicial orders. The “Bharatiya Nagarik Suraksha Sanhita” is recording in mandating the audio video recording of the most important processes such as search and seizure, thus ensuring transparency, at the same time adding operational burdens that criminology has to assess for the deterrent effect and the reliability of the evidence. These changes have made criminology both normative and technical, focusing on privacy by design, forensic competence, and institutional capacity at the level of States and union territories.

Conceptual Foundations

An adequate conceptual framework starts with clear understanding of the subject matter of criminology and its intersections with penology and victimology. Criminology is a study that deals with the definition, causation, and measurement of crime, offender behaviors, and the control institutions’ operation. Penology is about sanctions, correctional strategy, and proportionality. Victimology is about the victims’ suffering, their rights throughout the process, and the design of redress. The disciplines intersect in issues of criminalization, sentencing, and reparation, but each has different evaluative criteria. The current framework sees crime as an event that is deeply intertwined with social networks, economic incentives, and digital ecosystems, but at the same time, it recognizes that legal categories in the “Bharatiya Nyaya Sanhita” ultimately determine the limits of offending, the defenses that apply, and how

culpability is graded. The “Bharatiya Nagarik Suraksha Sanhita” and the “Bharatiya Sakshya Adhiniyam” then provide the standards of investigation, trial, and proof, thus, they are the working constraints that any criminological account in India has to take into consideration.²

Definitions and Taxonomy

Working definitions provide a foundation for the analysis. Crime is a violation which is imputed by law and is dealt with by penal sanctions under the “Bharatiya Nyaya Sanhita” which, along with that, keeps provisions of the general explanations and exceptions which vary the degree of culpability according to different situations. An offender is a person or a group that, at the conclusion of the trial, meets the legal elements of the offence beyond reasonable doubt as supported by the rules of evidence under the “Bharatiya Sakshya Adhiniyam”. A victim is a person or persons who suffered loss or injury due to the act or omission of the accused, and this may also include the guardians or legal heirs, as per the definition clause in the “Bharatiya Nagarik Suraksha Sanhita”. Sub issues of twenty first century criminology is the following: organized crime as a networked enterprise “under Section 111”, petty organized crime dealing with gang based low value harms “under Section 112” and terrorist acts as a high intensity coercion “under Section 113”. Besides that, a taxonomy elaborates on the study of cyber enabled offences, economic offences that are inside the explanation of organized crime, and gender-based crimes that have dedicated procedural protections, which the BNSS reflects in special recording and videography obligations when victims allege offences under specified sections of the BNS.³

Doctrinal Principles

Criminological reasoning is generally guided by controlling doctrinal principles. The state is obliged to carry out the investigation and prosecution in conformity with the principles of legality, fair trial, and reasoned decision making. “Bharatiya Nyaya Sanhita” through “Sections 34 to 44” presents general exceptions and the right of private defense, indicating the instances in which force may be used and also showing that necessity, proportionality, and mistake of fact affect the area of liability. “Bharatiya Nagarik Suraksha Sanhita” details the process through which cognizable information including an electronic one is obtained under “Section

² National Crime Records Bureau, available at: <https://ncrb.gov.in/> (last visited on October 29, 2025).

³ Larry J. Siegel, *Criminology: Theories, Patterns, and Typologies* 94 (Cengage Learning, Boston, 1st edn., 2015).

173”, how the statements of the victims who are in a vulnerable position are recorded before a Magistrate along with the support of audio video, and the manner in which both accused and victim are given the copies of the police report and the FIR in a time bound way under “Section 230”. “Bharatiya Sakshya Adhiniyam” refers to the term “document” as one that covers electronic records and also allows statements made electronically to be considered as evidence thus the focus of authenticity debates has been shifted to metadata, chain of custody, and the trustworthiness of digital systems. These are the principles that constitute the framework for a criminological evaluation of the issues of incentives, deterrence, and rights observance.⁴

Rights, Duties, and Interests

The criminal procedure is such that it tries to strike a balance between the victim’s right to have access to the criminal process, be safe, and find closure, and the accused’s rights to liberty, a fair hearing, and proof standards. Besides, it also considers the community’s right to deterrence and order. The BNSS has provisions that deal with the obligations that are victim facing, for instance, the quick provision of the first information report as well as the police report copies, and it also acknowledges that the information given electronically with the subsequent signature is a way of opening up entry points for grievances while at the same time, ensuring basic verification. The police are now mandated to do recording of the search and seizure operations through the audio video electronic mode, which not only helps in maintaining transparency but in the later evidential evaluation as well. The rights of children, as well as those of other vulnerable persons, are at the intersection of digital evidence standards because the BNSS demands that the filming be done and the Magistrate statements be timely for the specified BNS sexual offences. The Data Fiduciaries under the DPDP Act are imposed with duties that are akin to an additional layer of lawful basis, consent management, rights to correction and erasure, and process safeguards during the prevention, detection, investigation, or prosecution when the specified exemptions are operating in a limited manner. Criminology studies how these rights and duties form the procedural legitimacy and empirical outcomes.⁵

