

“VIRTUAL COURTS INFRASTRUCTURE UNDER BNSS: ACCESS TO JUSTICE VS DIGITAL EXCLUSION.”

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1. Abstract:

⁹⁰The introduction of the Bharatiya Nagarik Suraksha Sanhita, 2023 (BNSS) signifies a transformative moment in India's criminal procedural law, superseding the previous Criminal Procedure Code, 1973, and ushering in a wave of tangible reforms for streamlining justice delivery. One of the most important innovations under BNSS is the virtual courts, which have been formally acknowledged and integrated in the system, allowing electronic filing of First Information Reports (e-FIRs) and issuance of e-summons and the use of secure video conferencing platforms for trials and hearings. The reforms are meant to increase access to justice, decrease judicial delays, and increase efficiency within India's over-stuffed courtrooms.

This research paper conducts an analysis on the dual impact of virtual courts under BNSS, where it points to the democratizing potential of access to justice through them while underscoring the digital exclusion that risks. While virtual courts make it easier for litigants who live in remote areas to participate in courts, save on travelling costs, and ensure early adjudication, there is also a concern over the digital divide, lack of technological literacy and poor infrastructure, especially in marginalized sections.

The study adopts the doctrinal research methodology which is based on the careful examination of the BNSS, 2023, relevant case laws, government reports and secondary literature. A comparative approach is also adopted, comparing virtual court processes under BNSS with traditional trial processes under CrPC, 1973, and also with digital justice frameworks of other jurisdictions. Further, empirical examples are provided from pilot virtual court projects and High Court initiatives to evaluate on-the-ground challenges and successes.

Drawing on the arguments of substance and structure, this paper also looks at the advantages and shortcomings of virtual courts in light of the trade-off between innovation in technology and equitable access to justice. Recommendations are made on how digital exclusion could be addressed through public access centres, digital literacy initiatives, and hybrid models of court operating both online and in person.

Keywords: BNSS 2023, Virtual Courts, Access to Justice, Digital Exclusion, E-FIR, E-Summons, Digital Evidence, Doctrinal Research, Comparative Study, Procedural Law, Judicial Reforms

⁹⁰ *Bharatiya Nagarik Suraksha Sanhita, 2023*, §§ 12–18 (India). *Criminal Procedure Code, 1973*, §§ 190–204 (India). *Law Commission of India, 245th Report: Digitalization of Courts and Legal Processes, 2014*.

2. Introduction

Indian judicial system is infested with the twin challenges of case backlog and delayed justice due to the availability of infrastructural constraints, procedural difficulties and population explosion. Traditionally, court proceedings were purely physical, requiring litigants, witnesses, and lawyers to be in courtrooms in physical form. Whilst this mechanism ensured a direct point of contact and openness to procedure, it was often inefficient, expensive and difficult to reach, particularly for people living in remote or rural areas. As the delays in the criminal justice system accumulated, the need for reform grew ever more acute, with the call for timely adjudication heard by the vocal citizenry.

The introduction of digital technology offered a chance to solve these problems. In particular, the COVID-19 pandemic sped up the process of virtual court proceedings, and courts throughout India were forced to experiment with remote hearings to maintain continuity of justice. This transition highlighted the potential of technology in bringing efficiency and effectiveness to the judicial system, reducing delays, and making the justice system more responsive. It also reflected on the digital divide and the digital disparities in infrastructure, introducing a need for a formal legislation that will regulate the virtual courts and distribute justice in a more equitable way.

In order to cater to these needs, the Bharatiya Nagarik Suraksha Sanhita, 2023 (BNSS) was passed in place of the Criminal Procedure Code, 1973. Among its important reforms, BNSS virtualizes hearings; permits electronic filing of complaints (e-FIRs); permits e-summons; and accepts digital evidence in a criminal proceeding. The provisions seek to relieve resources on courts and litigants, and thereby improve access to justice, and judicial efficiency. Additionally, the BNSS aims to integrate technology within the judicial system without infringing on the rights of the accused, such that participation in virtual trials is

voluntary and accessible and the provision of legal representation is fully enabled.

