Chapter-I

Introduction
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INTRODUCTION

During the last few decades the face of crime and its detection has changed considerably throughout the world. There has been not only an increase in the volume of crime, but the records show that serious crimes are now carefully organized than they have been ever before. Moreover, the conditions of modern life, its mobility, its complexity and the congestion of population have all increased the difficulty of getting the criminals convicted by methods which were normally successful. A skilled criminal ensures that he is not detected while committing crime and is able to reach and leave the scene of crime so rapidly that his presence at the scene is temporary and unnoticed, while his outward life continuous uninterrupted many miles away.

New scientific devices and the ultra modern techniques are providing assistance in the increase of crime rate throughout the world: The crime rate in India is increasing with alarming speed. In 2010, a total of 67,50,748 cognizable crimes were reported showing an increase of 1.11 percent over the year 2009. The crime rate for I.P.C. crimes at national level has increased by 3.4 percent i.e.(181.4 in 2009 to 187.6 in 2010). This shows clear deterioration in the criminal justice system. The other factor which indicates the working of criminal justice system is the conviction rate of country. The conviction rate throughout the world has been a warring fact. There are countries where the conviction rate is very high. But it does not represent the whole picture. Countries like Japan have a conviction rate of 99.7 percent and China has a conviction rate of about 98 percent. This may not be essentially good, because a high conviction rate can mean that people are not getting a fair trial. In such a situation crime rate does not really slop as clever criminals avoid being caught. In Russia, cases heard by judges have a

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1 See, Crime in India, National Crime Record Bureau, Ministry of Home Affairs, 2010.
conviction rate of about 99 percent. In jury trials it is around about 15-20 percent less. But as only 8 percent criminal trials are tried by the juries. This is not of any significance. The worse part of the Russian legal system is that, those who are acquitted are often re-tried and there have been cases of defendants being found guilty after 2-3 acquittals.²

On the other hand, if the conviction rate is very low, it also shows the low conviction rate point out towards the inefficiency of the criminal justice system. In India the conviction rate has declined from 64.8 percent in 1961 to 41.8 percent in 2001. The reality is that the conviction rate for certain crimes is as low as 14.9 percent for terrorist and disruptive activities, for assault/murder cases 6.2 percent and for molestation cases 4.2 percent.³ This indicates that the conviction rate in serious crimes is far low than the average conviction rate. There is a serious concern in Britain with regard to their conviction rate in rape cases. Overall, though Britain has a decent conviction rate of about 74 percent. But the conviction rate of violent crime which is a big problem in the country is very low. In United States of America, the data regarding crime is compiled at state level. The conviction rate in different states varies. But statistics shows that the overall conviction rate range from 65 percent to 80 percent and the American conviction rate is higher than Britain. However there is criticism of America’s higher conviction rate, as it is felt that too many people are in prison but still the crime rate in the country is on increase.

Crime rate and the conviction rate of a country shows the working of the criminal justice system which ultimately represents the efficiency of the legal system in that country. The Criminal Justice System is that collection of functions performed by the legislatures, police, prosecutor, courts, probation and other related agencies both within and outside of the Government for the purpose of enforcing, administering and adjudicating the criminal law.

Administration of Criminal Justice System is the combination of various organs of a government ensuring with the job of entrusting justice to the people. The administration of Criminal Justice System contains the components like police, judiciary, prison authorities and the other correction authorities etc.\(^4\) Investigation plays a very important role in the criminal justice system. It is the primary mode of collecting evidence. In any criminal case, the criminal procedure begins with investigation and investigation is generally conducted by the police. It is the police who collect the evidences and it is only on these evidences, the criminals are convicted. For a successful detection of crime, honest and qualitative investigation is an indispensable requirement. Whatever evidences are collected by the Investigating Officer and produced before the Court, the case is decided on the basis of those evidences, if the court consider them relevant.