⁴ Jianhong Liu, "Asian Criminology – Challenges, Opportunities, and Directions", 4 *Asian Journal of Criminology* 1 (2009).

⁵ Introduction | National Legal Services Authority, *available at*: <https://nalsa.gov.in/introduction/> (last visited on October 28, 2025).

Standards of Review and Burdens

The standard for conviction at trial is proof beyond reasonable doubt, whereas investigative and pre-trial thresholds use prima facie appraisal, preliminary inquiry to a limited extent, and recording as safeguards. As per “Section 173 of the Bharatiya Nagarik Suraksha Sanhita”, information regarding cognizable offences can be given electronically, followed by a signature within three days, after which the officer either goes for a preliminary enquiry for offences punishable between three and seven years or to investigation upon a prima facie case, with the permission of the supervisor in the first case. The statement of the vulnerable complainants and witnesses shall be recorded by the Magistrates with the audio video safeguards, and the copies of the materials shall be given to the accused as well as to the victims within the specified timelines “under Section 230”. Electronic statements and documents are acceptable under the “Bharatiya Sakshya Adhiniyam”, thus the burden is shifted to authenticity, integrity, and relevance. These adjusted thresholds determine the limits of arrests, charges, and trials, and criminology tries to find out whether they decrease the number of people who are falsely accused while at the same time allowing access to justice.⁶

Policy Underpinnings

These policy goals are prominently visible throughout the new legislations: deterrence of networked crime, protection of vulnerable victims, digitization of core processes, and fast adjudication with transparency. The provisions on organized crime and petty organized crime in the BNS focus on the target groups and the proceeds, not just the discrete incidents, while the clause on the terrorist act indicates a preference for a single baseline in the general code with referral to the special law where applicable. The BNSS has invested in e FIRs to broaden the reporting avenues and in audio video documentation to unify the procedure, and it also mandates the case material supply in the electronic mode wherever possible, which is a good thing for the two sides as it enhances their interaction. The BSA is all for the adoption of digital records, it clarifies relevancy, and facilitates the use of electronic statements, thus it is in line with the current evidence realities in the case of cyber mediated harm. The DPDP Act regulates the processing of personal data by law enforcement through the presence of explicit legal

⁶ Shadd Maruna, *Making Good: How Ex-Convicts Reform and Rebuild Their Lives* 112 (American Psychological Association, Washington, D.C., 1st edn., 2001).

grounds and limited exemptions for prevention and prosecution, thereby inviting a criminological evaluation of the tradeoff between privacy and crime control.⁷

Indian Legal Framework

The Indian legal framework for criminology, penology, and victimology has been restructured based on a three-part code and a separate data protection law that work together with the special laws. The fundamental offences and defenses are derived from the “Bharatiya Nyaya Sanhita”, the procedure is from the “Bharatiya Nagarik Suraksha Sanhita”, and the evidentiary rules are from the “Bharatiya Sakshya Adhiniyam”. The “Digital Personal Data Protection Act, 2023” regulates the processing of digital personal data by public authorities and private actors when they have lawful grounds, specifies the requirements for consent, and provides for a few limited exceptions for the law enforcement. Each of the instruments has explicit digital provisions. The BNSS allows for electronic communication to be used for FIRs and also provides for audio video recording during searches. The BSA recognizes electronic documents and electronic statements as evidence. The DPDP Act defines consent, has children’s data provisions, and gives rights of access, correction, and erasure, while at the same time it exempts certain state functions related to law enforcement under specific conditions. Criminology through these texts studies the effect of legal design on investigative capacity, trial fairness, and crime prevention.⁸

Constitutional Placement

The constitutional setup scales down criminology’s range through the redistribution of powers at the federal level, fundamental rights and directive principles. Public order and the police are mainly in the hands of the States, while Parliament legislates on criminal law and procedure for the Union as a whole under the Concurrent List and other heads. Fundamental rights relate to due process, equality, speech, privacy, and fair trial, which in turn determine how offences are defined and enforced. The new codes and the DPDP Act should be understood as being in harmony with these rights, and their digital features such as e FIRs, audio video recording, and electronic evidence should be considered as being of a nature that is proportionate and non-

⁷ Steven F. Messner, "When West Meets East: Generalizing Theory and Expanding the Conceptual Toolkit of Criminology", 10 *Asian Journal of Criminology* 117 (2015).