Despite these developments, an important question emerges: Does digitization under BNSS actually enhance access to justice, or perpetuates inequality? While the advantages of facilitated proceedings may be felt most by tech-savvy urban litigants, the obstacles that marginalized communities, rural people, and persons with lower digital literacy levels encounter could lead to a new wave of exclusion. This research paper examines this tension, critically engaging with the potential of virtual court infrastructure under BNSS, and its limitations and practical considerations, in order to assess claims about the potential for technological innovation in criminal procedure to be authentically inclusive and just.⁹¹

2.1. Legal Framework under BNSS, 2023.

The Bharatiya Nagarik Suraksha Sanhita, 2023 (BNSS) is a transformational reform in the criminal procedural law in India as it substitutes for the Criminal Procedure Code, 1973 and brings in provisions to digitise the delivery of criminal justice. A key element of BNSS is court virtualization, i.e., trials and hearings are held virtually, but any potential effects on procedural fairness and constitutional safeguards are mitigated.

Key Provisions Enabling Virtual Courts

BNSS has multiple sections that institutionalize e-trials and digital processes. The Act allows electronic filing of complaints and FIRs (e-FIRs), thus enabling citizens to file criminal complaints remotely without the need for physical presence in police stations. BNSS enables court to issue e-summons and hold hearings in secure video conferencing platforms, which eliminates logistical constraints and travel-related delays. The law also admits the evidence in the electronic form like electronic testimonies, electronic documents and audio-visual material as completely admissible if it is

⁹¹ See generally BNSS, 2023, §§ 12–20.
Covid-19 pandemic and its effect on Indian judiciary: R. Gupta, "Virtual Courts in India: Access, Efficiency, and Challenges," *Indian J. of Law & Tech.* 12 (2022).
Traditional vs digital courts comparison: CrPC, 1973, §§ 190–202.

authenticated according to the standards prescribed in the Act.

Electronic Recording of Evidence.

BNSS stipulates the specific protocols to be used for the electronic storage of evidence to ensure the integrity, security and verifiability of digital records. Witnesses and experts can be interviewed remotely and electronically submitted to the court, and precautions are built in to avoid tampering or unauthorized access. Further, the Act requires that the digital evidence be accessible to both parties and legal counsel so as not to infringe on the right to cross-examine and question authenticity.

Rights of Accused and Litigants.

In virtual proceedings, BNSS protects the rights of the accused to have access to counsel, to request physical hearings where needed, and to participate in all steps of the proceedings. Similarly, complainants and victims are being given the right to appear in hearings remotely, which can support access to justice for people in geographically remote and/or underserved locations. The Act is centred around the fair trial guarantee while ensuring the efficiency gained through digital means.

Comparison with CrPC, 1973.

Under CrPC, 1973, hearing and trials of criminal cases were largely in-person, with minimal provisions for electronic filing or digital evidence. The CrPC did not specifically acknowledge virtual courts, e-summons or electronic recording of testimonies, and continued to rely upon conventional procedural mechanisms. It is therefore, a landmark move in the framework of digitalisation of processes, as BNSS attempts to streamline the digital process with a view to minimise delays and to enhance ease of access, while maintaining procedural safeguards. While the CrPC was heavily emphasized on physical presence and paperwork, BNSS utilizes technology to modernize criminal procedure to ensure efficiency and flexibility of justice delivery in response to the challenges of the modern world. To summarize, the BNSS legal framework strikes a careful balance between constitutional rights

and technological improvements, offering a safe and organized framework for virtual trials while also recognizing the possibility of unequal access and digital exclusion.⁹²

3. Advantages and Disadvantages of Virtual Courts

The advent of virtual courts under BNSS, 2023 is a stride in the direction of modernizing the Indian criminal justice system. Perhaps one of the most striking benefits of virtual courts is they can help make the doors to justice easier to access. Litigants, witnesses and lawyers can take part in proceedings - without having to travel long distances - thanks to remote participation. Apart from this, e-filing of cases which includes e-FIR (online filing of FIR) further ensures that citizens can get justice with least intervention of physical infrastructure of court and ease accessibility of justice to people across socio-economic barriers.

