Evaluating the Quality of Evidence in Criminal Trials: Challenges

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Abstract

The criminal justice system of Pakistan is tilting strongly towards forensic and expert evidence, observed over the recent decade. However, as a result of a worldwide paradigm shift, spurred by scientific reports such as the 2009 United States National Academy of Sciences report, much of the reliability issues around scientific evidence are becoming a debatable issue. It is argued that in Pakistan, the law has remained most silent and has not yet been able to give proper response to these emerging issues. This article examines the quality of evidence in the Pakistani criminal trials and evaluates the statutory restraint of the Qanun-e-Shahadat Order 1984, the Prevention of Electronic Crimes Act 2016, and the Criminal Procedure Code 1898. It examines systemic impediments, including cohesive forensic infrastructure, lack of accreditation, judicial inconsistency and the resultant effect on the constitutional right to a fair trial as provided in Article 10A of the Constitution of Pakistan. Using a qualitative theoretical approach to doctrinal analysis of primary legal texts, legal scholarship over 2005-2023, and secondary academic literature, the research shows that the evidentiary standards have substantial gaps. The paper concludes that the quality of the judicial results in Pakistan is severely undermined due to lack of specific reliability criteria, high levels of scientific illiteracy of legal actors and institutional reforms that would guarantee quality control. The study recommends legislative changes such as the implementation of Daubert-style reliability testing and the obligatory accreditation of forensic laboratories according to ISO 17025 guidelines, rigorous judicial training programs and state-funded independent expert support of the indigent defendants.

Keywords: Forensic evidence, criminal trials, Qanun-e-Shahadat Order 1984, digital evidence, right to fair trial, Pakistan, expert testimony, evidence law

Introduction

The portrayal of forensic science in mass media has created an illusion among the Pakistani judiciary that scientific evidence can only be used as an impeccable determiner of the truth (Farhad, 2025). In courtrooms around the country, expert reports relating to DNA studies, ballistic identifications, toxicology discoveries and fingerprint matches are regularly believed

to be final and, therefore, effectively, short-circuit the skeptical treatment normally given to testimonial evidence (Baig et al., 2025). This traditional passive positioning is firmly embedded in the belief that state-appointed professionals deliver objectively credible evidence and that the techniques that they use have intrinsic validity and are error-free (Rasool and Rasool, 2022). However, this assumption of infallibility has been seriously questioned on the international level. The 2009 report of the National Research Council of the National Academy of Sciences, known as Strengthening Forensic Science in the United States: A Path Forward, has found that, with the exception of nuclear DNA testing, many forensic fields do not have a strong scientific basis, are vulnerable to cognitive bias, contextual effects, and unacceptable error rates (National Research Council, 2009). This radical appraisal triggered an international reevaluation of the evidentiary analysis in the courts and led to legislative changes in various jurisdictions to enhance the functions of the gate keeping and establish greater reliability criteria. The main question which Pakistan faces is whether its legal system has learnt these crucial lessons, or still it is dependent on the potentially misleading evidence owing to the systemic inertia, legislative gaps and institutional inadequacies. The overlapping of archaic colonial procedural laws fractured forensic systems and the new issues produced by the digital evidence create a dangerous state of affairs within the administration of a criminal justice system. The Supreme Court of Pakistan has become more and more aware of the fact that quality of evidence produced during criminal trials are directly upsetting the right to a fair trial, guaranteed under Article 10A of the Constitution (Aslam et al., 2025).

This article deals with a burning scholarly and practical question inter-alia: to what extent the legal system of Pakistan guarantee the reliability and quality of the evidence upon which a criminal trial is based? The analysis of the statutory provisions, judicial interpretation and institutional practice uncovers the weaknesses inherent in the system that undermines the evidentiary integrity and suggests holistic reforms based on international best practices. The discussion is structured into six sections, namely Part I describes the methodology used; Part II analyses the statutory framework that regulates admission of evidence and the difference between relevance and reliability; Part III discusses issues unique to forensic evidence, such as chain-of-custody issues, accreditation deficiencies, and cognitive bias; Part IV evaluates the complexities of digital evidence in light of the rapid technological change; Part V discusses the human-rights problems and adversarial deficiencies facing criminal defendants; Part VI identifies new trends in judicial system reform.