⁸ Modernisation of State Police Forces (MPF) Scheme, *available at*: <https://www.mha.gov.in/en/divisionofmha/police-modernisation-division/modernisation-of-state-police-forces-mpf-scheme> (last visited on October 27, 2025).

arbitrary. The DPDP Act, in fact, locates the State definition, among the entities under “Article 12”, thus setting the framework for accountability around the processing of obligations and the granting of exemptions for prevention, detection, investigation, or prosecution. Criminological inquiry follows the passage of these constitutional guardrails through legislative decisions on surveillance, data retention, and victim facing disclosure, and the ways in which courts interpret the codes to bring process and punishment into conformity with equality and liberty.⁹

Legislative Landscape

The main legislations are the “Bharatiya Nyaya Sanhita, 2023” (No. 45 of 2023), the “Bharatiya Nagarik Suraksha Sanhita, 2023” (No. 46 of 2023), the “Bharatiya Sakshya Adhiniyam, 2023” (No. 47 of 2023), and the “Digital Personal Data Protection Act, 2023” (No. 22 of 2023). In BNS, “Section 111” describes organized crime with detailed explanations on continuous unlawful activity and economic offences, “Section 112” relates to petty organized crime, and “Section 113” deals with terrorist acts and has a coordination clause regarding the special anti-terror law. Chapter III provisions general exceptions and “Sections 34 to 44” deal with the right of private defense. In BNSS, “Section 173” makes the electronic initiation of the information and e FIR signature within three days binding, and “Section 230” commits the police to providing the report and FIR copies to the accused and the victim. The BSA reconsider the term “document” to explicitly cover electronic and digital records and also recognize electronic statements. The DPDP Act gives the framework for data processing, consent, and exemptions for law enforcement.¹⁰

Subordinate Legislation

Rules, alerts, and administrative circulars will fix the operational depth of these codes. The BNSS text presumes that State Government rules will be setting the formats for FIR books and the procedures for audio video means, and a number of police departments have issued memoranda to the effect that search and seizure must be recorded through audio video electronic means citing “Section 105 of the Bharatiya Nagarik Suraksha Sanhita”. This layer comprises training instructions, model standing orders, and software implementations like e FIR portals and digital evidence vaults. The DPDP Act provides for rules regarding consent

⁹ David Garland, *The Culture of Control: Crime and Social Order in Contemporary Society* 140 (Oxford University Press, Oxford, 1st edn., 2001).

¹⁰ Stuti Kokkalera, Ineke Marshall, et.al., "How Exceptional Is India? A Test of Situational Action Theory", 15 *Asian Journal of Criminology* 195 (2020).

managers, designation of significant data fiduciary, and grievances interface with the Data Protection Board. Subordinate instruments will determine the time periods for the retention of digital recordings, the protocols for authenticity, and the standards for metadata, which will be very important for later admissibility under the BSA and for rights compliance under the DPDP Act. Criminology keeps a record of these instruments in order to comprehend the discrepancies between the statutory framework and the actual ground realities.¹¹

Institutional Architecture

Institutional functions cover police stations, supervisory police ranks, Magistrates, Sessions Courts, Public Prosecutors, forensic laboratories, and the Data Protection Board in matters of data protection. The BNSS governs the functioning of criminal courts and the allocation of jurisdiction, indicating the manner in which Magistrates should record confessions and statements (with audio video safeguards), and how the materials are to be furnished to both sides. It identifies the victim and places disclosure obligations. The BSA determines the manner in which judges evaluate the relevancy, presumptions, and proof of electronic documents and electronic statements. The DPDP Act defines the shaping of the obligations of Data Fiduciaries and, if notified, Significant Data Fiduciaries, such as consent managers and children's data verification, with the Board being the enforcer. With the deployment of audio video search recording and electronic registration of information by various agencies, institutional capacity in IT, security, and forensics has become the core of legality and efficiency. Criminology is concerned with the review of these institutional arrangements for the exercise of their power, the management of their workload, and the quality of their service to victims and accused.¹²

Federal Dimensions

At the Union level, criminal law and procedure legislation has to be functional in different States that have local variations in policing resources, languages, and forensic infrastructure. With the BNSS, States are given the freedom to decide the forms and processes, such as FIR book formats and rules for audio video means, thus establishing a cooperative federalism space where Union statutes set the core and States tailor workflows. The use of body worn camera policies, forensic coordination, and e FIR portals can, therefore, be quite different in various

¹¹ Strategy for New India @ 75, available at: https://www.niti.gov.in/sites/default/files/2019-01/Strategy_for_New_India%4075_Dec_19_0.pdf (last visited on October 26, 2025).