Virtual courts also lead to saving time and faster disposal of cases. By removing the necessity of being physically present and simplifying procedures like document filing and evidence introduction, judges are able to schedule hearings more efficiently and procedural delays inherent in traditional trials can be reduced to a minimum. Alongside this is a significant cost-savings benefit both for litigants and the judiciary. Litigants save on travel, accommodation and other incidental expenses, and the courts save on operational costs of infrastructure and staff distribution. Additionally, it is noted that the highly adaptable nature of virtual courts enables otherwise working citizens and professionals to participate in hearings without negatively affecting their work commitments, which fosters a higher level of involvement in the judicial process and adherence to the law. Moreover, the use of technology in courts is also important in reducing backlog of cases as simultaneous hearings and efficient digital operations of cases lead to faster resolution of cases.

⁹² BNSS, 2023, §§ 25–30 (*Virtual Courts, Electronic Evidence, e-Summons*). Rights of accused and litigants: BNSS, 2023, § 28. Comparative study: CrPC, 1973, §§ 303–305 (*Evidence & Procedure*).

However, all these benefits are not free from disadvantages and problems. One of the major concerns is the digital exclusion. Access to virtual court is restricted by Internet connectivity, available device, and literacy. Inequities may pose barriers, restricting their ability to participate fully in proceedings, such as for people from minority communities, those on low incomes and senior citizens. Technical glitches, including network outages, software bugs, and cybersecurity vulnerabilities, further contribute to the risks of disrupting the continuity and integrity of hearings. Additionally, virtual courts can take away the face-to-face interaction, making it challenging for judges to evaluate a witness' credibility, demeanor, or non-verbal cues that could impact a case's outcome. The electronic transfer of sensitive information has raised issues about privacy and confidentiality, which in turn requires strong data protection practices. Finally, there is a learning curve that may need to be overcome by stakeholders such as lawyers, judges, and court staff in getting familiar with the digital procedures, and lack of training or resistance to technology may prevent complete and effective implementation of digital procedures.

In conclusion, the advantages of using virtual courts through BNSS are pronounced with respect to efficiency, cost-effectiveness and accessibility, and they also present challenges in terms of digital equity, technical reliability and procedural integrity. Inclusive approaches are necessary for effective justice access – targeted interventions are needed, such as digital literacy programmes and secure technology infrastructure or hybrid hearing models so that all citizens have equal access to justice.⁹³

4. Challenges / Digital Exclusion

While the advent of virtual courts under BNSS, 2023 holds the promise of modernizing criminal justice and maximizing efficiency, it also

highlights the crucial issues of digital exclusion. One of the most important issues has been the digital divide which is evident between urban and rural societies, and between sectors with more and less economic wealth. In many rural areas, citizens have poor internet connectivity and access to suitable devices (smartphones, tablets or computers, etc.) to effectively participate in virtual court proceedings. This inequality risks establishing a new sort of exclusion, one in which only those with sufficient technological resources are able to fully enjoy their right to access justice.

Apart from infrastructural barriers, the other issue is the low levels of digital literacy among some demography. Online portals can be confusing to litigants with poor literacy or economic means, or those of advanced age or limited formal education who may not know how to properly complete the required paperwork or file electronic documents. Lack of Digital Literacy: Although access to devices and the internet is ensured, a lack of digital literacy can result in missed hearings, procedural delays, or incomplete participation, compromising the fairness and efficiency of virtual trials.

Accessibility to disabled people is another important issue. Virtual hearings may not be accessible to hearing-impaired or visually impaired people who need special assistive devices, captioning services, or screen-reader compatible interfaces. Without these provisions, virtual courts might be in violation of the principles of inclusive justice and failure to act in respect of the constitutional right to equality before law.

Also, technology dependence presents technical and cybersecurity risks. The internet connection, the softwares, the availability of servers are a few variables that can cause delays and sometimes miscarriages of justice. The electronic treatment of sensitive personal and legal information also provokes privacy and data security questions, which will necessitate strong encryption, secure platforms, and observance of data protection norms. Any

⁹³ Cost and time efficiency: National E-Courts Mission, Annual Report 2022–23. Accessibility for working citizens: A. Sharma, *supra* note 5. Challenges and digital exclusion: R. Gupta, *supra* note 5; Live Law, “E-Courts in India: Challenges and Opportunities,” 2021. Persons with disabilities and accessibility: Bar & Bench, “High Courts Implementing Virtual Hearings,” 2022.

violation or unauthorised access to digital evidence would jeopardise the integrity of trials and undermine the public confidence in the judicial system.

