

## **Challenges Faced by Police Officers in Forensic Criminal Investigation in Peshawar, Pakistan**

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### **Abstract**

Forensic science plays a crucial role as a component of the criminal justice system. This study aims to know about the problems police officials are facing in Forensic Criminal Investigation (FCI) in district Peshawar. Quantitative research was carried out by using 50 sample size of male Police Investigation officers through convenience sampling technique and the data was collected through interview schedule. Research findings shows that investigation officers were facing numerous problems in conducting forensic criminal investigation in district Peshawar like problems in forensic training on crime scene; untrained investigator were damaging the physical evidence; lack of Crime Scene Mobile Van. This study recommends for the provision of crime scene mobile van to the investigators, creation of forensic training schools and establishment of Forensic and DNA labs which is important to maintain the proper flow of forensic criminal investigation.

**Keywords:** Forensic Investigation, Criminal Investigation, Crime Scene, DNA Lab, Forensic Lab, Physical evidence, Pakistan

### **Introduction and Literature Review**

Forensic science refers to the application of science in the criminal and civil laws of the justice system. It aims to contribute services in the field of investigation by applying scientific methods to physical evidence pertaining to an offence to determine the facts (Saferstein, 1977). Forensic investigation on the other hand means the use of forensic science and technologies to examine the physical evidence to find out the facts in the course of investigation before the court. It is basically, the scientific investigation of crime which starts after the registration of First Information Report (FIR) and first spot of proceeding which is crime scene to collect the physical evidence and ends in the forensic lab. After examination of evidence scientifically and chemically, experts give testimony before the court of law (Kharal, 2015).

Forensic science is indispensable to the field of criminal justice system by providing scientifically based information before the court. Forensic science main

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domain is physical evidence or forensic evidence which is collected from the crime scene or from a suspect, analyzed it in the forensic lab in concerned section i.e., fingerprints section, firearms, digital, serology section etc. where forensic experts give their opinion about an evidence in criminal or civil case and provides grounds for the court to give verdict (Houck and Siegel, 2010).

Forensic science is contributing to criminal investigation in the field of detection, investigation and conviction. Human can lie, forget, or cheat in the court but physical evidence is always at the crime scene as a silent witness. Well qualified and trained experts, with their knowledge and skills make this silent witness speak in the court of law. All collected and preserved evidence help the police to apprehend the suspect. One of the definitions of forensic science in the context of court is “Justice through science” which means to restore the justice by the court by analyzing the evidence through chemical and computer sciences by the forensic expert (Forensic Science Laboratory [FSL], n.d.). Forensic analysis includes different technique which is applied on evidence for instance fingerprints experts see similarities in the disputed fingerprints with the suspected one which is called “Minutiae Points” or identification points i.e. pattern of finger impressions, position of delta and core, flow of ridges, distance of ridges etc. Forensic Scientists give their expert testimony based upon their own competence and understanding to give expert opinion before the court (O’Neill, 1940).

Howit (2018) argued about the basic principles of forensic science and stated that its application is the need to confront with the global criminal world and is really unique and progressive science with the forgoing basic principles and laws like; Law of individuality which proposed that everything which is natural or man-made has the feature of individuality like fingerprints, DNA etc. These are the individual basis for identification of humans from which no one can deny. Second principle is exchange which emphasizes that “Every contact leaves a trace” means when criminal or his object encounter the victim or crime scene; this leaves a trace and forensic expert can link these disputed traces with the criminal through scientific means. Thirdly Law of progressive change is very critical to crime which means every evidence changes with the passage of time; weather, duration and other factors modify or contaminate the structure of evidence.

Furthermore, law of comparison in criminalistics demonstrates that for examining the physical evidence it is necessary to preserve the same physical evidence to be compared. It accentuates the significance of providing same specimens for comparison with the disputed items then it will have an authentic result. Last, but not the least principle of analysis emphasis the need of proper sampling and accurate packing of physical evidence for effective use by the

experts because incorrect packing and defilement of evidence make the eminent analysis futile.

Sharma (2010) explained the criminal investigation as the process in which evidence are collected related to crime and efforts are made to know about the facts of a case and to provide legal proof against the culprit in the court. Nabar (2015) reported that criminal investigation is basically a complete inquiry of a criminal case. It includes different aspects of investigation like interviewing the eyewitnesses, suspect and the victim. Other aspects are interrogating the suspects in order to extract the facts pertaining to crime, proper documentation of crime from a crime scene up to court verdict, but the one which is emerging and helping in solving the criminal cases rapidly is called forensic investigation. Furthermore, regarding evidence collection and investigation it is stated that scene of occurrence is the most crucial spot where crime has been carried out and physical evidence of such crime can be collected by the investigators.

