

Achievement of the Directorate of Forensic Science, MHA Govt. of India during 2003-2006

Statistics on Crime Case Analysis during the years 2003-2006

The three Central Forensic Science Laboratories examined 6600 cases and the three Government Examiner of Questioned Documents under DFS examined 5000 cases during the last three years.

Training courses organized by DFS laboratories

During the last three years, 57 specialized training courses were organized by GEsQD/ CFSLs, in the areas of White Collar Crimes, DNA Fingerprinting technique, Forensic Explosives, Crime Scene Management, Fire Arms Experts Training Programme, Crime against Women and Computer Forensics have been conducted so far, in which large number of Forensic Scientist, Police Officers, Judiciary and Officers from other Law Enforcement Agencies were benefited immensely through these courses. We have also provided a four-week intensive training in Toxicology to a Sri Lankan Trainee and one year specialized training in computer forensics for a Bangladesh forensic expert, one year specialized training in document examination for two Sri Lankan Trainees and 20 Afghan Police Officers.

Training Programme on R&D Management in Forensic Laboratories at ASCI, Hyderabad and at XLRI, Jamshedpur

During Sept. 2004 DFS arranged a training programme on R&D management for Central /State FSLs Directors at ASCI, Hyderabad and during the current year, a high level R&D Management programme in Forensic setup with the approval of MHA was held at XLRI, Jamshedpur during 2006.

Research papers

The DFS scientists published 73 research papers in different disciplines during the years 2003-06 in National and International peer reviewed Journals.

Perspective Plan for State FSLs

Provided Consultancy to Uttaranchal Government and Goa Government for establishing new Forensic Science Laboratories and to Delhi, Maharashtra, Chhatisgarh, Orissa, Gujarat, Kerala and Himachal Pradesh Governments for upgrading their forensic facilities and started a full-fledged laboratory at A&N Islands by providing technical support service.

Perspective plan for other countries FSLs

Prepared perspective plan for upgrading forensic facilities in Nepal, Ethiopia & Seychelles.

Formulation of the R&D schemes of X five year plan.

The Plan allocation for the X Five Year Plan is Rs. 20 crores and for the years 2004-06 Rs. 10.62 crores for CFSLs and Rs. 10 crore for GEsQD has been allocated for 19 R&D Projects. Some of the R&D Projects are in important areas such as Nuclear and Chemical Warfare, Cyber Forensics, Speaker Identification, Developing anti-Xeroxing technique for secret documents, National Bomb Data Centre, Data Bank on Fire Arms and Paints etc.

Proficiency Testing Programmes

DFS organized a unique inter laboratory testing programme and the CFSLs Hyderabad and Chandigarh, FSLs Haryana, Andhra Pradesh and Gujarat participated as a pre-check to ensure quality and uniformity. In this process the cases are examined in two or more laboratories and as such proficiency testing procedure and followed mutually for ensuring quality services.

Launching of Tatkal Forensic Services at GEQD Hyderabad /Shimla/Kolkata.

For the first time in the country the GEQD Hyderabad has taken the lead by launching TATKAL Forensic Services during the year 2005-06. In this scheme a number of urgent and important cases were reported on top priority by GEQD Hyderabad, thus provided timely scientific clues for a speedier investigation. The Tatkal services were also introduced in GEQD Shimla this year.

Accreditation of Forensic Services

The accreditation of CFSL Hyderabad has been renewed/ continued for a further period of three years by the NABL after assessment by NABL Team. During the period under review, the FSL Karnal and Andhra Pradesh, the CFSL, Chandigarh, GEQD Hyderabad and GEQD Shimla earned the rare distinction of getting accreditation as per ISO IEC guidelines 17025. These laboratories have passed the stringent protocols of third party certification in terms of quality assurance.

Extra-mural Research and Development Schemes:

The scheme has been approved by the Government with an outlay of Rs.3 Cr. to promote Forensic Science in other Academic and Research Institutions and other R&D Laboratories. Under this scheme 27 applications were received and high-level project evaluation committee after evaluation selected the 19 schemes, which were approved by the MHA (list of the projects is enclosed at Annexure 'A').