Taken together, these problems suggest that whilst virtual courts operating under BNSS have the potential to improve access to justice, they may equally worsen existing disparities if technological, infrastructural and educational disparities are not addressed. Targeted interventions must be implemented to ensure that people can participate equally in the justice process, such as by investing in digital infrastructure, public access centres, training for litigants and lawyers, and by integrating assistive technologies for persons with disabilities. Only by such means can the promise of virtual courts be fulfilled without leaving behind susceptible populations.⁹⁴

5. Case Studies / Examples of Virtual Courts

While specific goals are set under BNSS, 2023 for virtual courts, the implementation is being informed by earlier pilot programmes and projects by various High Courts and District Courts across India that have provided good insights into both the possibilities and limitations of digital delivery of justice. For example, during the pandemic of COVID-19, the Delhi High Court and several subordinate courts commenced to hear the cases through the video conferencing platform, which contributes to the continuous justice function despite the nationwide lockdown. Further, the virtual hearings conducted proved a viable process of remote adjudication in that the ability of the judge, lawyers, and litigants to engage with each other on an electronic level was possible whilst substantially preserving the procedural safeguards.

Similarly, many pilot virtual court projects, implemented in Kerala, Karnataka, and Maharashtra, showed important operational benefits. In Kerala, e-filing and virtual hearings

were deployed effectively by the District Courts of Ernakulam and Thiruvananthapuram, both in criminal and civil cases, and Feedback from these projects reported a great decrease in adjournments, quicker resolution of process matters, and initial efficiency with respect to time to the judiciary and to litigants. Karnataka's virtual court system included dedicated video conferencing hardware, online case tracking platforms, and electronic submission of evidence - all of which worked together to increase the efficiency of the court and decrease pathologies being experienced in traditional courts.

While these case studies attest to the benefits of applying virtual courts, they also indicate a continuing need. Experience gathered from existing pilot programs from districts in rural India showed that litigants belonging to economically weaker sections frequently had technical challenges such as lack of internet access, smartphones and familiarity with digital platforms. In one state, Maharashtra, some litigants were not able to participate in hearings, due to lack of stable internet connectivity or even lack of familiarity with operating the video conferencing, resulting in delays or missed appearances. Such cases underscore digital divide, and transmit the necessity of complementing actions, such as public access centers and digital literacy courses, to guarantee equal participation.

Other studies, which involve measuring the litigant satisfaction, give us additional revelation. Surveys completed as part of pilot virtual hearings indicated that whilst urban participants and professionals welcomed the convenience and low-cost benefits, participants in rural and marginalised areas often found it difficult to attend hearings and present in forms of digital evidence. These findings indicate that the technology implementation is not the only-case for success of virtual courts' function but that the outcomes of virtual courts are partly dependent on closing socio-economic inequalities and obstacles to accessing.

⁹⁴ *Digital divide data: Government of India, Ministry of Electronics and IT, Digital India Report, 2022. Technical glitches and cybersecurity issues: UK Ministry of Justice, Digital Courts Guidelines, 2020. Inclusion solutions: Singapore Supreme Court, Virtual Court Proceedings and E-Justice Initiatives, 2021.*

To conclude, we use example cases in High Courts and pilot projects to illustrate that virtual courts under the Benches Bench Operations Scheme have the potential to improve efficiency, reduce backlogs and enhance access to justice. However, they also strove to remind that in the absence of focused interventions aimed at closing the divide, technology-driven reforms may serve to worsen existing disparities, and thus strengthen the importance of inclusive design and infrastructure deployment for digital justice administration.⁹⁵

6. Critical Analysis

While the implementation of virtual courts stands as a landmark development in BNSS, 2023, there are concerns about the inclusivity and effectiveness of these administrative reforms towards crime in India. Although BNSS officially acknowledges electronic filing, e-summons, and virtual hearings, the Act gives few instructions on how to respond to the digital divide, which still stands as a big obstacle to fair access for marginalized communities. Barriers to participation in meaningful ways because individualized assistance in rural communities, on the other hand, may exist for economically disadvantaged people, those with only limited technology literacy, and issues of exclusion pervade the existing framework. Without complementary policies to enhance under-represented peoples' access to the internet such as infrastructure development, digital literacy training and supported access points, virtual courts simply risk exacerbating existing disparities, not reducing them.