Physical evidence is forensic evidence plays a pivotal role in criminal investigation. Saferste in (1977:21) argued that “as automobiles run on gasoline, crime laboratories “run” on physical evidence”. It refers to any material with physical structure that might be existed at crime scene, upon the victim or in the suspect’s possessions. It has distinct dimension and can take any form. Kiely (2006) mentioned some examples of physical evidence which includes but not limited to blood, semen, documents, drugs, fibers, finger prints, firearms, hair, organs and physiological fluids, wood and other matter with an objective existence.

Globally, forensic scientists have taken initiative very early in the field of criminal justice system by establishing criminalistics labs or forensic labs. Forensic lab is a place where forensic scientist analyses and examines the physical evidence scientifically through different tools and concludes the forensic opinion about the evidence pertaining to crime. Edmond Locard is known as the father of forensic lab. In 1910, he has taken the initiative to build the first forensic lab at the loft of a police station in Paris, France. In a limited resources and short time, he became a well-known personality in the field of forensics and in time he founded the “Institute of Criminalistics” in France. In 1930s, August Vollmer, a former police chief of Berkeley became the head of the first U.S Institute for Criminology and Criminalistics at the University of California. In 1932, Federal Bureau of Investigation under the directorship of J. Edgar Hoover established a state level lab with the aim to render forensic services to all law enforcement agencies within the country. Apart of this in 1966 in England, the creation of “Central Research Establishment” is another milestone in the field of forensic sciences (Saferstein, 1998).

In Pakistan, under section 154 of Criminal Procedure Code (CRPC) 1898, every information related to cognizable offence if given to officer in charge of the police station shall be recorded in writing and can be read to the informants and police is bound to register FIR in order to start investigation. Criminal investigation is initiated by the Police after registering FIR which authorizes them to rush towards the scene of occurrence in order to secure it, collect the evidence, to look eyewitnesses and to take suspects in the custody as well. In addition, if crime scene is very sensitive and incident is heinous, the investigating officer consults the forensic expert to preserve the scene of occurrence for having proper scientific examination of objects to conclude authentic results before the court. With respect to criminal investigation in Pakistan, section 156 of CRPC authorizes officer-in-charge of police station to investigate any cognizable case in his jurisdiction without the orders of Magistrate. Section 169 of CRPC deals with release of accused by police officer in case of no evidence and lastly under section 173 of CRPC after examining the recommendations of the investigation officer and all other documents collected during proceedings, prosecution branch submit challan in the court and then trial get started by the respective court (Aqeel, n.d.).

When trial starts evidence are exhibited before the court of law, the respective court sends the physical evidence to forensic lab with some questions to be identified by the forensic expert. Physical evidence sealed by the court and send to forensic lab in separate parcels. Evidence receiving unit of forensic lab collect the parcels; send it to the concerned section for scientific examination. Forensic scientists do analysis of the evidence chemically and scientifically and give their expert opinion and after that one copy of result remains in the forensic lab record and one copy with other documents dispatched through TCS to the SP investigation Peshawar and then ultimately to the respective court (FSL, n.d.).

In Pakistan, the institutional setups of forensic science laboratories are still in its infancy. A couple of forensic labs are offering DNA services. They receive DNA cases from across Pakistan for the comparison of disputed DNA with the sample of the suspect. In Punjab province, Punjab Forensic Science Agency (PFSA) was established in 2009. It provides services in 14 distinct sections which includes, but not limited to digital forensics, crime scene, DNA, serology, Forensic photography, narcotics, latent fingerprints etc.(Punjab Forensic Science Agency [PFSA], n.d.).In Islamabad, a National Forensic Science Agency (NFSA) was established in 2015 under the ministry of interior. NFSA has the labs which consist of DNA section, criminalistics, forensic chemistry, crime scene investigation unit etc. while Sindh has Criminalistics Division which is running under the administration of Police department and it is also offering same services

as PFSA and NFSA except DNA (National Forensic Science Agency [NFSA], n.d.).