¹² Loïc Wacquant, *Punishing the Poor: The Neoliberal Government of Social Insecurity* 174 (Duke University Press, Durham, 1st edn., 2009).

districts, influencing the time of the trial and the rate of deterrence as public order being a State subject means that police. The DPDP Act's definition of a State and its extent across the country ensure that minimum basic protections for digital personal data are the same everywhere, with some exceptions for law enforcement under certain conditions. Criminology studies the effect of Union State collaboration in training, providing equipment, and using common forensic standards to diminish the differences in access to the law and in the quality of evidence while at the same time keeping the statutory minima of the new codes and the DPDP Act.¹³

Enforcement and Remedies

Enforcement mechanisms start with easily accessible registration of cognizable information, which can now be included by electronic communication with a required signature within three days according to "Section 173 of the Bharatiya Nagarik Suraksha Sanhita". Victims are given copies of the FIR and the police report within the periods stated "under Section 230", thus empowering them to take part in the process and enabling them to make informed representation. Searches and seizures require audio video recording as a standard practice "under Section 105", thus gradually enhancing the later evidentiary stage for determining voluntariness and the extent of the search. The BSA's acceptance of electronic documents and electronic statements means that remedies mostly depend on proving authenticity, integrity, and relevance by forensic certification and obtaining system logs. The DPDP Act provides Data Principals with the liberties of access, correction, updating, and erasure, against which law enforcement carve outs are provided "under Section 17", and there is a complaints mechanism leading to the Data Protection Board. Criminology studies how these remedies affect reporting rates, plea incentives, and sentencing bargaining, and whether they bring about a measurable decrease in attrition throughout the criminal process.¹⁴

Judicial Analysis

Judicial reasoning has been instrumental in repositioning criminology in India through the lens of rights sensitive investigation that includes the use of digital proof and structured discretion. Privacy has been dealt with by the courts as a constitutional baseline and they have required criminal procedures to be in tune with data rich policing and electronic records. The nine judge

¹³ Mahesh Nalla, Joseph Johnson, et.al., "Prior Victimization, Region, and Neighborhood Effects on Fear of Crime in Mumbai, India", 6 *Asian Journal of Criminology* 141 (2011).

¹⁴ Victim Compensation, available at: <https://nalsa.gov.in/victim-compensation/> (last visited on October 25, 2025).

bench in “*Justice K.S. Puttaswamy (Retd.) v. Union of India*”¹⁵, laid down the legality necessity proportionality triad that is currently used for guiding surveillance, data retention, and forced disclosure. Trial courts and appellate benches have, simultaneously, been upgrading the standards of evidence especially with regard to electronic materials following “*Arjun Panditrao Khotkar v. Kailash Kushanrao Gorantyal*”¹⁶, and have been insisting on Section 65B certificate compliance in the pre BSA regime, with the continuation of the same principle under the “Bharatiya Sakshya Adhiniyam”. Criminological inquiry explores these judgments together with the “Bharatiya Nagarik Suraksha Sanhita” framework such as “Section 173 BNSS” on electronic intimation of cognizable offences and “Section 105 BNSS” on audio video recording of search and seizure for understanding how doctrine is influencing the trustworthiness of incentives, reporting, and chain of custody. It is, thus, a body of law that sees technology not as something new but as normal evidence and process, at the same time it ensures that the accused’s rights to a fair trial and the victim’s rights to participate are intact.