With the development of modern life, there has been a tremendous advance in scientific knowledge and devices are being applied for the purpose of obtaining circumstantial evidence to assist the prosecution to secure the conviction of the criminals. Gradually, more skilled is the criminal more scientific techniques are likely to be used in crime. Hence more scientific is the investigation. The rapid use of the scientific devices by criminals to commit crimes for their own purposes demands constant vigilance and the application of new methods to counter the use of scientific techniques. Hence criminal investigation has become one of the most complex areas of law enforcement requiring highly trained professionals with the required skills and experience to build a case that may be successfully prosecuted. For this purpose the Investigation Officers are required to be well acquainted with the scientific means/methods which can be used in investigation. Various training programmes are organized for the Investigating Officers at State and district level. But the question is whether there programmes are sufficient and effective enough for proper and effective investigation.

The use of science on a large scale in the dissemination of justice is comparatively new phenomenon in our country. There is urgent and wide spread need for the application of forensic science in the criminal justice delivery system. The present day scenario of the crime investigation and prosecution of criminals, in India is a sad sight. A large percentage of the trials, in heinous crimes ultimately end in acquittals. It is estimated that the prosecution agency spends lacs of rupees on each trial. Thus, not only a dangerous criminal goes scat free but the huge amount of public money is also wasted. These frequent acquittals also embolden the criminals. The need for the application of science in the dissemination of justice is pressing.

In a criminal case if investigation is not proper then the link evidences remain missing which ultimately results in the acquittal of the accused person. In the criminal justice process, investigation is the starting point and the conviction or acquittal of a person to a great extent depends on investigation. If the investigation is not done scientifically, the facts can be proved in the court by oral evidence and documents produced in the Court. But the oral evidences are fallible due to variety of reasons for example, turning hostile of witnesses, loss of memory with the passage of time, biasness etc. In case of hostile witnesses, there responsibility cannot be fixed. The problem hang like a pendulum between the Investigating Officer and the Court. Whether the statement recorded during investigation is true or the statement recorded in the court is true rarely come to light. The court mostly does not file case for perjury and similarly the investigating officer does not file complaint for contempt of lawful authority of public servant, as both are non-cognizable offences. The binding force to state the truth on the witness is simply threat of perjury or his personal character or sanctity of oath. These days these factors are not working. Therefore, the witnesses resile from their early statements and the truth is never recovered.
The system followed in India for dispensation of criminal justice is the adversarial system of common law inherited from the British colonial rulers. The accused is presumed to be innocent and the burden is on the prosecution to prove beyond reasonable doubt that he is guilty. The accused enjoys the right to silence and cannot be compelled to reply. In adversarial system truth is supposed to emerge from the respective versions of the fact presented by the prosecution and the defence before the neutral judge. The judge acts as an umpire to see whether the prosecution has been able to prove the case beyond reasonable doubt and gives benefit of doubt to the accused. It is the parties that determines the scope of dispute and decide largely, autonomously and in a selective manner on the evidence that they decide to present to the court. The trial is oral, continuous and confrontational. The judge in his anxiety to maintain his position of neutrality never takes any initiative to discover the truth. He does not correct the aberrations in the investigation or in the matter of production of evidence before the court. As the adversarial system does not impose a positive duty on the judge to discover the truth. He plays a passive role. The system is heavily loaded in the favour of the accused and is insensitive to the victims plight and rights.  

The Court relies on the general principles of law and gives benefit to the accused. The doctrine of benefit of doubt is outcome of inefficiency of the investigation and the proof system. Because, in a particular case, the doubt as to chain of facts arises as a result of some fault in the investigation and the fact cannot be proved before the court. Therefore to improve the investigation process, the scientific investigation process, the scientific investigation assumes paramount importance.

