

LV No.4.

OCTOBER-DECEMBER, 2008



The Indian Police Journal

PROMOTING GOOD PRACTICES & STANDARDS

BOARD OF REFEREES

1. Shri B.R. Sharma,
Ex. Dir., CFSL, Chandigarh
1029, Sector - 4,
Panchkula - 134113
Ph : 0172-2566652, 2568931
2. Dr. Jyotsna Chatterji,
Director/Secretary,
Joint Women's Programme,
Empowering Women & Children,
B-52, B-Gangotri Apartments,
Alaknanda,
New Delhi-110019.
Ph : 42143810
3. Dr. Arvind Verma,
Deptt. of Criminal Justice,
Indiana University, Bloomington,
In 47405 USA
4. Prof. Aruna Bhardwaj,
Former Dean,
Faculty of Social Science,
University of Delhi,
H-45, Ground Floor,
Bali Nagar, Nazafgarh Road,
New Delhi-110015.
5. Prof. T.D. Dogra,
Head of the Dept.,
Forensic Medicine & Toxicology,
AIIMS, Ansari Nagar,
New Delhi-110029
Mob. : 9868394071
6. Dr. S. Subramanian,
Former - DG, CRPF
8-13-73 Raghvendaranagar,
Opposite NPA, Shivarampalli,
Hyderabad-500052.
Ph. : 040-4016831
7. Dr. S. Krishnamurthy, IPS (Retd.)
Geddalahalli,
"Krithika" No. 71, NN Fannas
RMV 2nd Stage,
Sanjay Nagar,
Bangalore - 560094
Ph. : 080-23418655
8. Prof. S.P. Srivastava,
B-8, Krishna Nagar,
Lucknow - 226005
Ph. : 0522-2470206
9. Shri S.V.M. Tripathi
Ex-DG, UP and CRPF
'Sukriti'
B-3/481, Vishan Khand,
Gomati Nagar,
Lucknow-226010
Ph. : 0522-2395039
10. Shri Sanker Sen,
Sr. Fellow,
Institute of Social Sciences,
8, Nelson Mandela Road,
Vasant Kunj,
New Delhi-110070
Ph. : 26121902, 26121909
11. Justice Iqbal Singh,
House No. 234, Sector-18A,
Chandigarh
12. Prof. Balraj Chauhan,
Director,
Dr. Ram Manohar Lohia
National Law University,
LDA Kanpur Road Scheme,
Lucknow - 226012
13. Prof. M.Z. Khan,
B-59, City Apartments,
21, Vasundhra Enclave,
New Delhi
14. Prof. Arvind Tiwari,
Centre for Socio-Legal Study
& Human Rights,
Tata Institute of Social Science,
Chembur, Mumbai
15. Prof. J.D. Sharma,
Head of the Dept.,
Dept. of Criminology and
Forensic Science,
Dr. Harisingh Gour
Vishwavidyalaya,
Sagar - 470 003 (MP)
16. Dr. Jitendra Nagpal,
Psychiatric and Expert on Mental
Health,
VIMHANS,
1, Institutional Area,
Nehru Nagar,
New Delhi-110065
17. Dr. J.R. Gour,
Director,
State Forensic Science
Laboratory,
Himachal Pradesh,
Junga - 173216
18. Dr. A.K. Jaiswal,
Forensic Medicine & Toxicology,
AIIMS, Ansari Nagar,
New Delhi-110029



The Indian Police Journal

Vol. LV-No.4
October-December, 2008

Opinions expressed in this journal do not reflect the policies or views of the Bureau of Police Research & Development, but of the individual contributors. Authors are solely responsible for the details and statements made in their articles.



Editorial Board

Sh. K. Koshy	-	Chairperson
Sh. Rakesh Jaruhar	-	Member
Sh. R.C. Arora	-	Member
Sh. Sanjay Baniwal	-	Member
Dr. B.V. Trivedi	-	Member