Within the BNSS framework, one of the major tensions between these two goals is that of balancing speedy justice with the right to receive a fair trial. There is no doubt that virtual courts fast track proceedings as they avoid travel, adjournments and simplifies documents filings – a welcome step in helping overcome India's widespread institutional case waiting. However, the limitations of a remote hearing

can restrict the ability of the judge to: determine the credibility of witnesses, gather and understand non-verbal cues and the extent to which the accused is informed of and comprehends the proceedings. Further, irregularities in a technical aspect or software or a lack of guidance with litigants can undermine procedural fairness. As we look to BNSS to improve our lives, keeping technology efficient and without compromising on the fundamental rights that we, as humans deserve, will always pose a problem.

An international comparison of digital court cases offers insight into possible solutions. Countries like the United Kingdom, Singapore and Australia have successfully introduced hybrid court models with virtual and physical hearings that guarantee access to people who cannot come online without losing procedural integrity. In these jurisdictions, the centrepiece of success for virtual justice has been strict training for judges, court staff, and litigants, a deep investment in digital infrastructure, and secure platforms. These examples can guide India's own digital court system, toward greater principles of inclusion and reliability.

On the basis of this analysis, a number of policy recommendations can be derived to minimize digital exclusion in the context of BNSS. First, rural and underserved litigants would have access to devices, internet connection, and technical support needed to victim-survivors to establish public access canthers. Second, hybrid court models should be encouraged so that combination offer virtual and physical hearings to enable people to participate according to their access to technology and comfort focusing on devices. Third, the citizens' digital skill set – and those of lawyers and staff managing the court processes – needs to be upgraded to facilitate sound engagement with virtual processes. Furthermore, apart from ensuring that assistive technologies are available to persons with disabilities, robust cyber security, which ensures the integrity of proceedings and the safeguarding of litigants' rights should be enforced.

⁹⁵ *Delhi High Court, Pilot Virtual Court Project, 2021. Kerala District Courts, Virtual Hearing Annual Report, 2022. Karnataka Courts, Implementation of Video Conferencing, 2022.*

In conclusion, whilst BNSS has established a solid foundation for technologically-augmented access to justice, targeted interventions, infrastructural support, and the formulation of policy need to be in place to ensure equitable and inclusive access. But to realize their potential as tools of efficient, just, and accessible justice, virtual courts will need a blend of legal reforms, technological investment, and social initiatives to guarantee fairness and adherence.⁹⁶

7. Conclusion

Virtual courts introduced under the Bharatiya Nagarik Suraksha Sanhita, 2023 (BNSS) is a revolutionary change in the Indian criminal justice system and it is giving way to digitally enabled, efficient, and accessible justice delivery. Standardizing provisions for e-FIRs, e-summons, virtual hearings and e-evidence, BNSS can offer procedural delays, cut back case pendencies and afford litigants more flexibility to be involved in legal proceedings. The use of technology also lends to economy of cost, of time and information in the dispensation of justice, most effectively in an urban setting and by those participants who are familiar with technology.

However, the research shows that, while virtual courts are improving access and efficiency, the way they are implemented is only partially inclusive. There are still major obstacles like the digital divide, no access to the Internet, low digital literacy, and access for people with disability in the public arena. In addition to the structural issues, certain segments of society also face technical barriers and are exposed to cybersecurity risks when participating. Hence, the equity to access justice pillar of BNSS is only likely to be effectively fulfilled if a set of interventions targeted at this gap is implemented.

It is important to have an equilibrium of implementation. This includes the creation of

publicly accessible hubs, encouraging hybrid models of both physical and virtual proceedings in court, investment in digital infrastructure, as well as training for court staff and litigants. "Policy measures must also be in place to facilitate meaningful participation in virtual proceedings for persons with disabilities and marginalised groups - to avoid the deepening of structural inequality in this way."

Moving forward, the cyber justice roadmap with BNSS for virtual courts should highlight inclusive, secure and efficient digital justice. By pairing technology adoption with orchestration of equitable access, India can turn virtual courts into a game changer, bringing timely and just justice to every Indian, irrespective of their societal-economic standing or location. Therefore, BNSS provides a basis for the progressive implementation of a digital empowered judicial system only where prescriptions for inclusion, training, development of infrastructure and solution to technological reforms are carried equal to those of technology reforms.⁹⁷

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