Criminal Investigation involves a close relationship between innovative thinking and diligence between the investigator in the field and the

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investigator in the laboratory. The investigators and police scientists work together as a team reaching to and extending one another's theories and findings both working potentially and thoroughly to reconstruct a crime from their investigative discoveries. The joining of science with traditional criminal investigation techniques offers new horizons of efficiency in criminal investigation.6 Forensic science can play an effective role in solving crimes. At the investigation stage, when clues are collected from the scene of crime and sent to the forensic scientist, he/she can analyse the same, interpreting the evidence and facts and thus providing an expert opinion of what happened at the crime scene. New perspectives in investigation bypass reliance upon informers and custodial interrogation and concentrate upon a skilled scanning of crime scene for physical evidence and a search for as many witnesses as possible. Mute evidences tells its own story in the court, either by its own demonstrativeness or through the testimony of an expert witness involved in its scientific testing. Such evidence may serve in lieu of, or as corroboration of, testimonial evidence of witness found and interviewed by police in an extension of their responsibility to seek out the truth of all the circumstances of a crime happening.

Efficient investigation pre-supposes induction of scientific work culture in police. New technology such as computers, photography, videography, new methods of interrogation, new observation gadgets and highly sophisticated search equipments etc. are essential for effective investigation of traditional and new types of organized crimes. The rapid advances in science and technology have greatly influenced police investigation. Because the latest techniques are adopted by criminals to leave no traces or clues at the scene of crime. So the investigating staff must be well equipped with latest technology to trace evidences and prove them in the court.

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I. Statement of the Problem

As the new scientific technologies are developing day by day, the question arises that when a specific field will be recognized by the court. The pre-condition for acceptance of a science is that it must be established and explained by the scientist and the world community must also have accepted the particular field of science after the tests. For the application of a particular field in the court, there has to be some standard of certainty with which the particular field can establish facts in a case e.g.: DNA finger printing is admitted by the Court to determine the identity of a person with certainty. The other fields like eris identification, facial thermography etc. are in the developing stage. These fields have been accepted by some countries, but it still requires the acceptance from the world community at large.

The process of collection of evidence by the scientific means can be called scientific evidence. The question which arises in case of scientific evidence is that whether all the scientific fields are allowed in our criminal justice system for the purpose of investigation. Our legislative process is slow and necessarily may not cover the use of all scientific techniques for investigation, which gives undue advantage to the criminals who uses these techniques for commission of crime. The criminals get the benefit of doubt because such facts cannot be proved beyond reasonable doubt due to non acceptability of the scientific techniques by the Court.

Criminal Procedure Code and the Indian Evidence Act are two main legislations, which are applicable under our legal system to establish the guilt against the accused. Indian Evidence Act is mainly applied to prove the fact before the Court. It is so widely enacted that probably all the scientific evidences, which has some probative value can be given in evidence. Moreover judges, prosecution and lawyers who are concerned with the prove system in the Court are well versed in law and can give new directions to law. However they cannot guide investigation. On the other hand, if we look at the
Criminal Procedure Code, we find that very little has been incorporated to guide the investigation in the use of scientific investigation. The procedural efficiency in investigation is mainly dependent on training and the guidelines prepared by the individual police departments. These guidelines remains individual and static. This point out towards a need to establish some legal relationship in the shape of relationship between Criminal Procedure Code and the guidelines.

There are some other barriers in the effective scientific investigation e.g.: lack of proper training to the investigating staff and the facilities available for the scientific investigation particularly in our country. The latest equipments and machineries are not available in the appropriate number in our country. As a result they are used less as compared to the advance countries and the data shows that in the developed countries like USA and UK etc. has high conviction rate than India. This factor indicates that non-use or lesser use of scientific means may be one of the factor, which affects the conviction rate of India.

Apart from this difficulty, the other aspect is that the individual’s rights has also assumed significance. A person cannot be compelled to be a witness against himself. Hence, he cannot be compelled to surrender himself for performing tests, though he may be a criminal. e.g. the accused person cannot be compelled to surrender himself to the lie detection tests. As a result these tests are not accepted as evidence in the court, if they are conducted. In such situation the law is required to be balanced so that the criminals must not go unpunished but the rights of the individuals must also be protected.