Methodology

The proposed research will use a qualitative type of research design based on doctrinal research. It will involve the systematic examination of the existing statutes, legal precepts, and case laws to determine the quality of the evidence standards which are used in criminal trials in Pakistan. Due to its ability to subject legal rules and their judicial interpretation to rigorous critique, as well as their relation to larger normative structures, the doctrinal approach techniques are implied in the research.(Hutchinson and Duncan, 2012). Four different types of sources are used in the research; First, the key legal provisions are analyzed, namely, the Qanun-e-Shahadat Order 1984 (especially Articles 59 and 164), the Criminal Procedure Code 1898 (Section 510) as well as the Prevention of Electronic Crimes Act 2016. Such laws form the legal framework of evidence in the Pakistani courts. Second, purposive sampling of the selected judgments of the Supreme Court of Pakistan and the Provincial High Courts in the last five years of 2018-2023 was included in the case law analysis. This time frame engulfs traditional methods of expert evidence as well as the gallery of judicial cognizance. The cases analyzed as seminal include Muhammad Imran Sadiq v. The State (2021), Babar Khan v. State (2022), and Muhammad Bilal v. State (2021), which depict the changing judicial position on forensic and digital evidence.

Third, the analysis of secondary sources was done thoroughly, including academic journal articles, audit reports of the National Forensic science Agency, and the international standards documents like the National Academy of Sciences Report (2009) and ISO 17025-accreditation specifications. These resources offer a comparative background and the best practices that can be used to compare the structure of Pakistan. Fourth, quantitative synthesis was also brought in by investigating survey data on the perceptions of legal and healthcare professionals regarding the integrity of the chain of custody and the quality of forensic training in Pakistan (Nor et al., 2025; Nazir et al., 2025).

The selection of such a multi-source method will allow triangulation of the results and will make the conclusions strongly based on the legal doctrine as well as the empirical data on the institutional practices. It is supported by theoretical framework, which identifies the difference between the evidentiary relevance, which identifies admissibility, and the evidentiary reliability, which identifies weight and probative value, a differentiation that is still under-acknowledged in modern Pakistani jurisprudence.

The Statutory Framework

Irrelevance or Reliability

The two main laws that govern evidentiary law in Pakistan, the Qanun -e -Shahadat Order, 1984 and the Criminal Procedure Code, 1898, provide a legal framework on which the admissibility of evidence is based; nevertheless, they do not include any procedural protections that might ensure scientific reliability (Asif and Qayum, 2023). Through this omission comes a system where evidence can be accepted based on the formal accolades of an expert instead of the fairness of methodology and science.

The Qanun-e-Shahadat Order 1984

The admissibility of opinions provided by a person who has been specially skilled in science, art, or issues of identity is authorized by Article 59 of the Qanun -e -Shahadat Order 1984 (Khan, 2022). The Daubert-style reliability testing entered the Pakistani court rooms through Article 59. The deferential approach inherent in the provision, being a carryover of the evidence law in colonial times, presupposes expertise on a purely professional basis, thus avoiding the necessity of any demonstrable methodological validity. The provision approves the opinion of of persons specially versed in such foreign law, or science or art, or as to the identity or genuineness of handwriting or finger impressions. These individuals are termed as experts. Article 164 also allows the admission of evidence that has been generated using modern devices or techniques, indicating the awareness of legislators regarding the development of new ways of evidentiary practices (Khan, 2022). However, the major gap in the Qanun-e-Shahadat Order is the lack of such a reliability test (the Daubert standard) as used in the United States federal courts. The Daubert standard includes the exercise by the judges of assessing testability, known error rate, peer-review condition, and overall acceptance of a method by the scientific community of a particular field before admitting expert testimony. (Merrell Dow Pharmaceuticals, Inc., 1993). In Pakistan, admissibility is mainly dependent on professional qualifications of an expert, and not the scientific soundness of his or her findings or procedures (Rasool and Rasool, 2022). Such a qualification-based system creates a strong sense of vulnerability: a professional can have some excellent credentials but who follows a system that cannot be tested empirically, giving unreliable outcomes, or performing better than he or she is capable of in reality. There is no medium in the Qanun-e-Shahadat Order allowing trial court judges to examine such dimensions which are considered to be critical prior to the presentation of evidence before juries (in case of juries) or before judicial authorities.