In Khyber Pakhtunkhwa, the main forensic lab is in Peshawar under the administrative powers of police called Forensic Science Laboratory (FSL). It is rendering services in eight specialized units which are narcotics, latent fingerprints, firearms, disputed documents, forensic photography, crime scene investigation unit, evidence receiving unit and digital forensics. The lab provides criminalistics services to the Khyber Pakhtunkhwa police and other LEAs within the province and from across the country. It also impart training to the police officers from across the country if required. Student's internees from different universities are also receiving practical training at FSL. In addition to FSL Peshawar, the FSL Malakand at Swat has been constructed and equipped under the project of UNDP which is inaugurated in December 2015, however, it is not fully operational due to lack of human resources (FSL, n.d.).

The first ever DNA laboratory has started in Peshawar at Khyber Medical College (KMC) on 6<sup>th</sup> February 2018. It was established with the aim to provide its services in criminal investigation to the whole province of Khyber Pakhtunkhwa and to the newly merged tribal districts as well. Furthermore, this DNA laboratory will also provide an academic platform for the medical students for learning and research purposes. The establishment of DNA Laboratory at the KMC Peshawar was a remarkable contribution in the forensic investigation especially in Peshawar. Previously, the Khyber Pakhtunkhwa authorities had to refer DNA samples to PFSA in Lahore. DNA sample comparison is now being carried out in more economical way at Peshawar ("First DNA lab inaugurated in KP", 2018).

Crime scene is very sensitive area where forensic/physical evidence are found and from where forensic investigation starts. Being an Investigation officer or crime scene manager, one must face different challenges during the investigation process.

First, people often rush towards the crime scene after the commission of an offence. People are curious to know about the crime which makes it difficult for the police to keep public away from the crime scene. One of the major challenges that the investigation officers are facing is how to secure the crime scene from the public. It has been observed that crime scene is often contaminated by the family members or by common people before the arrival of the police. This situation seriously affects the health of physical evidence on crime scene.

Second, has been pointed out by Oluoch (2015), refers to the dispute among different departments over the crime scene management. The Police, the forensic experts, the rescue or other forces are quarrelling on the jurisdiction over crime scene. Third, according to Schiro (1999), absence of administration policies

pertaining to crime scene management also create hurdles in the crime scene investigation. During investigating the crime scene, investigation officers are working as per their own understanding, experience, and skills. No one is assigned to duty at crime scene which creates problem in preservation and transportation of physical evidence which damage the criminal case.

Forth, the electronic media in movies, dramas etc. are depicting sophisticated crime-based stories and print media in newspapers, magazines etc. are reporting similar cases, thus creating awareness among the criminals on how to protect themselves by not leaving any physical evidence like fingerprints etc. on crime scene. Criminals have now started taking all the precautionary measures from tracing during the commission of crimes. Sophistication in crime makes the investigation more complicated and difficult (Gianneli, 2003).

The above-mentioned problems are equally faced by the investigation officers in Pakistan and elsewhere in other criminal jurisdictions. In addition, the courts in Pakistan are giving less weight age to the physical evidence in criminal investigation which is badly affecting the performance of the police officers and forensic lab. Investigation officers in Pakistan are constantly struggling to convince the court about the importance of physical evidence in criminal investigation as (Rehman, 2018) stated about forensic investigation that eyewitnesses are given preferences in our courts comparatively forensic evidence, which are very pointless because circumstantial evidences may not be authentic all the time.

Hassan Abbas, a prominent expert on police reforms in his book “The Taliban Revival” stated that both provincial and federal governments are establishing new sections/departments within the existing police department for political gains. For example, a new homicide unit was established in the Punjab police. However, basic problems like lack of police training regarding forensic investigation, political interference and lack of funding are still not being addressed. He further stated that announcing new units is nice for the media, but the basics are still neglected (“Punjab police homicide unit: Reforming the criminal justice system”, 2015).

According to Focal Person of Forensic Science Laboratory Peshawar M. Ijaz (personal communication, June 6<sup>th</sup>, 2019) investigation officers in Khyber Pakhtunkhwa are facing multifarious problems during criminal investigation especially in DNA analysis. The DNA cases are sent to PFSA for forensic analysis which is very costly and time consuming. The other law enforcement agencies are also not very supportive and they are reluctant to share information if requested by the Khyber Pakhtunkhwa police department which seriously hampers the criminal case. There is lack of crime scene expert at the police station that often leads to

damaging the evidence while preserving the crime scene. Police are also not provided with forensic kits due to which they cannot collect and utilize the evidence properly. In short, it was recommended that major reforms in the Khyber Pakhtunkhwa police department are needed with respect to the forensic investigation like the establishment of DNA lab, forensic schools, competent and qualified personnel in the police department etc.