Supreme Court Jurisprudence

Supreme Court doctrine provides anchor points for twenty first century criminology regarding duties of reporting, safeguards in custody, privacy, and electronic proof. “*Lalita Kumari v. Government of Uttar Pradesh*”¹⁷, required mandatory registration of an FIR upon the disclosure of a cognizable offence, with limited inquiry windows, thus, a logic that is reflected by “section 173 BNSS” to the letter. “*D.K. Basu v. State of West Bengal*”¹⁸, constitutionalized custodial safeguards, which now engage with videography under “section 105 BNSS”, thus, the auditability of arrests and searches is enhanced. “*Arjun Panditrao Khotkar*”, “resolved the issue of certification for electronic evidence, mainly pointing out the authenticity as a gatekeeping requirement that the BSA’s definition of “document” to include electronic and digital records structurally is supporting, is. “*Nipun Saxena v. Union of India*”¹⁹, secured victim anonymity, which is placed next to statutory restrictions on disclosure under the new codes. These fibers interweave with Puttaswamy’s proportionality formula that regulates the access to personal data in the criminal process, and it is in harmony with the DPDP Act’s limited exemptions for prevention, detection, investigation, or prosecution under “Section 17”. The Court’s move is

¹⁵ (2017) 10 SCC 1.

¹⁶ (2020) 7 SCC 1.

¹⁷ (2014) 2 SCC 1.

¹⁸ (1997) 1 SCC 416.

¹⁹ (2019) 2 SCC 327.

not that of a technophile, nor is it suspicious of technology; it is driven by standards and aware of the rights.

High Court Divergences

High Courts have brought in nuanced variations while implementing national principles in local practice. Different benches interpret “Section 173 BNSS” differently. Some interpret it as allowing only a limited preliminary inquiry within the statutory band and have directed the police to register the FIRs through the dedicated portals, with the later verification of the signature inside three days. Others have maintained that filming of search and seizure is not just a formal procedure which can be waived under “Section 105 BNSS”, but it is a requirement for rights protection which makes the evidentiary chains more stable and, hence, a smaller number of suppression motions at the trial stage. The difference is seen in the extent to which the strictness of the certification of Section 65B is adjusted while the old evidence is mixed with the new BSA; however, the general direction is towards integrity checks rather than throwing evidence out through technical traps if the source is trustworthy and there is no prejudice. Moreover, the High Courts have interpreted “Section 230 BNSS” for victims to get the fourteen-day period and electronic service clauses as enforceable timelines rather than spoken words. The regional picture so far is very much like a pilot project and is dependent on capacity but is moving towards uniform digital baselines.²⁰

Interpretive Techniques

Interpretation has essentially been based on the mutually supportive ways of text, purpose, precedent, and proportionality. Courts closely examine the words of “Section 173 BNSS” to not only set the recording of a given information electronically as a duty but also to recognize the very limited space for the preliminary inquiry. They use purpose to justify victim facing disclosure timelines in “Section 230 BNSS”, thus considering these time limits as the means for participatory justice. They base on precedent like *Puttaswamy* to link data collection and surveillance with a legality necessity proportionality matrix, and they refer to *Arjun Panditrao* to regulate the issuance of the BSA for electronic evidence standard. Such a mixture of methods leads to predictable results throughout the digital process, yet there is still an opportunity for context specific balancing. Criminology relates these methods to comprehend the manner in

²⁰ Police Modernisation Division, *available at*: <https://www.mha.gov.in/en/divisionofmha/police-modernisation-division> (last visited on October 24, 2025).

which trial courts ought to deal with video recording gaps, the trustworthiness of logs, or certificate defects without abandoning the core of truth seeking or the rights. The set of techniques is gradual, cognizant of the doctrine, and gets more and more knowledgeable about technology, which is a great help for the uniform practice across different jurisdictions as the infrastructure is getting better.²¹

Doctrinal Coherence

Overall, coherence is a result of four main commitments. Firstly, the criminal process should be accessible to everyone and should not be blocked due to format barriers which is why the recognition of e FIR and electronic service obligations has been mentioned. Secondly, the custody and search have to be clear to the independent authorities which is the reason for mandatory audio video recording and immediate forwarding to Magistrates. Thirdly, the digital proof has to meet authenticity levels and at the same time, not be too formal so as to still be a reliable truth. Fourthly, privacy and data rights are with the citizens when they enter the criminal process and are subject to narrow, text based carve outs. The coherence is disrupted when there are capacity gaps which result in the inability to videography or when certificate practice is lagging, however, the statutory design and leading judgments are moving towards a steady alignment. As digital defaults are being more firmly established by “Section 173 BNSS”, “Section 105 BNSS” and the BSA’s electronic document definition, doctrinal tensions will probably be confined to hard cases regarding scope, consent, and derivative use of data. The DPDP Act’s exemption provision determines that area by requiring agencies to give reasons for processing that is in line with the statutory purpose while at the same time, allowing correction and erasure rights where they are compatible with the ongoing proceedings.²²

Procedural Posture and Standards

Standards have been sharpened through the use of writs, PILs, and statutory appeals. Registration duties and limits of preliminary inquiry have reached constitutional courts through writ proceedings in which citizens challenged police inaction. This was a way that compliance was structured all over the country long before BNSS codified e FIR elements. PILs helped the custodial safeguards to mature which then resulted in the operational checklists of arrest and

²¹ Michael H. Tonry, *Sentencing Matters* 124 (Oxford University Press, Oxford, 1st edn., 1997).

