



IMPROVING PROFESSIONALISM IN FORENSIC SCIENCE- A INDIAN PERSPECTIVE

Forensic Science

N. P. Waghmare Forensic Science Laboratory, Verna, Goa,

ABSTRACT

Forensic analyst/scientists are independent explorer of the truth in criminal exhibits received for examination purpose. A result given by forensic experts are more important than other evidences. The customers such as police, law enforcement agencies, crime scene manager are expect quality. The people's lives and liberty at constant. The errors in forensic laboratory work can potentially convict the innocent or the guilty. The given paper describes the role and training aspects of Forensic Scientists in India and ways and means to achieve good professional standard in forensic field. Also it discussed the perceived need for quality assurance and quality control programs for them within different forensic science disciplines, market laboratory services to users, develop networks with other organizations and upgrade the application of S&T in forensic field, strictly maintain the ethical values of the profession, as far as possible to undertake real time forensic analysis of scientific clues at the crime spot to avoid chain of custody problems and to encourage preventive forensic science.

KEYWORDS

Forensic Science, Professionalism, Laboratory Management, ethics, Preventive Forensics, forensic experts.

INTRODUCTION:

Present status of Forensic education & suggestions:

Now-a-days, some universities in India have M.Sc. courses on Forensic Science. In my view this should be replaced with post-M.Sc. courses in different disciplines which will enable the students from basic M.Sc. subjects to have better mastery over that particular post M.Sc. programme. The present educational system in India does not aim at improving professionalism in forensic science. Now it is high time that the educational system should orient itself to introduce the new concepts relating to laboratory accreditation and proficiency testing programs[1].

One area of great importance, which unfortunately is not seen as an educational priority and is therefore, stressed least and left almost completely unfounded, is forensically oriented basic research. Basic research in forensic science could include the development of novel and superior scientific techniques that would enable the bench scientist to approach the problem of identification and individualization of physical evidence from a stronger position[2-4].

The R&D programmes should also emphasis for developing such equipment to help the forensic scientists to have real time forensic analysis of crime exhibits at the crime spot itself so that the chain of custody problem or degradation or contamination of clue materials can be avoided. The teaching should also aim to cultivate the ethical values of the profession. In present paper authors have discussed a different forensic ethical and professional values and also explained their suitable suggestions for improvement[5].

Responsibilities of the Forensic Scientist differ from other scientists in a number of ways.

- He has to adopt or advise new techniques in such a way that he has to get latent truth from the scientific clues. He should not normally take a plea that the clue material is insufficient.
- He has to be fast in getting the truth as far as practicable.
- He has to be economical in routine analysis.
- He has to maintain high standard of ethics in his professional career.
- He is accountable to the society for forensic findings and for his forensic deposition in the courts of law.

Status of Forensic Science in Society is determined by –

- Awareness it enjoys in the society (Identity factor)
- Backup mechanism (mainly through forensic education in schools and colleges)
- Managerial groups who man the profession at high levels
- Contacts that the professional institutions have with other similar institutions
- Contacts with international bodies
- Status of professional bodies that are nurtured by the government and by the professionals themselves.
- Career prospects of the individuals in the profession.
- Legal status that it enjoys.
- Ethics that is practiced by the professionals.

Forensic Awareness in the Society :

1. By the Awareness it enjoys in the society – The profession now faces severe identity crisis because of lack of proper forensic awareness in the society.

Suggestions for improvement:

- Through different media (TV, Radio, Newspaper, Internet service etc.)
- Through exposure of forensic applications to judiciary (regular training courses for judiciary).
- Through regular training courses for police/I.Os. on forensic applications.
- By introducing a chapter on Forensic Science in school syllabus (like chapters on Nuclear Science, Fingerprinting Science, Human Rights etc.).
- Each forensic laboratories in each states can arrange a Seminar/Symposium on Forensic Science Day to general people, schools, colleges, police, investigating agencies, justice of prosecutors

Forensic Education and Research:

2. Backup mechanism mainly through forensic education and research – The present Forensic Science courses in colleges and universities do not aim at improving the professionalism.

Suggestions for improvement:

- M.Sc. University courses require complete change to suit present day requirements in forensic investigation (candidates with M.Sc., forensic science should be preferred for police services).
- Post M.Sc. diploma courses in different forensic disciplines should start in colleges and universities. (Scientists with this background should be preferred in Forensic Science laboratories).
- It is high time that the forensic science courses orient themselves to introduce new concepts relating to accreditation, proficiency testing, forensic ethics, laboratory automation etc.
- Collaborating R&D projects on forensic problems with other S&T institutions have to be encouraged. The R&D programmes should mainly aim at developing such equipment to help the forensic scientist to have real time forensic analysis of crime exhibits at the spot itself so that chain of custody problem or damaging or contamination or change of clue materials can be avoided.

Laboratory management:

3. By the Managerial group who man the profession at high levels – UNESCO in its message emphasized “Professional expertise has to be introduced in every profession during the new millennium.” Non-forensic scientists who are not in a position to appreciate the forensic problems that the professionals face while working at the spot, in the laboratory and in the courts.