### **Research Questions**

1. What kinds of problems do investigation officers are confronting in forensic investigation while processing the crime scene?
2. What is the role of forensic labs in scientific examination of physical evidence?
3. Do NADRA, KMC and other agencies cooperate with the police department in forensic criminal investigation?

### **Objectives of the Study**

1. To find out the hurdles faced by police officers in forensic investigation on crime scene.
2. To identify the loopholes in the analysis of physical evidence by the forensic lab and DNA lab that affects the investigation process of a criminal case.
3. To know about the problems confronting by police in coordination from other agencies in forensic criminal investigation.

### **Methodology of Research**

The research study was confined to district Peshawar. There were 31 police stations in district Peshawar. District Peshawar is also selected by keeping in view the financial constraints as well as approachable resources to compile the research endeavor. The sample size of the study was 50 respondents. All respondents were male investigation officers of the police department. The respondents were interviewed from four police stations, Police school of Investigation and Forensic Science Laboratory, Peshawar. Convenience sampling which is a non-probability sampling technique was used to select the sampled respondents. Interview schedule was adopted as data collection tool with open and close ended questions. This tool of data collection is very efficient as Rossman & Rallis (1998:124) stated that "Interviewing takes you into the participants' worlds, at least as far as they can (or choose to) verbally relate what is in their minds". The interview schedule was designed in English, but the interviews were taken in the native language i.e. Urdu and Pashto. After collection of data, it was analyzed and

interpreted through Statistical Package for Social Sciences (SPSS). Last but not the least ethics of research were maintained in a proper way. All respondents were informed about the background of the study and data was collected from those respondents who showed willingness to be a research participant.

## Results & Discussion

**Table 1**

*Forensic Criminal Investigation (FCI) Trainings of Respondents on Crime Scene*

Did you receive FCI training on crime scene?	Frequency / Percentage	Duration of trainings				Satisfied from the course duration and facilities		
		01 week	15 Days	One month	Others	Yes	No	Up to some extent
Yes	35 (70%)	25 (50%)	8 (16%)	2 (4%)	—	22 (44%)	4 (8%)	9 (18%)
No	7 (14%)	—	—	—	—	—	—	—
Up to some extent	8 (16%)	—	—	—	8 (16%)	—	5 (10%)	3 (6%)
<b>Total</b>	50 (100%)	25 (50%)	8 (16%)	2 (4%)	8 (16%)	22 (44%)	9 (18%)	12 (24%)

**Table 2**

*Respondents Views on Forensic Evidence/Experts/Tools*

S #	Statements	Yes	No	Sometimes
1	Do untrained investigation officers damage the forensic evidence?	39 (78%)	1 (2%)	10 (20%)
2	Have you received forensic training in the initial recruit course?	1 (2%)	49 (98%)	—
3	Do you have crime scene forensic expert in police station?	23 (46%)	27 (54%)	—
4	Are there any institutes that offer forensic	15	35	—



	training to all police investigation officers?	(30%)	(70%)	–
<b>5</b>	Do you have packing material for preservation of forensic evidence?	25 (50%)	1 (2%)	24 (48%)
<b>6</b>	Have you received training to use the tools and to handle the evidence?	32 (64%)	2 (4%)	16 (32%)

**Table 3***Facilities Available on Crime Scene Mobile Van (CSMV)*

<b>S #</b>	<b>Statements</b>	<b>Yes</b>	<b>No</b>	<b>Sometimes</b>	<b>Every time</b>
<b>1</b>	Does CSMV reach on time?	33 (66%)	5 (10%)	12 (24%)	–
<b>2</b>	Does CSMV have forensic technician & tools to handle forensic evidence?	25 (50%)	4 (8%)	16 (32%)	5 (10%)
<b>3</b>	Is there any vehicle for IOs in the police station?	2 (4%)	44 (88%)	4 (8%)	–
<b>4</b>	Does crime scene contaminated by the people before IOs reached to the spot?	–	3 (6%)	12 (24%)	35 (70%)
<b>5</b>	Are you satisfied from facilities available on CSMV?	24 (48%)	–	26 (52%)	–