The basic reason behind the principle of self incrimination is to save the accused from reluctant evidence and harassment at the hand of the police. This position may not be true in the process of collection of evidence by scientific means.
The Criminal Justice System includes legislatures, police prosecution, courts, probation and every component is related to each other and finally with society. If the law has to achieve its objective effectively in the society. It has to be more elaborate, transparent and open at least in the matters regarding investigation. The recent changes in the Criminal Procedure Code points out towards that direction. Whether these changes are sufficient and complete or not is a question yet to be answered.

In the present work, the main emphasis has not been given to the fields of science which are available for investigation. But the study has been made to find the impact of scientific investigation on the criminal justice system and how it is evaluated by different components. For this purpose efforts have been made to locate the criminal justice systems and importance of scientific means in investigation in India and other countries.

II. Review of Literature

No research to the knowledge of the researcher on the role of scientific investigation in criminal justice system is available. However, the literature is available on the legal system and investigation individually. It is gaining moment amongst the legal experts in India. It is also felt by the jurists that we must shift towards inquisitorial system from the adversarial system. Many authors have advocated this view. Most of the Indian commentaries are in the shape of interpretation of the legal provisions. Some of the important works on this topic are as follows;

H.L. Dev in his book “Police Investigation and Scientific Aids”, deals specifically with the main topical issue of use of scientific means in the investigation. The significance of the work can not be ignored in the present research work. In this work the another has described the manner and method of police investigation and the use of various scientific means in the
investigation. The work also gives the legislative position of expert evidence and the probative value with the help of cases. This book proved very helpful to develop a clear understanding with regard to the present study.

Y.N. Rao and Y.R. Rao in their work “Expert Evidence”, explains the legislative provisions regarding expert evidence. This work also explains the various fields of forensic necessity for expert evidence and explains the role of science in the detection and proof of crime.

Domayanti Doongaji in his book "Crime and Punishment in Ancient Hindu Society", has conducted a study of the history on Criminal Justice System of India. The work explains the ancient Police Administration during the ancient and the medieval period. The author has also explained the form and methods of punishment. The work has also explained the relevance of Ancient Dharmasastras for solving the present day problems of society. This book proved very helpful in understanding ancient criminal justice system.

S.D. Sharma's “Administration of Justice in Ancient India” is the basic text to know the historical conceptualization of criminal justice system. The work describes the means of proof in Ancient India. In this work the author has tried to discuss majority of the components of the criminal justice in the ancient India. It also compares the old means of proof with the latest provisions under the Indian Evidence Act.

In his book entitled “Facts of Crime in India”, S. Venugopal Rao has described and evaluated the role of police in the administration of justice in the ancient and modern India. This work has provided the general idea of police system its functioning, modes of acquiring information regarding commission crime, detection of criminals on the basis of their suspicious behaviour. In this book the comparison has been made of the old system and the present system.
In H.S. Bhatia's "Origin and Development of Legal and Political System", the author has made sincere efforts to find out the correct position of criminal justice system in ancient India.

U.C. Sarkar in "Epocs in Hindu Legal History", explains the position of Ancient Hindu Legal System and administration of justice during this period. The work is divided into 15 chapters. The author has given the position of Hindu law prevalent in the ancient India, Administration of Hindu law during Muslim period and the development of Hindu legal history during British administration. The development of Hindu law during British period and enactment of various statutes relating to Hindu law are explained in this work.

B.R. Sharma in his book "Forensic Science in Criminal Investigation and Trial", throws light on the various fields of forensic science and use of these fields in the criminal investigation and trial. The work is divided into three parts. In this book the author has given detailed description of various fields of forensic science and their use in investigation. The work is very useful in the present research work.