Suggestions for improvement:

Forensic institutions are to be managed only by the forensic professionals. (Professional problems in forensic science can only be appreciated by forensic scientists).

4. By the Contacts that the professional institutions have with other S&T/R&D institutes – Forensic Science is the integration of all basic and applied sciences and technologies. This demands close collaborative contacts with other R&D institutions. Recently, such steps have been initiated in a number of forensic institutions, but this requires to be a regular feature in all forensic institutions.

Suggestions for improvement:

- (a) Forensic R&D should now aim for a change in forensic related activities. Society now demands for preventive and proactive roles of forensic science. (Prevention of commission of crime is better than detection of crime after commission).
- (b) All Forensic Science Laboratories should have a R&D unit where, senior and experienced scientists from all disciplines are to work. They will not only keep close liaison with different S&T/R&D institutions to deal with the complicated cases but also engage in developing new techniques to get better, fast and reliable results.
- (c) The National/International level laboratories are doing research & Development in their field. Forensic laboratories can utilize their expertise knowledge to solve our critical crime cases effectively.
- (d) High management authority or Govt. should allowed take "User Tax" for all forensic science laboratories services, so that funding problems may not be arise for development profession of forensic science fraternities.

Association with Forensic International Bodies:

5. By the Contacts with the international bodies – Forensic science can not flourish in isolation. Crimes and criminals are no more confined to limited areas. Commission of crimes is becoming fast and widespread and can now be controlled and committed by satellites.

Suggestions for improvement:

- (a) Forensic institutions in India must develop close contacts with other international bodies for getting information on latest developments for detection of crimes.
- (b) Forensic institutions in India should strengthen the forensic wing of Interpol.

Status of Professional Bodies:

6. Status of Professional Bodies that are nurtured by the Government and by the Professionals – Forensic related professional bodies in India are now in a bad shape. They, with a sound base, can always play important role in achieving professional excellence. Forensic experts/scientists should be encouraged to join and participate actively in professional scientific organisations like BARC, CSIR, DRDO & ISRO, XIPL, IICT, CCMB, AIITS etc.

Suggestions for improvement:

- (a) Grants-in-aid to forensic related professional bodies have to be encouraged and government should fund all developmental activities of the professional bodies.
- (b) Professional bodies in individual disciplines have to emerge in India (in other countries professional bodies in document analysis, ballistics, DNA profiling, fingerprints, forensic toxicology, explosives, forensic medicine etc. have started mushrooming).
- (c) Indian Council of Forensic Education, Research & Development (ICFERD) like ICMR, CSIR etc. has to be formed.
- (d) One of the forensic professional bodies is to be empowered to issue licences to eligible professional forensic scientists who wish to enter the forensic profession as forensic expert.

Carrier Prospects:

7. By the Career prospects of the individuals in the profession – At present forensic professionals in India are facing identity crisis. Their career prospects are in danger. They get step-brotherly treatment by fellow police personnel.

Suggestions for improvement:

- (a) Forensic science should come under the state plan budget and get the required plan funds.
- (b) Because of the nature of duties and accountability in courts of law, they should be given respectable salaries and incentives. Their good work is to be recognized in the state as well as in the national level.
- (c) Flexible Complementing Scheme should be introduced in both State and Central Forensic Science Laboratories.
- (d) State and Central F.S.Ls. should be given all the administrative

and financial powers as are vested with any other S&T organizations.

- (e) Government should ensure their forensic laboratories to be accredited.
- (f) Government should provide good laboratory working space and sufficient manpower for quick disposal of cases.
- (g) Autonomous and private accredited forensic institutions should come up to balance the present day social justice system.
- (h) Autonomous/private forensic training institutes should come up to educate not only forensic scientists but also to judiciary and investigating officers.
- (i) Introducing examination fees (no loss, no profit basis), forensic laboratories can solve the problem of availing required funds for developmental works. This sort of arrangement is efficiently functioning in U.K. for the last 8 years.

Legal Status in the Society:

8. By the Legal Status that it enjoys in the society – The forensic scientists enjoy legal sanctity under Section 293 of Cr. P.C. & Section 45 of Evidence Act for their forensic analysis and reporting & are thus accountable directly to the Court and society.

Suggestions for improvement:

- (a) A number of laws relating to collection of body materials from suspects (to be used as control), DNA typing facilities, computer/cyber crimes etc. and a number of Acts relating to Arms Act, Petroleum Act, NDPS Act, Explosives Act, Food/Drug Act also require amendments to curb the related criminal activities.
- (b) The role of Forensic Scientists during crime spot management has to be legalised. (Forensic scientists at present have no legal right to collect to pack or to seal on the packed exhibits at the crime spots.
- (c) It should be mandatory that the I.O. has to attach the spot visit report and laboratory expert opinion before he files the charge sheet in all major crime cases.
- (d) Scientific investigation has to be given legal status so that it should be treated as primary part rather than supportive part of investigation.
- (e) Attachment of senior forensic scientists to courts for clarifying the forensic reports will go a long way in minimizing the forensic doubts in the minds of Courts.