Section 510 of the Criminal Procedure Code, 1898 allows reports prepared by the government specialists, such as serologists, chemical examiners, or fingerprint experts, admissible without compelling them to testify personally (Azhar et al., 2025). This type of provision, despite being initially aimed to simplify the investigative process and may lead to a lighter evidentiary burden of an expert witness, creates the so-called black box scenario; the defense cannot substantially challenge the methodology, data, and findings underlying it, unless it can provide some reasonable explanation to justify that the expert should be subjected to cross-examination (Hussain et al., 2023). These obstacles in the procedures put the defendants in a disadvantaged position. The defense having nothing to question the expert about the way analyses were performed, what kind of quality controls were used, and whether alternative explanations were taken into account, is virtually powerless in its effort to challenge possibly tainted evidence. Thus, the clause introduces an unbalanced procedure in favor of prosecution and disadvantage of adversarial character of criminal trials (Baig et al., 2025).

Prevention of Electronic Crimes Act, 2016

The Prevention of Electronic Crimes Act, 2016 was implemented in response to the peculiarities of using digital evidence during the criminal proceedings (Nazir et al., 2025). In section 40 of the Act, it is indicated that the expert evidence can be mandatory in order to prove the integrity of electronic evidence due to the peculiarities of authentication and reliability in relation to the digital data. Nevertheless, the Act does not give an in-depth model of digital forensic standards, nor did it describe the acceptable processes of extracting, preserving and analyzing the said evidence. In PECA cases, the evidentiary threshold applied to digital evidence is often significantly higher than that applied to analogue evidence and this leads to the fact that not all types of evidence are treated equally (Abbas and Sheikh, 2023). This inconsistency indicates judicial confusion on the evaluation of digital materials, and it may result in the unwarranted mistrust (banning of probative evidence) or under-mistrust (toleration of unreliable materials).

The forensic's in Pakistan has suffered the so-called reliability paradox, whereby evidence produced by the laboratories is accepted as final in a court of law, despite the fact that the infrastructure that supports its creation and processing is often under-resourced, disjointed, and lacks quality assurances (Razzaq et al., 2025). Such a discrepancy between perceived authority and real reliability is extremely dangerous as it runs the risk of wrongful

convictions and degrades any perceived credibility in the administration of justice. The chain of custody is the key element of a forensic process. Its scope involves the written record of treatment, storage, and transfer of the pieces of evidence from the time of collection to its analysis till the conclusion of trial in the court (Noor et al., 2025). Lack or failure to maintain the chain of custody opens up the possibility of contamination, replacement or interference, which in essence undermine the evidentiary reliability. In (Muhammad v Egocentric Bilal 2021) the Supreme Court of Pakistan discussed the chain-of-custody issues in details. The decision—a conviction of murder where a knife, which was claimed to have been used in the crime, was part of the evidence against the killer. The Court noted that the inadequacy of documentation on the process of handling, packing and storage of the knife between the time it was collected and examined by a forensic expert created enough doubt to upset the conviction. This ruling highlights the fact that the judiciary is cognizant of the fact that procedural shortcomings can undermine substantive evidentiary worthiness. Similarly, in the case of Muhammad Imran Sadiq vs the state, 2021, the Supreme Court vindicated the defendant since when the prosecution failed to prove safe and scientific custody of DNA samples. Both the Courts recognize the possibilities of tampering, and the need to maintain evidentiary integrity since the time of collection until laboratory analysis. The decision indicates a straining judicial consciousness that DNA evidence, however scientifically it may be, the process of its collection, conservation and examination must be aligned with the standard legal protocols. However, these just judgments are only progressive and not normative. According to the survey data, the chain-of-custody documentation in Pakistan is not regular and varies greatly between the law-enforcement agencies and region to region (Noor et al., 2025). In a personal interaction with this scribe, the laboratory staff at the Forensic science Laboratory at Peshawar informed that in majority of cases, neither the investigators nor the doctors used to collect the samples from the crime scene thereby destroying the most significant pieces of evidence. Without standardized procedures, compulsory training, and regular audits, the integrity of scientific physical evidence will be an issue that can be compromised.