M.R. Zafer in his article "Scientific Evidence - Expert Witness", highlights the scientific fields in the present scenario and also explains the value of Expert Evidence in the Court.

S.N. Gaur has edited the book "LYON's & Medical Jurisprudence for India". This work explains various fields of medical science and its use in the court to prove or disprove the case. The work is divided into four parts. This work explains the general duties of the medical practitioners. The author has given detailed explanation regarding the fields where the medical expert can give opinion. The work is useful in developing basic understanding of the medical science.
Kamath Nandan in his book "Law Relating to Computer, Internet and E-commerce", provides the conceptual clarity of the electronic records and electronic evidence. This work is compilation of essays on electronic records and related issues. In these essays, which are written by various authors, the concept of electronic records, computers, computer related crimes and the legal safeguards has been explained.

S. Venugopal Rao’s book, “Facets of Crimes in India”, mainly describes and evaluates the role of police in the administration of justice in the Ancient and Modern India.

C.D. Field’s “Expert Evidence (Medical & Non-medical)”, addresses the issue of the present study and appraised the readers regarding the various fields of Scientific Evidence. The work proved very helpful for the present study.

C.D. Field in his book “Law of Evidence” meets the requirement of researchers, lawyers as well as students. Indian Evidence Act 1872 is amended from time to time and these amendments have been presented by the author at proper places which makes the book authentic and upto date.


S.S. Sharma, throws light on the correct position of evidentiary value of the expert testimony. It gives a comprehensive outlook regarding the various fields of expert evidence and their respective value in the court.

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K.I. Vibhute’s “Criminal Justice”, is a compilation of research papers by various authors which has been edited by K.I. Vibhute. In this work relationship has been established between criminal justice and the human rights of the accused and victims.

R.D. Pursley in his work “Introduction to Criminal Justice”, explains the basic concept of Criminal Justice System in England. The author has made a sincere efforts to explain the working of criminal justice system in England.

Rich Verman in “Law and Administration of Justice” explores the position of criminal justice system, its contents and working in America. The author also highlights the challenges before the American Criminal Justice System.


III. Statement of Research Problem

The problem of proving or establishing a case before the courts in recent days has assumed paramount importance. The rate of conviction in criminal cases suggest that majority of guilty persons are let off due to lack of evidence and techniques. The kind of evidence mostly led in criminal cases is oral or medical in nature. Our investigating agencies are not equipped with all scientific means which are necessary for collection of evidence. Moreover, in recent days the advancement in science and technology has made tremendous certainty about establishment of fact. Some of the techniques are DNA testing, Fingerprints, blood test etc. Use of these techniques will help not only the investigators but also the courts in reaching to the right
conclusion. However, various questions would arise regarding use of these techniques in investigation, their admissibility and probative value in law eg: Are our laws sufficient enough to make these techniques admissible, if not what changes can be suggested? Whether sufficient labs and scientific experts are available in the country to conduct the tests for proper investigation?. Is there any problem economic, legal or technical due to which these means cannot be applied in investigation.

Therefore, the researcher wants to conduct study regarding use and permissibility of scientific means in investigation and to find out that, to what extent they may affect the criminal justice system.

IV. Objectives of the Study

Keeping in view the development of new fields of science and technology and its use in the investigation, the researcher has undertaken the present study with the following objectives in mind:

1) The study aims to frame the concept of criminal justice system and to know the working of the criminal justice system in India.
2) To frame the concept of scientific investigation and importance of scientific investigation in courts of law.
3) To trace out the position scientific evidence under the Indian Evidence Act, 1872.
4) To trace out the procedure of Investigation in India and in some other countries.
5) To find out causes of acquittal based on defective investigation and to suggest remedies by which they can be removed.
6) To examine the economic, legal and technical problems this causes non-applicability of scientific means in investigation.
7) To study and find out whether the reports of different experts are responsible for acquittal when it is not made out as required by the substantive law.