Standardization of Procedure for examination of Counterfeit Currency

The Forensic Analytical Services of DFS are well equipped to handle any case relating to counterfeit currency. A number of such cases have already been solved. The DFS has been entrusted with the responsibility of standardizing the techniques of counterfeit currency examination. The DFS has also prepared a list of nodal laboratories,

which are to be upgraded to handle any forensic examination related to physical and chemical examinations of fake currencies

Dr. M S Rao, Chief Forensic Scientist, DFS visited USA as part of Indian Delegation to standardize and indigenize the production of currency notes in our country and to devise preventive mechanism against counterfeiting of the currencies. The DFS officials also attended a national workshop held at CBI to discuss various issues relating to the handling of menace of counterfeiting.

Centenary Celebration of Establishment of GEOD Shimla and Golden Jubilee Celebration of CFSL, Kolkata

On the occasion of centenary celebrations of establishment of GEOD, Shimla an International seminar on “Forensic Documents – Combating White Collar Crime” during Sept. 5 – 7 2004 was organized at Shimla. More than 200 delegates, including six foreign delegates participated, interacted and benefited on various important issues, confronting the administration and management of white collar crimes.

On the occasion of Golden Jubilee Celebration of CFSL, Kolkata, Dr. N K Iyengar Memorial Lecture on ‘**Upgrading Human – Technical Realities & New Moral**’ was delivered by Prof. Kevin Warwick from Dept. of Cybernetics, University of Reading, UK. More than 300 delegates participated, interacted and benefited on various important issues.

All India Forensic Science Conference

Every year Directorate of Forensic Science in collaboration with state FSL organizes All India Forensic Science Conference. In 2003 DFS organized it in Karnal, in 2004 in Hyderabad and last year it was held at Raipur in collaboration with the Government of Chattishgarh. During these Conferences, the forensic scientists presented about 400 scientific research papers. 200 delegates from different laboratories of the Country and abroad attended the Conference. Various Invited talks on different areas of forensic science were delivered by experts. The Union Home Minister Awards, the Forensic Science Excellence Awards and Meritorious Awards in Forensic Science for the year 2003-2005 were conferred.

Laboratory Procedure Manuals

Various Laboratory Procedure Manuals covering all disciplines of Forensic Science have been prepared for adopting uniform standards in Forensic Examination and reporting. The translation work of these manuals in Hindi is in progress with Rajbhasha Cell. The same in digital form and hard copies were distributed even up to Regional Laboratories. They have also been available on DFS Website.

Visit of the delegation of Fiji Police to DFS HQs.

A delegation of Fiji Police visited DFS in the month of July 2005 to seek help in the field of Forensic Science. The Fiji Police were highly satisfied with the Forensic Capabilities of our country after visiting CFSL, Chandigarh and stated that they would soon seek our services to upgrade their forensic science services.

Meeting of the Directors of Central/State FSLs/GEsOD.

A meeting was organized at DFS HQrs. on Sep 22nd 2005 to discuss important issues related to growth of forensic science in the country and to review the progress of implementation of the recommendations of various committees and commissions. After detailed discussions the recommendations have been prepared and sent to different State Govt. for implementation.

Efforts of DFS in bringing proper laws towards recognition of forensic science evidence under 292 & 293 Cr.P.C.

The Government of India has recently amended Section 292 & 293 Cr.P.C. based on the proposal of this Directorate. Now, as per the new amendments, the officers of any Mint or of any note printing press or of any Security Printing Press (*including the officer of the controller of stamps and stationery*) or of any Forensic Department or Division of Forensic Science Laboratory or any Government Examiner of Questioned Documents or any State Examiner of Questioned Documents, as the case may be “are entitled to give forensic analytical report under 292 Cr.P.C. of other ranks which were earlier not included under 292 Cr.P.C. will now be covered with new amendment.

Similarly, Section 293 Cr.P.C. has been amended whereby central government can notify experts for court purposes.

Impact Of The Forensic Analytical Services Of DFS In The Country

1. CFSL, Chandigarh is the first Forensic Laboratory in the Country to develop text independent speaker identification system indigenously. *A number of important cases related to corruption, threatening calls and identification of individuals through their voice have been solved by CFSL, Chandigarh.*
2. For the first time the Forensic Analytical Services of DFS has taken the quantum jump and established a full fledged computer forensic laboratory at GEQD, Hyderabad. The Scientists of GEQD, Hyderabad are able to guide the investigating agencies in properly seizing the computer crime related evidence for analysis by a Computer Forensic Expert at GEQD, Hyderabad Laboratory. *The scientists of GEQD, Hyderabad have successfully analysed a number of Computer Crimes having national and international ramifications.*
3. Facilities of “DNA Fingerprinting” of CFSL, Kolkata and CFSL, Chandigarh are of the state-of-the-art. *Both the laboratories have reported more than 400 important cases related to rape, murder and terrorist related activities.*
4. CFSL, Kolkata through collaboration of Ministry of Information & Technology has indigenously developed software which will identify the origin and make of the firearm cartridge and head stamps. *The developed software has been found to be immense help in a number of terrorist cases where firearms were involved.*