Insufficient Accreditation and Quality Control

According to a 2024 audit, only 18 percent of law-enforcement agencies in Pakistan have the most basic digital forensic equipment, and thus, highlighting a major resource limitation that reduces the quality of evidence (Farad, 2025). Furthermore, an impressive percentage of forensic laboratories in Pakistan are not accredited according to the international standards

like ISO 17025, which outlines the basic requirements of competence in the laboratories (Hussain et al., 2023). According to ISO 17025, a laboratory is required to prove the competence of its tech, maintain procedures that are validated, participate in proficiency tests, and establish powerful quality-management structures. In the absence of such accreditation, there would be no third-party verification that can ensure that laboratory results are in compliance with the widely agreed scientific standards issued by the scientific community (Rasool & Rasool, 2022, p. 64). It, therefore, forces the judiciary and lawyers to determine the scientific evidence with zero assurance to the quality of the laboratory where it was generated. Of particular concern is the lack of compulsory proficiency testing. Proficiency testing is usually done by the use of blinded samples that are known to have specific qualities to check whether the analysis done in laboratories is giving the correct results. Regular involvement in such exercises reveals the quality of laboratory procedures and lab investigators. The proficiency testing in Pakistan is not compulsory and is not conducted periodically, which allows errors to go unnoticed during long terms and can compromise the quality of many adjudicative processes (Baig et al., 2025). The Bias Blind Spot, the new literature in the field of international scholarship is increasingly highlighting that the work of forensic examiners is susceptible to contextual bias, whereby extraneous data like being informed of the suspect's confession or criminal record can influence their findings to some extent (Dror, and Rosenthal, 2008). This bias has been witnessed in a range of forensic careers, including the field of fingerprint examination, comparison of bite-marks, and the interpretation of DNA. In Pakistan, such a blind spot of bias is rarely challenged in a courtroom. The process of cross-examining forensic experts is rarely done to find out the cognitive biases of analyses or whether they have employed sequential unmasking methods, in which the investigator is gradually presented with contextual information to preclude the presence of premature judgments (Rasool & Rasool, 2022). This has led to the current assumption of forensic experts being objective scientists, free of any extraneous information despite the overwhelming empirical evidence showing otherwise. The inability to deal with the cognitive bias is particularly problematic considering the deep-rooted interdependence between forensic laboratories and law-enforcement agencies in Pakistan. Most forensic facilities are either led by the police instructions or maintain close operational relationships with investigative agencies, which creates the environment where contextual information passes freely and anticipatory expectations can influence the results (Hussain et al., 2023). There is still a propensity to bias, as it would not vanish in the absence of structural segregation and strict blinding procedures.

The Digital Evidence:

The Problems of the New Age

In Pakistan as in other countries, there is a tendency towards using digital footprints (social media use, encrypted messages, geo-location, metadata, etc.) as pivotal tools in the criminal investigation (Nazir et al., 2025). However, the courts of Pakistan have shown consistent unwillingness to accept this type of evidence, often dismissing it for technical reasons or due to fears of insufficient probative quality (Abbas and Sheikh, 2023, p. 52). According to the Prevention of Electronic Crimes Act (PECA) 2016, proving the provenance and integrity of digital file is a complicated task. Digital evidence is also a malleable one: files can be modified without leaving any traces, metadata can be changed, and establishing a chain of custody of the digital material requires specialized expertise and practices. The empirical investigations have shown that about 65 percent of digital evidence cases lead to dismissal, due to weaknesses in the procedure of certification or chain of custody (Nazir et al., 2025). These rejections are indicative of two aspects: good faith apprehensions about the integrity of the evidence and, perhaps, over the judicial cynicism about new modes of evidence. The absence of clear legal directives on permissible authentication techniques of digital evidence concerning different classes of digital evidence prompts the courts to develop standards on the spot thus making them unpredictable and inconsistent.

A threatening trend of inconsistency is noted in judicial treatment of similar groups of digital evidence in Pakistani of high courts (Abbas and Sheikh, 2023, p. 47). To give an example, WhatsApp messages have been used in some circumstances and omitted in others, based on different interpretations of authentication requirements. Depending on the availability of affidavits, certificates under Section 40 of PECA, or evidence by the person who took the material, screenshots of social media material are treated differently. This inconsistency undermines the rule of law because it makes outcomes of the evidence dependent on the bench instead of the application of principles of consistent application of uniform standards. It also creates ambiguity for the investigators and prosecutors as they cannot reliably foresee the admissibility of specific evidence and to the defendants as they do not know what evidence they can use against them. Deep fake and manipulation in the existing law of evidence is ill-equipped to face the advanced data editing and deep-fake technologies, which are the main obstacles in finding of truth in modern trials (Shi, 2025, p. 30). Deep-fakes such as synthetic media where a person voice or image is substituted by that of another with the

help of artificial intelligence may generate convincing evidence that is entirely fake. With advancement of these technologies, the higher the chances that the courts will deal with tampered digital materials whose authenticity may be difficult or impossible to verify. The evidentiary framework of the country does not contain specific measures addressing deep-fakes or any other AI-generated content. It appears that the general authentication principles provided under the Qanun-e-Shahadat Order and PECA are weak because they assume that traces of evidence can only be identified from its known source instead of addressing for advanced manipulation (Nazir et al., 2025). Without updated legal system and specialized training, Pakistani courts are vulnerable to manipulation through fabricated digital evidence.