Editor
Gopal K. N. Chowdhary

1. Editorial	2
2. Abstracts & Key Words	4
3. Assessment and Evaluation of Community Policing <i>Sankar Sen</i>	9
4. Human Organ Transplant : Legal and Ethical Contours <i>Dr. K.P. Singh and Ms. Chitragada Singh</i>	16
5. Impact of Visiting on Prisoner's Reformation and Rehabilitation <i>Dr. Deepthi</i>	28
6. Strategic Management of Training Information System in CPMF <i>Rakesh Kumar Singh</i>	34
7. DNA Profiling of Bone by Using New Rapid DNA Isolation Protocol <i>Mr. Shrikant H. Lade and Dr. (Mrs) R. Krishnamurthy</i>	41
8. Role of Forensic Science in Intelligence Setup <i>D.C. Pande</i>	46
9. Naxal Violence : Theoretical and Growth Perspectives <i>J.K. Misra</i>	61
10. Management Style : A Blind Eye to the Underground Economy of Prison <i>H.S. Bhawara and Baljeet Kaur</i>	69
11. Extraction and Detection of Morphine from Viscera by New Solvent Systems Using High Performance Thin Layer Chromatography Plate <i>Dr. A.K. Jaiswal and Archana Negi</i>	73
12. From Desk of Director (R&D) BPR&D	70



Editorial

The 26/11 terrorist incident in Mumbai would take a long time to heal from Indian collective psyche. However, for Indian Police and Internal security fraternity, and other stakeholders, this urban combat/terrorist daredevilry is a stern reminder to have a close look at our existing security apparatus and systems to ensure against recurrence of such incidents anywhere in the country.

The valorous act, shown by lathi-wielding martyred Head Constable who did not let go Pakistani terrorist (who was eventually arrested) despite taking hit of more than dozen high-caliber bullets and other 15 officers and jawans of Mumbai Police, who laid their lives in the best tradition of duty before self is of utmost inspiration for their fellow brothers and sisters. It has added another glorious chapter to the history of Indian Police in service of the country.

Shri Sankar Sen, IPS (Rtd), in his article, '**Assessment and Evaluation of Community Policing**' underlines the importance of assessment and evaluation of community policing, to enable the policy makers to discover weakness in the implementation.

Dr. K.P. Singh, IPS, in his paper '**Human Organ Transplant: Legal and Ethical Contours**' deals with legal and ethical aspect of human organ transplant. This issue needs urgent attention as it involves human rights violation, exploitation of poor and underprivileged section of society, illegal trade, black market and related legal and ethical issues.

The paper '**Impact of Visiting on Prisoner's Reformation and Rehabilitation**' by **Dr. Deepti** examines the impact of effective visiting system on prisoner's reformation and rehabilitation.

The article '**Strategic Management of Training Information System in CPMF**' by **Shri Rakesh Kumar Singh** emphasizes the importance of training information system, which is an effective management tools to inculcate competence and professionalism in augmenting the efficiency and services of our central Para-Military Forces (CPMFs).

Shri Shrikant H. Lade and Dr. (Mrs.) R. Krishnamurthy, in their research paper, '**DNA Profiling of Bone by Using New Rapid DNA Isolation Protocol**' present an innovative technique of DNA profiling through decalcification DNA isolation in protocol for bone, and use of nanoceps devices to isolate and concentrate DNA, in cracking dead-end cases. Through this technique, one and half year old bone of a surgeon, murdered brutally in jungle, led to conviction of the culprit.

Promoting Good Practices and Standards

Editorial

The paper '**Role of Forensic Science in Intelligence Setup**' by **Shri D.C. Pande** underlines the importance of forensic science in intelligence setup. The knowledge of latest technique of forensic science provides intelligence setup an edge in documentation, explosives, DNA fingerprinting, chemical analysis of material, crypto-analysis, clandestine electronic surveillance, narco-analysis, brain mapping, misinformation, etc.

Shri J.K. Misra, in his article '**Naxal Violence: Theoretical and Growth Perspectives**' analyzes the dynamics of Naxal violence through the prism of theoretical and growth perspective. He maintains that poverty, inequality, exploitation, unemployment, half-heartedly implemented land reform and lack of equitable growth has led to the spread of Naxal violence. The theoretical support provided by Chinese and other international communist organizations has provided fertile ground for this menace.

The paper '**Management Style : A Blind eye to the Underground Economy of Prison**' by **Dr. H.S. Bhawara and Smt. Baljeet Kaur** discusses the impact of underground economy of Prison on correctional effects and its larger ramification for the society.

Dr. A.K. Jaiswal and Ms. Archana Negi, in the their paper, '**Extraction and Detection of Morphine from Viscera by Solvent Systems Using High Performance Thin Layer Chromatography Plate**' maintain that using HPTCL (High Performance Thin Layer Chromatography Plate) for separation and identification of morphine is very cost-effective. This method is well-suited for day-to-day analysis, and more effective than instrumental methods such as UV, GC and TCL.