**Table 4***Views on Forensic Science Laboratory & DNA Lab*

<b>S #</b>	<b>Statements</b>	<b>Yes</b>	<b>No</b>	<b>Up to some extent</b>
<b>1</b>	Is response of FSL in examination of criminal cases quick?	28 (56%)	22 (44%)	–
<b>2</b>	Are you satisfied from FSL expert opinion report?	32 (64%)	6 (12%)	12 (24%)
<b>3</b>	Does role of FSL in examination of physical evidence effective?	32 (64%)	6 (12%)	12 (24%)
<b>4</b>	Is there needed any other small forensic labs in Peshawar?	47 (94%)	3 (6%)	–

<b>5</b>	Is DNA lab functional at KMC Peshawar?	3 (6%)	31 (62%)	16 (32%)
<b>6</b>	Does KP police send DNA samples for comparison of DNA to other province labs?	50 (100%)	–	–
<b>7</b>	Are you satisfied from the result report of DNA from KMC Peshawar?	3 (6%)	47 (94%)	–

**Table 5***Cooperation from NADRA/KMC in Forensic Criminal Investigation*

<b>S #</b>	<b>Statements</b>	<b>Yes</b>	<b>No</b>	<b>Sometimes</b>
<b>1</b>	Does NADRA cooperate with police in sharing of finger prints records?	21 (42%)	6 (12%)	23 (46%)
<b>2</b>	Are you satisfied from the cooperation of NADRA in Forensic Investigation?	4 (8%)	41 (82%)	5 (10%)
<b>3</b>	Does KMC cooperate in Medical/Autopsy reports in proceeding of forensic criminal investigation?	22 (44%)	8 (16%)	20 (40%)
<b>4</b>	Are you satisfied from the cooperation of KMC in forensic criminal investigation?	5 (10%)	42 (84%)	3 (6%)

**Discussion**

The main purpose of the study is to know about the challenges faced by field police officials in forensic criminal investigation from processing the crime scene to preparing a case before the court and to provide research-based recommendations to overcome the hurdles. This study is significant to police investigation officers by highlighting the issues of police in different areas like forensic training, modern investigating facilities and with reference to other stakeholders in the proceeding of investigation like Forensic science laboratory, NADRA, KMC etc. The study is helpful to the officials of the Forensic Lab and Criminal Justice System practitioners because criminals convicted through physical evidence which are scientifically examined are an authentic source in the court and will eventually increase the capability of our justice system.

Forensic training plays a crucial role in enabling the police investigators to carry out investigation of a criminal case especially in all those cases that relates to physical evidence/forensic evidence like fingerprints, blood, DNA etc which give leads in a criminal case to find out the culprit. The police investigation officers interviewed in this study were asked several questions related to forensic criminal investigation. In response to the question of whether the police investigators have received some sort of forensic criminal investigation training, it was found that 35 (70%) police investigation officers had received forensic criminal investigation training and the duration of the training for 25 (50%) investigation officers were one week. Furthermore, 22(44%) investigation officers were satisfied from the training program; however, they were not satisfied from the way trainers conducted the trainings. They argued that the training lacked updated information about Forensic science; trainees' involvement in the training was not up to the mark and the duration of the training was also too short. To sum up, these trainings programs were a sort of formalities to be completed rather than a serious attempt for capacity building of the police investigation wing with respect to forensic criminal investigation.

It is important to mention that forensic investigation entirely depends upon the forensic evidence like fingerprints, blood, semen, firearms, empty shells etc. The collection, preservation and examination of these evidence pertaining to a criminal case is called forensic investigation. During the field work of this study, the investigation officers were asked about the need for and importance of the way forensic evidence are collected, preserved and analyzed in a proficient way. In this context, the respondents were asked, whether untrained investigators damage the forensic evidence in the crime scene. In response, out of 50 respondents, 39 (78%) reported that it is a fact that untrained investigators are damaging the forensic evidence while collecting them from the crime scene. They were further asked about the status of their forensic training in the initial recruit course. In response, 49 (98%) respondents reported that they didn't get any forensic training in their initial recruit course. In addition, 27 (54%) respondents stated that they don't have crime scene forensic expert in police station. Similarly, 35 (70%) respondents were not aware of any forensic training institutes in Peshawar. With respect to the views of respondents about the availability of packing material for the collection of forensic evidence, 25 (50%) respondents stated that they have been provided the packing material while the rest of the respondents had the packing material but in a small quantity. The respondents were asked as to whether or not they have the training to use and handle the forensic evidence, 32(64%) respondents knew about

the way these forensic tools are handled, however, they had not received proper training to use these tools in an efficient manner.