5. The Forensic Analytical Services of DFS are well equipped to handle any case relating to Counterfeit Currency. *A number of such cases have already been solved.*
6. In providing Analytical Services of International Standards the CFSL, Hyderabad and Chandigarh, GEsQD of Hyderabad, Kolkata and Shimla have earned the rare distinction of getting accredited. *This would ensure the acceptance of Forensic Analytical findings even in the developed countries.*
7. The 3 CFSLs undertake complicated and referred cases from all over India and neighbouring countries specially from Delhi, Tripura, Manipur, A&N Islands, Goa, Mizoram, Nepal & Bhutan. *60% of the work load of the 3 Govt. Examiner of Questioned Document laboratories is from CBI. The 3 GEsQD except for a few voluminous cases disposes of the cases referred by the CBI within a month.*
8. State-of-the-art firearm signature identification system has been established in CFSL, Chandigarh. This is first of its kind in South East Asia.

Foreign Training

Dr. M S Rao, Chief Forensic Scientist, DFS was deputed to attend international conference on 'Disaster Victim Identification' at Lion, France. Approach Paper for adoption of this important area in our country is under preparation.

Three officers from DFS Laboratories were also deputed to various countries to attend training courses related to various fields of forensic science to update their knowledge.

During the current year one officer of GEQD, Hyderabad was deputed to impart training to Vietnam Police Officers in the field of Cyber Forensics.

National Seminar on Reforms in Forensic Science organized by Committee on Reforms of Criminal Justice System & DFS

A 3-Day National Seminar was organized at Hyderabad to discuss various reforms required in Forensic Science practice for an effective criminal justice system in the country. The draft report of the Core Group has been sent to the Chairman of the Reforms Committee for consideration.

Constitution of National Committee on Toxicology

To speed up the analysis of cases related to viscera examination at Medico Legal Institutes and in FSLs the DFS has constituted an important committee to look into the problem areas of Toxicological Analysis. The Committee would submit its report within 6 months.

Procurement of hi-tech analytical equipment for State FSLs under Police Modernization Grant

DFS helped 16 State FSLs in selecting and procuring hi-tech equipment, amounting to about 30 crores under Police Modernization Grant.

Consultancy to State FSLs brought under Home Department

DFS provided full consultancy to Tripura, Assam and Himachal Pradesh Governments while bringing the State FSLs from Police directly under Home Department as per recommendations of NHRC.

Drafting of Syllabus for M.Sc. Forensic Science in Universities

DFS drafted the full syllabus for M.Sc. (Forensic Science) for universities and has ensured its adoption in the universities.

Opening of M.Sc. (Forensic Science) in 6 Universities

DFS helped Agra University, Jhansi University, IP University, AMITY University, Allahabad University and Gujarat University to start M.Sc. (Forensic Science) course during last three years.

Collaborative R&D schemes on forensic problems

DFS through MIT and DST funding has 14 collaborative R&D schemes on forensic topics with a dozen of national level R&D/S&T institutions.

Plan and Non-Plan Fund Utilization

Sl.No.	Name of the Unit	Plan			Non-Plan		
Year 2004-2005 (Rupees in thousand)							
		Allocated	Spent	%age	Allocated	Spent	%age
1.	CFSLS	36000	33880	94%	133280	106373	80%
2.	GEsQD	4000	2446	61%	53700	48336	90%
3.	DFS	Nil	Nil	Nil	13100	12598	96%
Year 2005-2006 (Rupees in thousand)							
1.	CFSLS	34700	31679	91%	151780	139768	92%
2.	GEsQD	3000	2495	83%	64200	53556	83%
3.	DFS	Nil	Nil	Nil	15500	13120	85%
Year 2006-2007 (Rupees in thousand)							
1.	CFSLS	35500	35500	100%	155870	165870	100%
2.	GEsQD	3000	3500	100%	69000	65000	94%
3.	DFS	Nil	Nil	Nil	15200	15500	100%