²² Yung-Lien Lai, "College Students'satisfaction with Police Services in Taiwan", 11 *Asian Journal of Criminology* 207 (2016).

detention that went hand in hand with audio video obligations. Statutory appeals were used to test the admissibility of compact discs, CCTV, and server logs which later led to the BSA's inclusive definition of documents and statements. The rules of electronic evidence were thus clarified. These procedural postures facilitate systemic relief and are police, prosecution, and courts' incentives to internalize digital routines. Criminologists are keeping an eye on these postures as they are the indicators of the next standards to arise. The postures include the areas of body worn camera footage, automated number plate recognition, and forensic image hashing. The overall result is a higher minimum level of both rights and reliability throughout the criminal process.²³

Unsettled Questions

Unsettled issues related to the intersection of technology and rights are still existing. The extent of the initial investigation under "Section 173 BNSS" may result in a court case over the time, records, and the approval of the supervisor. The existence of victims' access to the materials under "Section 230 BNSS" makes the interlocutors discuss whether the redaction is intended for the secret nature of the data, the protection of the children, or confidential information of the company. The issuance of certificates for electronic evidence resolves most of the disagreements; however, there are still some questions about cloud native resources, third party custodians, and machine generated metadata. The privacy limits are tested again with mass data techniques, where Puttaswamy's proportionality must be balanced with the newly developed tools. Foreign examples like "*Carpenter v. United States*"²⁴, provide that there would be joint focus on location data and third-party repositories, which Indian courts may see as a consequence of the increase in digital investigations. These issues outline a research agenda in criminology that is not only theoretical but also practical and empirical.

Comparative and Reform Insights

Comparative reference points serve as a clarifying lens through which Indian law and practice can be viewed and shaped. For instance, among the UK's PACE Codes, the Code E is worth mentioning in particular as it deals with the audio recording of suspect interviews and is a good example of how detailed operational guidance can enhance trustworthiness and lower the

²³ Online Safety Tips – CyTrain – National Crime Records Bureau, *available at*: https://cytrain.ncrb.gov.in/staticpage/safety_Tips.php (last visited on October 23, 2025).

²⁴ 138 S. Ct. 2206 (2018).

chances of legal disputes in the later stages of court proceedings. Furthermore, European data protection laws such as “Article 5 GDPR” specify the fundamental data handling principles, i.e., limitation of purpose and minimization of storage, and a similar regulation for the authorities competent in handling crime data, is providing a model for detailed measures that are compatible with the investigation and that can ensure the privacy of the individuals concerned. In addition, U.S. privacy law decisions relating to location records like “*Carpenter v. United States*”²⁵, show the way in which courts adjust old legal principles to suit the new digital world. These sources cannot be directly applied to the BNSS BNS BSA DPDP Act field but they have an impact on the creation of regulations, bench books and police manuals, and they also assist Indian courts in the setting out of practical standards for digital proceedings, limits of consent and supervision.

Comparative Survey

A brief comparative survey of the three lessons emphasized. The first lesson is that codified recording norms such as PACE Code E lessen disputes about voluntariness and accuracy by making audio or audiovisual capture a standard way of recording. The second lesson is that European practice links the processing of criminal justice data to specific legal bases and oversight by independent commissioners, thus enabling more clarity to be maintained with regard to retention and access. The third lesson from U.S. doctrine is that courts have the ability to adjust the standards for searches of digital exhaust in situations where there is a risk of perfect surveillance by state power. For India, these lessons mean detailed rules under BNSS for body worn cameras and search videography, bench tested templates for chain of custody of electronic materials under the BSA, and publicly accessible guidance on the DPDP Act “Section 17” exemptions for law enforcement. Comparative borrowing should be consistent with the local language, skills, and the federal distribution of functions.²⁶

Law Commission and Committee Inputs

Reform pathways depend on sustained committee work. The Committee for Reforms in Criminal Laws initiated in 2020, led to the enactment of the three new codes, which are mainly focused on digitization, timeliness, and the protection of vulnerable persons. Before that, the

²⁵ *Supra* note 24.