In forensic criminal investigation, the quick and safe transportation of forensic evidence plays a pertinent role in the proceedings of an investigation. The fact that crime scene is often contaminated by the public before the arrival of investigation officers to the crime scene, is a global phenomenon and Pakistan is not an exception in this regard. In this study, 35 (70%) respondents agreed with the above-mentioned fact that crime scene is contaminated every time before the arrival of police to the crime scene. The respondents were asked some questions about the crime scene mobile van. For example, respondents were asked about whether crime scene mobile van reaches on time to the crime scene? In response, 33(66%) respondents stated that crime scene mobile van reach to the crime scene on time and 25(50%) of them stated that the crime scene mobile van has the necessary tools and a forensic technician as well. Overall, 26 (52%) respondents were satisfied from the performance of crime scene mobile van in some cases whereas in others, they were unsatisfied. In addition, the availability of vehicle with the investigation officers often facilitates their access to the crime scene. In this study, 44(88%) respondents were of the view that they don't have any vehicle and are using the vehicle of the patrolling officers.

In forensic investigation, forensic lab and DNA lab play a crucial role in the examination of physical evidence that are helpful in the proceeding of a criminal case. DNA lab plays a vital role in the examination of DNA samples for apprehending the suspect. Currently, Pakistan is facing a major problem in keeping the DNA record and comparing of DNA samples to identify the culprit in different criminal cases especially in relation to child abuse, rape and murder cases. In this study, the respondents were asked about the response of Forensic Science Laboratory (FSL) in examination of cases when they are referred. In this regard, 28 (56%) respondents stated that the response of FSL is quick, and 32(64%) respondents were satisfied from the level of cooperation of the FSL in forensic investigation. They stated that the performance of FSL is effective in examination of physical evidence. Keeping in view the important role that the forensic lab plays in the examination of physical evidence, 47 (94%) respondents suggested the need to have more forensic labs in order to overcome the burden of the whole province on the FSL Hayatabad, Peshawar. With respect to the status of DNA lab at KMC, 31 (62%) respondents stated that it is not functional. It is because of this reason that the Khyber Pakhtunkhwa Police send DNA samples for comparison out of the province i.e., to the Punjab Forensic Science Agency due to lack of this facility here in the Khyber Pakhtunkhwa province. In certain cases, if DNA samples are sent to the DNA Lab at KMC, Peshawar, 47 (94%) respondents

were not satisfied from the result of DNA lab at KMC Peshawar. They put forward the reason that the DNA lab at KMC Peshawar is in its initial stages of DNA sampling and profiling, however, it doesn't have the facility of comparing the DNA samples with the specimen.

It is a known fact that forensic investigation is a key component of criminal investigation in which several state institutions play their important role. Undoubtedly, police have the leading role in criminal investigation, other state institutions such as forensic lab; DNA lab; NADRA etc. have their own role to play. The respondents were asked as to whether other state institutions cooperate with the police department in forensic criminal investigation whenever required. In response, 23 (46%) respondents stated that NADRA do cooperate in providing the fingerprint records in some cases and in others, the request of the police department is not entertained. In addition, 41 (82%) respondents were not satisfied with the behavior of the NADRA officials and termed it as rude and disgraceful towards the police. Moreover, 22 (44%) respondents were satisfied from the cooperation of KMC in the processing of medico-legal/autopsy cases in the forensic investigation. However, 42 (84%) respondents complained that the response of KMC is often very late, complicated and their behavior is very disgraceful towards the police.

### **Conclusion**

To conclude, it is safe to argue that without the application of forensic science, the process of criminal investigation in most criminal cases is incomplete. In the absence of an eyewitness, forensic evidence helps in the conviction of criminals. The investigation officers are constantly engaged in the collection of forensic evidence which may be digital or physical in nature, which is analyzed in forensic lab to establish facts related to the case before the court of law. Despite its importance, the collection, transportation, and analysis of forensic evidence are not an easy task. The investigation officers are facing various problems in conducting forensic criminal investigation in the field. The main problems include untrained investigation officers, contamination of physical evidence, lack of proper training on forensic investigation, lack of equipment and tools to handle physical evidence, transportation of physical evidence, lack of crime scene mobile van etc. This study has found that the DNA lab at KMC Peshawar is not fully functional. Police investigation officers were not satisfied from the FSL Peshawar reports delivery. There is serious shortage of forensic labs in the province. There is lack of cooperation from the state agencies like NADRA, KMC etc. with the police department. The police investigation officers were also not well qualified

and lacked professional attitude which eventually affects their service delivery as investigation officers.