The Adversarial Deficit and the Human Rights

The quality of evidence is intrinsically connected to the right of fair trial provided in Article 10A of the Constitution. (Aslam et al., 2025). This constitutional right touches on a number of aspects ranging from the quality of evidence at the trial including the right to question prosecution evidence and its equality. The inequality of arms is a significant imbalance between the state and the accused in terms of access to forensic resources and expertise. While the prosecution have access to forensic lab facilities such as the Punjab Forensic Science Agency, the Sindh Forensic Science Laboratory and other government laboratories, the defense has limited means to engage independent experts for counter-analysis or review of the forensic evidence (Baig et al., 2025). This disparity is particularly high in a capital case and other heinous offences in which forensic evidence could play a significant role in final verdict of a trial. Other legal systems, including the United States, indigent defendants are granted statutory entitlement to state-funded independent expert assistance.(Ake v.). Oklahoma, 1985). However this is not the case in Pakistan, although the Supreme Court has acknowledged right to expert assistance under specific conditions, yet no statutory framework is available. In absence of such rights, the defendants are virtually deprived of the right to raise substantive objections to the prosecution forensic evidence, as they lack technical expertise to detect flaws, provide alternative explanations, or methodological flaws (Aslam et al., 2025). In Generex No. 32 on the right to a fair trial the United Nations Human Rights Committee has pointed out that equality of arms means that each party should be given a reasonably fair opportunity to make its case in conditions that do not put a significant disadvantage against the other party (United Nations Human Rights Committee, 2007). The

present system in Pakistan, in which indigent defendants are denied access to the services of an expert and the prosecution is provided with extensive forensic resources, fall short of the requirements of fair trial and equality of arms.

Lack of scientific Literacy

Scientific illiteracy among the judges and lawyers constitute a significant weakness on evaluation of forensic evidence, as a result cross-examination largely focuses on procedural formalities rather than the methodological reliability of scientific testimony (Rasool & Rasool, 2022, p. 65). In Pakistan, legal professionals have attains limited training in the fields of science, and forensic subjects both during their educational and professional career. Consequently they are not fully skilled to evaluate expert testimony critically or to identify methodological flaws that would be apparent scientific experts. This lack of literacy creates two dynamics: forensic evidence is either accepted unquestionably due to its scientific authority, or it is dismissed as a result of misconception instead of careful evaluation of its validity. Both of the outcomes do not work in proper administration of justice. Lack of scientifically literate judicial gatekeepers may admit unreliable evidence and reject probative evidence, and thus has the affect accuracy and fairness of outcomes of cases.

Courts Trends: Deference to Scrutiny

The case law analysis indicates that there is a gradual shift in the approach of uncritically accepting expert analysis to a more critical court evaluation. There have been cases in the past like the case of Muhammad Aslam v. The State (2011) wherein it was held that expert opinion cannot be easily dismissed. This view presupposes the reliability of expert evidence and shifts the burden to the defendants to prove why expert evidence should not be accepted. Recent rulings, particularly in the context of DNA litigation, indicate signs of awareness reliability of scientific evidence (Farhad, 2025, p. 2021). In Babar Khan v. State (2022), the court held that forensic reports were merely corroborative piece of evidence and conviction could not be based solely if the direct evidence was unreliable. While this ruling is deferential it acknowledges that forensic evidence also has limitations and it should not be considered as dispositive regardless of the specific facts of the case. However, this recent scrutiny mechanism is still inconsistent, and is rarely applied to traditional forensic process like fingerprint comparison, tool mark examinations, or questioned document examinations. Despite the fact that these disciplines are the subject of serious criticism in the international literature regarding their scientific foundation (National Research Council, 2009), they are

still largely accepted unquestionably in Pakistani courts. This one-sided approach of scrutiny suggests that judicial awareness of reliability issues is fragmented rather than systematic.

Systemic Reform Recommendations

To align the Pakistan's legal system with the international best practices and to guarantee the integrity of evidence in criminal trials, the following reforms are suggested.