²⁶ Viksit Bharat, available at: https://www.niti.gov.in/sites/default/files/2024-07/WP_Viksit_Bharat_2024-July-19.pdf (last visited on October 22, 2025).

Law Commission work on victim rights, compensation, and witness protection had an impact on the direction of participatory justice and structured disclosure. Scholarship and judicial training materials supported the concept of Section 65B as the central practice for electronic evidence and also led to the BSA's anticipated explicit recognition of electronic and digital records as documents and electronic statements as evidence. These inputs do not answer all the operational questions, but they provide a record of intent and possible sequencing for the State level of adoption, training, and infrastructure. Indian criminology considers these materials as the documented rationale for the present choices and as a benchmark for assessing future changes.²⁷

Legislative Reform Options

Statutorily refined in a calibrated manner, they can clarify and make more just the meaning of the law. It might be helpful for 'Section 173 BNSS' to have an express ceiling for the time of a preliminary inquiry, mandatory documentation templates, and a protocol for the supervisory signoff corresponding to the offence gravity. 'Section 230 BNSS' could uniformly redact the standard and have a mechanism for the review if the State imposes sensitivity or privacy for withholding materials, along with the timelines to avoid delay. The BSA may have a time table indicating the presumptions of authenticity for typical digital artifacts like hash signed forensic images, simultaneously exported call data records, or platform certificates made under seal. The DPDP Act rule setting might have a model law enforcement code of practice under 'Section 17' to specify data minimization, logging, and retention for the criminal justice functions, together with reporting to the Data Protection Board. These alternatives conform to the present layout and also do away with the frequent ambiguities.²⁸

Judicially Manageable Standards

Courts are in a position to define clear standards which local courts and police investigators can implement directly without having to make assumptions. An effective three step test to determine whether electronic records under the BSA can be admitted may include checking if the origin of the record is pointed out, confirming that the integrity can be trusted through hash or an equivalent method, and checking if the relevance has been established either through the

²⁷ John Braithwaite, *Crime, Shame and Reintegration* 132 (Cambridge University Press, Cambridge, 1st edn., 1989).

²⁸ Wing-Cheong Chan, "The Death Penalty in Singapore: In Decline but Still Too Soon for Optimism", 11 *Asian Journal of Criminology* 179 (2016).

content or metadata, with permissions being allowed for curative measures where certificate defects do not prejudice the defense. In the case of “Section 105 BNSS” videography gaps, the State could be assumed to be acting against the interest of the case when non recording of a part that is unjustified and coincides with the voluntariness of the issue being contested, thus, rebuttable by providing a credible explanation and corroboration. As for “Section 173 BNSS”, a documentation first rule for preliminary inquiries would limit the exercise of discretion and be of assistance in the subsequent review. Concerning “Section 230 BNSS”, a timer starting from the first appearance where electronic service is considered valid would be a way of implementing the fourteen-day period, with organized redactions being used to mediate privacy and defense preparation. These standards align with the text and make the outcome more predictable.²⁹

Regulatory and Compliance Design

One of the key factors for success at the operational level is reliance on detailed rules, training, and supervision. Law enforcement units may standardize their SOPs in the areas of e FIR reception, gadget handling, and scene videography. Besides, it can be arranged that the recordings be auto forwarded to Magistrates and that immutable logs be maintained. State Police Manuals and Prosecution Guidelines may have embedded BSA compatible checklists that commence at the crime scene, thereby including hash generation and contemporaneous documentation. Bench books might comprise brief modules for metadata interpretation, timing discrepancies, and partial certificate defects. Investigations compliant with DPDP Act should implement role-based access, purpose tagged processing, and retention schedules appropriate for the case lifecycle. Regulatory authorities may disclose anonymous audits reflecting compliance with “Section 105 BNSS” and “Section 230 BNSS”. Such provisions connect statutory intent with everyday implementation and thus draw criminology nearer to tangible results like attrition reduction and higher evidentiary integrity.³⁰

Impact and Equity Assessment

Equity entails adjusting for different State capacities, recognizing that certain languages might face difficulties when using portals, and taking into account that forensic resources may vary

²⁹ The Indian Police Journal (July–December 2023), available at: <https://bprd.nic.in/uploads/pdf/IPJ%20JULY%20-%20DECEMBER%202023.pdf> (last visited on October 21, 2025).