### **Recommendations**

- The qualification of most investigation officers working in the field is either Matric or FA/FSc. They lack the required qualification and skills necessary for the forensic criminal investigation. It is recommended to enhance the eligibility criteria of education for the appointment of forensic experts.
- There is lack of crime scene mobile van with the police department. The number of crime scene mobile van should be increased.
- More forensic training institutions should be established.
- Every police station should have a crime scene forensic expert.
- MOUs should be signed for cooperation with federal and provincial government's institutions in the proceeding of forensic criminal investigation.
- More Forensic and DNA labs should be established to restore justice in the society through convicting the criminals.
- Modern equipment and tools should be provided to police force for carrying out crime scene forensic investigation.

This research work recommends that providing the aforesaid facilities by the concerned authorities to the police force will help to increase the efficiency of forensic infrastructure in the province and will build the capacity of investigation officers to solve the criminal cases rapidly through scientific means.

### **References**

- Aqeel, A. (n.d.). *Code of criminal procedure: Act v of 1898*. Lahore: MBD Law Publications.
- Forensic Science Laboratory. (n.d.). *Forensic services*. Retrieved November 17, 2018, from <http://www.kpfsi.gov.pk>
- First DNA lab inaugurated in KP. (2018, February 7). *The Nation*, p. 3.
- Giannelli, P.C. (2003). Crime labs need improvement. *Issues in Science and Technology*, 20(1), n.pg. Retrieved June 18, 2018, from <https://issues.org/giannelli/>
- Howit, D. (2018). *Introduction to forensic and criminal psychology* (6<sup>th</sup>ed.). Harlow: Pearson Educational Limited.

- Houck, M.M., & Siegal, J.A. (2010). *Fundamentals of forensic science* (2<sup>nd</sup> ed.). Burlington: Academic Press.
- Kharal, S. (2015). *Forensic investigation handbook* (1<sup>st</sup>ed.). Karachi: ParamountBooks (PVT) Ltd.
- Kiely, T.F. (2006). *Forensic evidence: Science and the criminal law* (2<sup>nd</sup>ed.). BocaRaton, FL: CRC Press, LLC.
- Nabar, B.S. (2015). *Forensic science: In crime investigation* (3<sup>rd</sup>ed.). Hyderabad: S.P.Gogia (H.U.F).National Forensic Science Agency. (n.d.). *Services of lab*. Retrieved February 05, 2018, from <http://www.nfsa.gov.pk>
- O'Neill, M.E. (1940). Fingerprints in criminal investigation. *Journal of Criminal Law and Criminology*, 30(6), 929-940. doi: org/10.2307/1137319i
- Oluoch. (2015, January 18). The 5 biggest crime scene technicians encounter: Website versus webpage [Blog post]. Retrieved June 22, 2018, from <https://www.careeraddict.com/the-5-biggest-problems-crime-scene-technicians-encounter>
- Punjab Forensic Science Agency. (n.d.). *Our services*. Retrieved March 17, 2018, from <https://pfsa.punjab.gov.pk>
- Punjab police homicide unit: Reforming the criminal justice system. (2015, October 26). *Dawn*. Retrieved June 16, 2018, from <https://www.dawn.com/news/1215506>
- Rossmann, G.B., & Rallis, S.F. (1998). *Learning in the field: An introduction to qualitative research*. Thousand Oaks, CA: Sage Publications.
- Rehman, A. (2018, January 25). Why is DNA evidence not given weight in Pakistani courts. *Dawn*, p.6.
- Saferstein, R. (1977). *Criminalistics: An introduction to forensic science*. Englewood Cliffs, NJ: Prentice-Hall.
- Saferstein, R. (1998). *Criminalistics: An introduction to forensic science*(6<sup>th</sup>ed.). Upper Saddle River, NJ: Prentice-Hall.
- Sharma, B.R. (2010). *Scientific criminal investigation* (Rev. 3<sup>rd</sup>ed.). Lahore: Fine Law Publisher.
- Schiro, G. (1999). New crime scenes: Same old problems. *Southern Lawman*,(Winter) n.pg. Retrieved June 21, 2018, from <http://www.forensicscienceresources.com/newscenes.htm>