Forensic Ethics:

9. By the ethics that is practiced by the professionals – One of the visions of the International Association of Forensic Sciences insists for forensic ethics. (Practicing forensic ethics will improve the forensic image of scientists in the eyes of society and judiciary).

Suggestions for improvement:

- (a) Proposed Indian Council on Forensic Education, Research & Development (ICFERD) should be entrusted the job of managing the ethical aspects of forensic scientists.
- (b) Forensic scientists should be truthful in respect of their laboratory findings & their interpretation in their report & finally while deposing expert evidence in the Courts. There should be clear prohibition against examiners falsifying exaggerating or in any way misrepresenting scientific results.
- (c) The professionals should be truthful in respect of their findings at the spot, in the laboratory and interpretations in their report and finally while deposing expert evidence in the Courts.
- (d) Attachment of senior forensic scientists to courts for clarifying the forensic reports will go a long way in minimizing the forensic doubts in the minds of courts.
- (e) Laboratory Directors must give stress to grow a sense of proper professional conduct as the part of the scientific staff through supervising conclusions/opinion expressed in laboratory reports should be reviewed by superiors in relevant field.
- (f) **Every forensic scientist/experts** should be – to help the courts to get "truth and nothing but truth" by application of science to scientific clues.

The above suggestions if implemented, will encourage the professionals to stick to the profession and they will make all efforts to strengthen their professional activities.

CONCLUSION:

Without hesitation, there is a noticeable inadequacy of laboratory scientific personnel who are practically qualified, experienced to examine physical evidences collected from scene of crime; Due to this

crime rate has increasing day by day and as result high crime cases are pending in the laboratories and delays in examination and reporting. To overcome shortage of forensic experts in the laboratory, Forensic Science education may be introduced forensic science curriculum in the level of high schools. One six months, one year or two year forensic science programmes can be developed in at least five places in each district in phase wise manner.

However, the forensic science curriculum at the college level may be differs from school to school. At present several colleges and universities have started degree B.Sc.(Forensic Science) and M.Sc.(Forensic Science) courses in our country. During the graduate level curriculum course general subject such as physics, biology, microbiology, general chemistry, organic chemistry, biochemistry, physical chemistry, statistics and computer forensic , network security and law etc. and at post graduate level the curriculum should be included instrumentation which frequently used in the forensic science laboratories included forensic ballistics, forensic photography, forensic toxicology, DNA fingerprint, Narcotics, fingerprints, audio/video identification, document, light microscopy, paint, tools marks comparison, glass examinations, scanning electron microscopy, G.C, G.C.M.S., HPTLC, XRD, ICP-MS, AAS,NAA, comparison microscopy, etc. Practical internship at a forensic laboratory /participating scene of crime is also strongly suggested.

Basic Courses on identification and individualisation of paper, paint, ink, wood, pollen & soil should also included. Special topics shall also add on forensic psychiatry, lie detection techniques, voice layer analysis, brain map fingerprinting etc. The emphasis must be given on the research and development in above mentioned forensic fields who has interest and skill, knowledge in a particular research filed. The curriculum programs that highlight skills and good knowledge for applied research and development must be addressed the need to train each forensic scientist who engaged in basic research. Forensic scientist from well-established laboratories should to perform research based on novel concepts and hypothesis. Immensely scientific and technical discipline or forensic science would benefit greatly from the input given by trained personnel in scientific, technical and administrative capacities.

In our country it is felt that the research and development activity of scientific reasoning and the knowledge ability of various scientific approaches and techniques afforded by a additional advanced education would permit the analysis to learn more from the exhibit sample which had collected from scene of crime than a less well-trained individual could. There is strong need for basic researchers in the forensic sciences; since the forensic science laboratory analyst or scientists generally lacks in the support, scientific equipment, training in basic research and due to this heavy pendency of cases to perform this function. Forensic scientists purpose is to determine truth & nothing but the truth by the application of science to physical evidence in criminal investigations.

REFERENCES :

- (1) R.C. Sullivan and H.R. Delaney, "Criminal Investigation" Journal of Police Science and Administration, Vol.10, No.3, 1982, PP 335-343.
- (2) Joseph L. Peterson et al., "Characteristics of forensic science faculty within criminal justice Higher education programs", Journal of Forensic Science, JFSCA, Vol.28, No.3, July 1983, PP 552-559.
- (3) Lawrence Kobilinsky et al., "The Desirability of a Ph.D. Program in Forensic Sciences", JFSCA, vol.29, Nov.3, July 1984, PP 706-710.
- (4) Peterson J.L. et al., "The Programs in the U.S.," Journal of Forensic Science, Vol.22, No.1, Jan. 1977, PP 17-33.
- (5) A book : Smith, A. B., Jones, C.D., and Johnson, E.F., "An Introduction to Forensic Sciences, General Publications, New York, 1999.