EXTRA MURAL SCHEME**SCHEME UNDER 04-05**

Research project – title	Centre & State Organization
1. Forensic analysis and characterization of high performance 2. 3. thermoplast nanocomposites	CIPET Bhubaneswar
4. Automization of extraction and isolation of organic poisons from 5. 6. visceral material.	FSL, Mumbai
7. Estimation of age of blood stain with special reference to its 8. 9. application in forensic science	FSL, Meghalaya
10 National resource center for forensic psychology	FSL, Gujarat
11 Establishing identity & relationship from fetal DNA material blood	Amrita Institute

SCHEME UNDER 05-06

Research project title	Centre & State Organization
1. Establishing identity & relationship from fetal DNA material blood	Amrita Institute
2. Facial reconstruction on fragmentary and complete skull of children & adult	PG Institute of Medical Education & Research, Chandigarh
3. Analysis of mt-DNA for characterization of forensic biological specimen-significance of hetroplasty DNA profiling of microbes in forensic earth samples”	FSL, Delhi
4. Molecular standardization and transformation of Dasmula plants”.	DAV college Chandigarh
5. Characterization and impurity of ephedrine and Pseudoephedrine and their signature analysis	FSL, Assam
6. Phytochemical & toxicological analysis of some Indian poisonous plants.	FSL Chattisgarh
7. Forensic analysis of aluminum-jute fibre hybrid composite in automatic application..	CIPET Bhubaneswar
8. Evaluation vitreous as a marked fluid for the quantification of drugs in post mortem cases.	FSL, Delhi
9. Biotransformation of heroin and morphine to pharmaceutically useful compounds and development of a bio sensor for the detection of heroin and morphine,	Patiala University, Punjab
10. Determination of drugs & toxicants in biological sample using direct injection micellar liquid chromatography.	H S Gaur University, Sagar
11. Gujarat state biometric consortium.	FSL, Gujarat
12. Determination of the body movement of victim during firing.	FSL, Manipur
13. DNA profiling of microbes in forensic earth samples,	FSL, Mumbai
14. Assessment of services of CFSLs & GEsQD of DFS on Criminal Justice Delivery System	

MIT/TIFAC

PROJECT TITLE		ORGANIZATION
1.	Integrated security devices for tracking & data acquisition	CDAC, Noida
2.	Development of print document security toolkit	CDAC, Noida
3.	Development of independent component based analysis based blind source separation algorithms for audio/ image separation	IIT Kanpur
4.	Development of software based system for face identification	Cdac kolkata
5.	Development of multi-model biometric system for human identification	IIT Kanpur
6.	Multipurpose multi-model biometric system for human identification	IIT Kanpur
7.	Design and development of system & software for collection of electromagnetic signature from digital equipment	SAMEER, Chennai
8.	Setting up of national resource centre on steganography	CDAC, Kolkata
9.	Development of isolating tools for steganographic images	CDAC, Kolkata
10.	Ressource centre for cyber forensics	ER & DC, Tvm- CDAC-Tvm
11.	Neuro-psychologic al methods of interrogation of suspects,	FSL, Bangalore
12.	Development of velocity panel for small caliber projectile	CSIO, Chandigarh

PLAN SCHEME

Sr. No.	Name of the scheme	CFSL/GEQD
1.	Development of automatic language independent speaker identification system	CFSL, Chandigarh
2.	Creation of facilities for forensic analysis of audio & video recordings media and development of technique for enhancement and authentication of the recordings	CFSL, Chandigarh
3.	Automation in firearm finger printing and creation of national database	CFSL, Chandigarh
4.	Creation of neuro psycho-physiological interrogation facilities	CFSL, Chandigarh
5.	Forensic characterization of automotive paints	CFSL, Chandigarh
6.	Proficiency testing programme/ inter laboratory	CFSL, Hyderabad
7.	Creation of laboratory facility for chemical, biological and nuclear warfare agents	CFSL, Hyderabad
8.	Creation of national bomb data centre from forensic point of view	CFSL, Hyderabad
9.	Human resource development programmes in forensic science	CFSL, Hyderabad
10.	National data base for forensic DNA markers	CFSL, Kolkata
11.	Development of genetic markers for forensic wildlife investigation of genetically modified organisms/ food	CFSL, Kolkata
12.	Polymorphism of mt DNA and y genome and SNPs in population in India	CFSL, Kolkata
13.	Development of technology for identification of foetal genetics markers from maternal blood by non-invasive methods	CFSL, Kolkata
14.	Extra mural research projects	CFSL, Hyderabad
15.	Creation of internet & e- commerce related crime analysis facility	GEQD, Hyderabad
16.	Establishment of computer forensic laboratory at Kolkata & Chandigarh and upgradation of existing facilities at GEQD, Hyderabad	GEQD, Hyderabad
17.	Development of possible prevention & detection techniques of xeroxing highly secured documents	CFSL, Hyderabad
18.	Creation of computer crime analysis facility at CFSL, Chandigarh	CFSL, Chandigarh

