Technology to Advance Criminal Justice

Why in news?

Recently the Chief Justice of India emphasized the critical role of technology in advancing criminal justice on Central Bureau of Investigation (CBI) Raising Day.

What are the applications of AI in criminal justice reforms?

- **Predictive policing**- AI can assist law enforcement agencies in identifying potential crime hotspots and patterns, which can aid in the deployment of resources and personnel.
- **Case management**- AI-driven systems can streamline case management processes by automating scheduling, reminders, and document management.
- **Evidence analysis**- AI can assist in the analysis of evidence, including fingerprint matching, facial recognition, and voice analysis.
- **Legal research**- AI-powered legal research tools can help lawyers and judges access relevant case law, legal precedents, and statutes quickly, aiding in the interpretation and application of legal provisions of CrPC, Indian Penal Code, 1860 and Indian Evidence Act, 1872 provisions during trials and hearings.
- **Judicial decision making**- AI can provide data-driven insights to assist judges in making informed decisions regarding sentencing and parole.
- **Data management**- AI can help manage vast volumes of data and evidence, ensuring that it is securely stored and easily accessible.

The National Intelligence Grid (NATGRID) is the integrated intelligence master database structure for counter-terrorism purposes connecting databases of various core security agencies under the Government of India

- **Risk assessment algorithms**- AI driven risk assessment tools can be used for bail, sentencing, and parole decisions.
- **Forensic analysis**- AI is being used in forensic analysis, including the examination of digital evidence, fingerprints, and DNA.
- **Facial recognition**- It can be used in identifying suspects and improving surveillance.
- **Legal aid**- AI-driven chatbots and virtual assistants can provide legal information and assistance to individuals who may not have access to legal counsel, helping them understand their rights and responsibilities under the legal framework such as Criminal Procedure Code, 1973.

What are the benefits of technology in criminal justice reforms?

- **Enhanced efficiency**- AI can automate routine tasks, leading to quicker case

processing.

- **Cost effective**- It would lead to potential cost savings for law enforcement agencies.
- **Reduced bias-** AI can help minimize human biases in decision-making processes.
- **Improved resource allocation**- AI can optimize resource allocation by identifying crime hotspots and allocating police resources accordingly.
- **Reduce case backlog**- By automating routine tasks and document processing, AI can help reduce the backlog of cases in the criminal justice system, ensuring that justice is delivered in a timely manner.
- **Reduce complexities**- Creation of Network for Evidence Tracing, Research, and Analysis (NETRA) is a significant leap forward in CBI which is designed to handle complex criminal investigations by analysing digital evidence.

What are the challenges of technology in criminal justice reforms?

- **Biased data-** If historical criminal justice data contains biases, AI algorithms may reinforce those biases, leading to unfair outcomes.
- **Data privacy**- The use of AI in criminal justice necessitates the collection and analysis of large datasets, raising concerns about the privacy and security of sensitive information.
- **Lack of transparency**- The deployment of AI in law enforcement may raise ethical questions and concerns among the public, requiring transparent policies and communication to build and maintain trust.
- **Technical limitations**- The technical limitations may result in errors and misinterpretations which needs human oversight.
- **Skewed data**- It could lead to community-based profiling of marginalized social groups, potentially violating privacy rights and disproportionately targeting specific communities.

How to address the ethical considerations in criminal justice reforms?

- **Equitable distribution**- The benefits of digitization should reach everyone regardless of their background is essential, mechanism should be in place to address the digital divide.
- **Digitilization of foundational processes**- Paying attention to foundational processes, such as filing of First Information Reports (FIRs) is crucial which would enhance transparency and allow for tracing back the sequence of events.
- **Synchronization with court procedure**- Investigations should align with court procedures to ensure effective and time bound prosecutions, the complexities of cases undertaken by Central Bureau of Investigation necessitates meticulous adherence to legal parameters.
- **Institutional commitment**- It involves dedicated financing for infrastructure upgrades, synergies across different wings of criminal justice administration and calibrated strategies to keep personnel informed about rapid environmental changes.
- **Integrating technology**- A multi-pronged approach to integrate technology with court procedures is recommended, it aims to prevent the severity of accusations and excessive delays in CBI courts from leading to a presumption of guilt.
- **Virtual court model**- The e-committee of the Supreme Court has developed a virtual

court model, once implemented it will enable simultaneous conversion of speech into text.

What lies ahead?

- CJI has emphasized that importance of establishing adequate safeguards to prevent the misuse of AI and other advanced technologies.
- AI should be wielded within ethical boundaries to uphold the integrity of the justice system.

Quick facts

NETRA Lab
• **Ministry-** It is created under ***Department of Personnel and Training***, Ministry of Personnel, Public Grievances and Pensions • **Vision**- To further strengthen investigative processes of CBI in the digital domain. • **Mission**- To extract data from the electronic footprints, process it into actionable intelligence and aid investigation process • **Purpose**- It is designed to handle complex criminal investigations by analysing digital evidence. • It covers a wide range of sources, including mobile devices, cloud storage, and e-Discovery data. • **Benefit**- It plays a crucial role in expediting the investigation process, it contributes to delivering justice swiftly and efficiently.

Reference

Indian Express- Technology in criminal justice reforms