³⁰ Leah E. Daigle, *Victimology: Theories and Applications* 176 (SAGE Publications, Thousand Oaks, 1st edn., 2012).

from one place to another. e FIR along with electronic service may be an extension of the reach of local law enforcement to remote complainants; however, this is only true when portals are user friendly, available in different languages, and there are points for assisted digital users to get help. Transparency is enhanced through videography under “Section 105 BNSS”, but it is possible that rural stations will have to share equipment and the maintenance budget for it. The rights of access, correction, and erasure under the DPDP Act have to be implemented in a way that does not annoy and frustrate legitimate investigations, which means that there should be a precise use of exemptions and audit trails. The “Section 230 BNSS” copyright provisions work for the benefit of victims; however, advocates and legal aid services are the ones who need the copies sooner and in a safe digital format. Criminology measures these as well through net of wrongful arrests, time to registration, trust in the process across communities, ground of such pilot, attrition transition, relations between registration and charge, qualitative as well as conviction rates. The federal structure has to be used to experiment with and find ways of scaling that work.³¹

Conclusion

Criminology in the modern era is beyond a mere static catalog of offenses or a limited focus on offender traits. It explores how laws, government agencies, and new technologies interact to either cause or prevent harm, influence the steps to be followed, and distribute trust to the people. The new codes and the DPDP Act bring back the examination to India by making it more convenient for everyone through e FIR, videography, and electronic proof and by emphasizing privacy and data rights in the criminal justice area. “Bharatiya Nyaya Sanhita” locates the network-oriented offenses like “Section 111” on organized crime, “Section 112” on minor organized crime, and “Section 113” on terrorist acts that indicates a change from individual incidents to enterprise disruption. “Bharatiya Nagarik Suraksha Sanhita” focuses on digital processes, as it allows the information on cognizable cases to be given electronically in “Section 173”, makes audio video recording of search and seizure in “Section 105” compulsory, and ensures that the supply of records is made to both accused and victim under “Section 230”. The “Bharatiya Sakshya Adhiniyam” is the final stage where it treats electronic and digital records as documents and recognizes electronic statements, hence, bringing the courts in line with the modern realities of proof. The “Digital Personal Data Protection Act,

³¹ Mohamed Shaker Alhammadi, "Ambiguity and Conflict in the Implementation of Evidence Law in Criminal Matters: A Study of the United Arab Emirates Jurisprudence", 11 *Asian Journal of Criminology* 155 (2016).

2023” is the last piece of the puzzle that stipulates the rights, obligations, and a few enforcement exemptions in “Section 17” which give effect to privacy focused on proportionate policing and prosecution.³²

Judicial branch: Has given a rights aware tool for navigation: Puttaswamy, laid down the constitutional basis of privacy in data practices. Lalita Kumari made it mandatory for police to register FIRs in a way that is in harmony with e FIR methods. “D.K. Basu created the custody rights that are very compatible with videography. Arjun Panditrao extracted the trust first principle for the electronic file that the BSA is now structurally embedding at a deep level. These landmark cases, when interpreted along with the BNSS BNS BSA DPDP Act, are turning criminology into a science that is both doctrinal and empirical. The discipline is now doing a double take on whether the rules have an impact on the real world: quicker FIR registration, lesser number of people being falsely arrested, stronger chains of custody, and more predictable trial timelines. It is also asking if privacy respecting data use can still be a source of high-quality intelligence and if transparency is a trust building tool between the authorities and the communities. It studies the extent to which victims’ access to records changes plea dynamics or trial preparedness. These questions cannot be answered without mixed methods research and iterative policy responses rather than one off solutions.

The next step will be to elaborate the rules, increase the capacity and control the compliance. Clear templates for preliminary inquiries under “Section 173 BNSS” would limit discretion and facilitate accountability. Standard uniform SOPs for “Section 105 BNSS” videography along with secure, searchable archives would decrease evidentiary disputes and trials would be expedited. Benchbooks coordinated with the BSA’s electronic evidence orientation would assist trial courts in determining integrity, provenance, and relevance without going too far. DPDP Act guidance under “Section 17” giving the criminal justice agencies a local touch would explain lawful bases, retention and access logs in simple terms while investigative efficacy is still preserved. PACE Code E and European principles on purpose limitation are some of the comparative sources that provide practical design cues which are in harmony with India’s text and federal structure. The role of criminology is to attract, measure and criticize these changes with doctrinal and practical realism, thus keeping the equilibrium between order and liberty transparent, quantifiable and fair.

³² CyTrain – National Crime Records Bureau, *available at*: <https://cytrain.ncrb.gov.in/> (last visited on October 20, 2025).

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