JRF SCHEME

SR. NO	PROJECT	PROJECT FELLOW & CO- GUIDE	CFSL/GEQD
1.	“APPLICATION OF MODERN ANALYTICAL TECHNIQUES ON TAGGING OF INK FOR FORENSIC PURPOSES	SHRI SANDIP D. MAIND, SRF	CFSL, HYDERABAD
2.	PHOTOPHYSICAL AND PHOTOCHEMICAL CHARACTERIZATION OF SOME ORGANIC AND INORGANIC DYES FOR FEASIBLE APPLICATION IN PREVENTION AND DETECTION OF UNAUTHORIZED PHOTOCOPYING	MS. PARMILA DAHIYA, SRF–	DO
3.	SYNTHESIS OF SOME ORGANIC MOLECULES FOR POTENTIAL FORENSIC AND MEDICINAL APPLICATIONS	SIDDHARTH ROY, JRF -	DO
4.	SYNTHESIS AND CHARACTERIZATION OF MONO-DISPERSED GOLD NANO-PARTICLES FOR APPLICATION IN FORENSIC SCIENCE	DILIP KUMAR PANDA	DO
5.	FORENSIC EXAMINATION OF COUNTERFEITING OF DRUGS	MS BABITA SINGH, JRF	DO
6.	ANALYSIS OF SOME ORGANIC COMPOUNDS OF PHARMACEUTICAL & FORENSIC INTREST	MS. P. PUSHPALATHA, JRF	DO
7.	STUDIES ON APPLICATION OF LC-MS-MS FOR ITS FORENSIC ASPECT RELATED TO MODERN SYNTHETIC DRUGS	SH. VINDRESH MISHRA, JRF	DO
8.	DEVELOPMENT OF MODERN MICRO METHODS FOR IDENTIFICATION OF PESTICIDES	CHAITANYA CHAINULU M	DO
9.	FABRICATION OF MICROARRAY FOR IDENTIFICATION OF PATHOGENS	BHASWAR MAITY, SRF	CFSL, KOLKATA
10.	GENOMIC POLYNORPHISM AND CHARACTERIZATION OF POPULATIONS ; SPECIAL EMPHASIS OF ENDANGERED WILDLIFE	MANUJ TANDON, SRF	DO
11.	GENETIC POLYMORPHISM AND MYCOBACTERIUM INFECTION IN HUMANS	MS ANAMIKA SINGH, SRF	DO
12.	EVOLUTIONARY GENOMICS OF HUMAN POPULATIONS IN INDIA	MS G HIMABINDU, SRF	DO

13.	DISTRIBUTION OF POLYMORPHIC LOCI AND HIV CANDIDATE GENES IN TRIBAL POPULATIONS IN INDIA	MS. JHEELAM BAJERJEE, SRF	DO
14.	GENETIC DIVERSITY PATTERNS IN SOME ENDOGENOUS MUSLIMS POPULATIONS IN NORTH INDIA	EAASWARKHANTH M, JRF	DO
15.	UNDER PROCESS	MS. TANIA GHOSH, JRF	DO
16.	UNDER PROCESS	MS. D. KALPANA, JRF	DO
17.	DATA FUSION IN COMPUTER FORENSICS	MS. SUNEETA SATPATHY	GEQD, HYDERABAD
18.	THE PROJECT TITLE IS YET TO BE DECIDED	MS. M. UMA DEVI	DO
19.	THE PROJECT TITLE IS YET TO BE DECIDED	MS. H R CHENNAMMA	DO
20.	THE PROJECT TITLE IS YET TO BE DECIDED	B. SAMBASIVE RAO	DO
21.	TAGGING OF PRINTING INK	PRASHANT SHUKLA	DO (NAA UNIT)