We hope that our esteemed readers will get maximum benefit from these articles and contribute to their respective fields in more enlightened way.



Gopal K.N. Chowdhary
Editor

Promoting Good Practices and Standards

Abstracts & Key Words

Assessment and Evaluation of Community Policing

Sankar Sen

Key Words

Evaluation, Community Policing, Process and Reports, Common Problem, Proactive, Innovative, Status quo, Personnel Utilization, Operationalising, Personnel Allocation.

Abstract

Evaluation of community policing practice and policies always poses problems. This is due to the fact that community policing is just not a uniform set of tasks; it embodies a new philosophy of service delivery and management, which makes an evaluative effort difficult. However, evaluation is necessary to enable the policy makers to discover weaknesses in implementation. There can be internal flaws in theory and concept as well as unanticipated institutional constraints. Evaluation should preferably be done by an outside agency as independent evaluators are not in a better position to report their findings objectively. Before further expanding community policing projects, rigorous evaluation is necessary. Evaluation programme must critically examine personnel allocation

as well as deployment decision. Evaluation must ensure that there is avoidance of unnecessary waste and timely information is produced so that it becomes useful for decision-making. It has to be logical, objective with "inherent procedures" of quality control, which attempts to ensure the accuracy of information collected, analyzed and interpreted in the evaluative process.

Human Organ Transplant Legal and Ethical Contours

Dr. K.P.Singh and Ms. Chitragada Singh

Key Words

Organ Trade, Donate Organs, Kidney Bazaar, Organ Transplantation, Human Organ Transplant, Act, Brain Death, Organ Donors, Medical Tourism, Cross-country Organ Donation, Immunosuppressive.

Abstract

The relevance of human organ trading has increased manifold in the present times, owing more to demand-supply imbalance rather than to the leaps in medical advancements. This article seeks to analyze this situation where the marvels and intricacies of surgical sciences have become commonplace and are being exploited for as

simple an emotion as greed. Apart from discussing the recent shocking trends in the matter, there is also an elaboration upon the Indian law on this topic which is primarily a study on the Human Organ Transplant Act, 1994, and its lacunae in regard to procedural formalities and investigation. Various models in different countries that have a bearing on the understanding of this topic have been discussed in the article. It is only imperative that there be checks on human organ trade at every step of the way. This article would also answer how to incorporate those checks within the fabric of law and consequently, the society.

Impact of Visiting on Prisoner's Reformation and Rehabilitation

Dr. Deepthi

Key Words

Visiting System, Visits, Reformation, Rehabilitation, Visiting Board, Law-abiding Citizen.

Abstract

Prisons are now recognized globally as 'correctional institutions' demonstrating their ideas as places where, besides custody, the emphasis is on, while essentially considered to hold rehabilitating the offenders

and releasing them back into society as law abiding competent members. It is now firmly believed that prisoners should be given the opportunity to maintain and develop links with their families and the outside world. Visits are perhaps the most important way in which such links are preserved. The Mulla Committee observed that a large number of offenders sent to prisons do not require any therapeutic correctional treatment. They are as normal as citizens outside prison walls are, and they need to be protected from the harmful effects of exposure to prison life. People who are sent to prison lose the right to free movement but retain other rights as human beings. One of the most important of these is the right to maintain contact with their families. In addition, it is equally a right for the family members who are not in prison. They retain the right to contact with anyone of their family, father or mother, son or daughter, brother or sister, who, has been sent to prison. Prison administration has a responsibility to ensure that these relationships are maintained and developed. Provision concerning the levels of communication with immediate family members should be based on this principle. In view of this, the loss or restriction of family visits should not be used as a punishment under any circumstance. The present paper covers the impact of effective

visiting system on prisoner's reformation and rehabilitation.

Strategic Management of Training Information System in CPMF

Rakesh Kumar Singh

Key Words

Critical Resource, Training Information, Competence, Professionalism, Potential Management, Change Manager, Diversified Job, Security Threats Potential Appraisal.

Abstract

Training Information System (T.I.S.) is an effective management system to develop competence and professionalism in an organization. The central Para Military Forces (CPMF) have grown tremendously in numbers recently and its deployment is widespread across the nation. The problems which the nation is facing have also diversified in nature and gravity. To professionally meet these challenges, it is necessary that the training information system should be improved. The digitalization of Training related data will help in integration of Training functions with operational needs. The personnel branch in CPMFs need to look into it from Human Resources Development perspective.