8) To find out whether the legal provisions are sufficient to cover the admissibility and relevancy of scientific evidence in view of progress in the field of science and technology and new inventions of scientific means to commit the offence by the accused.

9) To examine the effect of non-applicability of scientific means in investigation and trial.

10) To analyse the position of scientific evidence and its evidentiary value as emerging from judicial decisions.

11) To suggest some changes and measures to make the law more effective with growing science and technology.

V. Hypothesis

The present study is primarily based upon the following hypothesis:

1) The Criminal Justice System of India is facing many problems, which are indicated by rise in crime rate, low conviction rate and increasing pendency of cases.

2) That the investigation is playing a very important role in any criminal justice system.

3) That non-applicability of scientific means in investigation may be a cause for low conviction rate.

4) That the scientific evidence may have relevancy under the Indian Evidence Act, 1872.

5) Scientific evidence may prove to be an authentic piece of evidence.

6) Evidentiary value of scientific evidence may be equivalent to evidentiary value of primary evidence.
7) There may be some economic as well as technical problems due to which these scientific means cannot be applied in all criminal cases.

VI. Research Questions

In the present study, the researcher has made the effort to answer the following research questions:

1) What is the position of the Indian Criminal Justice System and what is the role of investigation in it?
2) Whether the non-applicability of scientific means in investigation is a cause for low rate of conviction?
3) Whether the scientific evidence is relevant under the Indian Evidence Act, 1872?
4) Are there economic as well as technical problems due to which the scientific means cannot be applied in all criminal cases.
5) Whether the scientific evidence is an authentic piece of evidence?
6) Whether our laws are growing with new scientific inventions and developments?
7) Whether the scientific evidence has gained equivalent evidentiary value like primary evidences?

VII. Research Methodology

The main focus of the present study would primarily be to examine the applicability of scientific means in investigation and its probative value in criminal cases. Scientific experts play an important role to abridge the gap between investigation and proof. In a particular case non-applicability and non-reliance may lead to wrongful conviction or wrongful acquittal of a person. So it becomes important to examine and analyse the position of scientific evidence in a court of law. The methodology of the present research
has been designed to find out the role of scientific investigation in criminal justice system. For conducting the present research, the researcher has used the doctrinal method. In order to have an insight into the problem, various books of Indian authors as well as foreign authors have been studied. Various journals, statutes, articles, reports, recommendations of committees, newspapers, encyclopedias and various websites are used and elaborated at appropriate places of the study. Decided cases by the courts pertaining to evidentiary value of scientific evidence have also been analysed in order to find out the exact value of scientific evidence. After all the collected material has been analysed to check the hypothesis and to know the correct place of scientific investigation in criminal justice system. Finally the measures to eliminate the problems are suggested.

VIII. Framework of the Study

The present study is divided into eight chapters:

**Chapter I** is devoted to the general introduction of the research topic. It explains the scope of the study. In addition, it describes its objectives, methodology, research problem and research questions and other aspects in general.

**Chapter II** “Criminal Justice System in India” focuses on the criminal justice system, its components and their working. This chapter explains the position of criminal justice system and its drawback

**Chapter III** critically examines the legislative provisions relating to investigation in India and other countries. It also highlights the drawbacks in investigation process, which ultimately affects the case.
Chapter IV describes the position of Criminal Justice System, Investigation and use of scientific means in investigation in different periods rights from the ancient time till present time in detail.

Chapter V describes various fields of science which can be used in investigation and trial. It also explains the nature and scope of scientific evidence.

Chapter VI critically examines the various legislative provisions relating to expert evidence in India and other countries.

Chapter VII of the present study deals with judicial trend showing the evidentiary value of various fields of science before courts and it also highlights the factors to disbelieve the expert evidence in some fields.

The last chapter of the present study deals with conclusion and suggestions. It summaries the entire work of research and makes some suggestions to solve this problem. Additional information on the topic has been included in the bibliography enclosed at the end of the research work.

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