1. Legislative Updates

   It is imperative to revise the Qanun-e-Shahadat Order 1984 and the Prevention of Electronic Crimes Act 2016 to introduce specific reliability criteria of admissibility of expert and digital evidence. Based on the Daubert framework, such amendments should require the trial judges to determine before admissibility, the testability of the method used, the known or potential error rate, the existence and adherence to standards under which the method is operated, and the standard of acknowledgement in the scientific community concerned (Daubert v.). Merrell Dow Pharmaceuticals, Inc. 1993). This gate keeping role would make sure that no evidence questionable of methodological reliability reach to the fact-finder.

Mandatory Accreditation

To ensure compliance with ISO 17025 standards by all forensic laboratories, a national regulatory authority should be established with the mandate to conduct proficiency testing. This agency must be empowered to conduct inspections and enforce remedial measures such as suspend or withdraw accreditation of laboratories that do not meet the prescribed standards. The status of accreditation should be admissible in courts and be taken into consideration by the judges in the process of evaluating forensic evidence (Hussain et al., 2023).

Judicial Training

The Khyber Pakhtunkhwa Judicial Academy and the Federal Judicial Academy should organize mandatory certification programs for all judges covering forensic fundamentals and cognitive bias. Training should include core scientific principles, limitations of different forensic fields, dangers of contextual bias, and methods of critically assessing expert testimony. The continuing-education requirements must ensure that the judges are updated with the evolving scientific knowledge (Rasool & Rasool, 2022).

Support for the Defense

Legislation should be enacted to ensure availability of state-funded and independent expert for the defense of indigent defendants in cases where forensic evidence is probably to play a decisive role. Such support would enable the defendants to obtain independent analysis, find flaws or gaps in the prosecution evidence, and provide competing expert testimony in appropriate circumstances. In addition, these provisions would help to correct the existing imbalance in arms and would render the constitutional right to a fair trial effectively practical (Aslam et al., 2025). Digital Evidence Manual Standards of the ISO 27037 (guidelines to identify, collect, acquire and preserve digital evidence) should be used to draft a national manual regarding the collection, preservation, and presentation of digital evidence. This manual would offer transparent guidelines to investigators standardize authentication protocols and reduce procedural inconsistencies that have led to the exclusion of evidence. (Nazir et al., 2025). It should be updated on a regular basis to cover the emerging technologies, such as artificial intelligence and deep fakes.

Separation of Laboratories

The forensic labs should be institutionally independent from law-enforcement agencies to reduce the risk of contextual bias and institutional pressure. Independent Forensic science institutes working under the supervision of the judiciary or academic bodies would present a greater confidence of objectivity and eliminate the perception that investigative priorities are influencing the forensic analyses .(National Research Council, 2009).

Conclusion

The shift of unquestioning deference to critical evaluation questioning is essential development toward the integrity of justice in Pakistan (Farhad, 2025, p. 2023). Despite the limited level of attained by Pakistani courts regarding fallibility of forensic and digital evidence, the legal and institutional structures are still inadequately prepared to address the challenges posed by modern scientific developments. The current evidentiary system permits the admission of evidence based on expert qualification instead of methodological reliability. It also does not provide mechanism for control over quality by accreditation and proficiency testing. At the same time it fails to provide the indigent defendants resources to challenge prosecution evidence. These lacunas of the present framework make it insufficient both according to the constitutional provisions and to the international standards. A meaningful

understanding Article 10A of the Constitution implies a shift from the colonial-era traditions of procedure to a rights-based, scientifically literate, and technologically furnished investigative and adjudicative machinery. This transformation requires legislative reforms to strengthen the evidentiary standard, institutional reform to achieve quality and independence in the forensic science, educational initiatives to enhance scientific literacy among stakeholders of the legal system and allocation of resources to enable substantive involvement of defense in adversarial proceedings. The stakes of these reforms are significant. In present system when evidence is unreliable, the innocent are disproportionately exposed to the risk of wrongful conviction, and the guilty may escape accountability due to the misuse of probative evidence. The quality of justice depends on the quality of evidence, and vice versa. Similarly the quality of the criminal justice system depends on reliability of evidence, which determines its legitimacy of legal system among the public. In short, the pursuit of Pakistan to attain stronger evidentiary reliability is not merely a technical legal reform but and a fundamental fulfillment of constitutional obligation and commitment to the rule of law.

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