Training Information is a critical resource of an organization.

It is one of the most valuable information, which can enrich the performance tremendously if its potentials are fully exploited. This system can assist fruitfully in training and performance management, assets management as well as perception management.

Training managers of corporate say that they have to make their men competent to move the earth for clients. Similarly, we have to secure the earth for our people so that the development and growth of nation takes place without any hindrance.

DNA Profiling of Bone by Using New Rapid DNA Isolation Protocol

Mr. Shrikant H. Lade Dr. (Mrs) R. Krishnamurthy

Key Words

Benzyl Chloride, Cell Lysis, Aqueous Layer, PCR Inhibitors, Extraction, Purification, Nanocep Devices, Declarification, Isolation Protocol, Genotyping, Phenol, Lysis Buffer.

Abstract

Isolation of DNA from Forensic Samples are a real challenge to Forensic Scientists. Deteriorated bone samples poses a difficult task for a proper DNA isolation. The isolation of DNA from bone samples is a lengthy procedure.

This protocol for DNA isolation from bone sample is very simple and advantageous. It uses only one liquid transference step and can process several samples with minimal time and equipment. The use of Benzyl chloride early in the extraction protocol increases DNA yield and purity. The isolated DNA is useful for PCR assay and amplification of nuclear DNA. DNA can be used either undiluted or at low dilutions in PCR assay. This is applied in a case where the bone was totally deteriorated and the isolation by the above method gave a breakthrough in connecting a complicated murder case of two years old.

Role of Forensic Science in Intelligence Setup

D.C. Pande

Key Words

Intelligence Bureau (IB), Espionage Work, Statecraft, Chanakya's Arthasastra, Science, Intelligence Collection, Individualization, Analytical Approach, Counter-terrorism, Forensic Analysis, Mass Spectrometry, Systematic Study.

Abstract

Concept of Forensic Science is as old as the science of intelligence collection.

History indicates that secret agencies were not conceived as an instrument of oppression but as a tool of governance. The great

scholar Chanakya also known as Kautalya, in his Arthasastra has touched on the forensic science through the tools of intelligence science like frauds, cunningness, imitative work, machination, gore taught etc. On the one hand these tools were used by Secret Agents to collect intelligence, on the contrary investigating agencies involved in deciphering the *modus operandi* of such agents to expose them of their nefarious activities.

With the advancement of science and technology as per the need of a man in the areas of communication between two distant places, starting with first postal and later electronic, documentation to authenticate one's claim, photography to keep a record of things, ballistics for hunting and self protection etc were developed and put to daily use. Secret Agents as well as criminals exploited them to meet their ends. For any country and its government it became necessary to counter the activities of such individuals from hostile countries, for maintaining peace in one's own kingdom. More so the judiciary started feeling the need of a thorough investigative act before it could give a fair judgement on a petition. Thus, physical evidences in more cognizant way had become the need of the criminal and civil law. Thus, forensic science gave impetus to scientists to work in this area having an important role in society. Their curiosity continued by making systematic study of

items like pigments in a painted picture material collected from site, mineral or gem, origin of geological soil, trigger marks on the empty cartridges, chemicals at the scene of crime, anthropological study of humans, physical items like hair/cloth/glass/metal/inflammable materials/finger prints/paper/ink etc helping project evidences in court of law for a fair judgement.

In 1920, the Bureau of Investigation in USA made a beginning by recognizing the importance of scientific analysis as criminal matter. By 1929, the Bureau established a Criminology Library and also thought of dedicated Bureau's own scientific staff plus laboratory and established the Scientific Crime Detection Laboratory at Northwestern University in Chicago. They also started the American Journal of Police Science involving laboratory workers as well as investigating officers. They finally established a full-fledged laboratory with state-of-art facility on the Marine Corps Base in Quantico Virginia. Later many other countries followed suit and established their own laboratories looking towards this state of affairs. History tells that investigation and intelligence collection go side by side. With increase in human civilization, emphasis had grown on human justice as well as espionage/intelligence collection resulting in the strengthening of police, army and intelligence set up in a country.

A study of different intelligence agencies reveal that most of them have a Technical Directorate and a laboratory setup must be the part of that, with element of forensic science. Not much is known of these laboratories and their work culture on the garb of secrecy of these sensitive departments. However, some of the areas where these laboratories may be working relate to documentation, explosives, DNA finger-printing, chemical analysis of material, photography, crypto-analysis, clandestine electronic and other modes of communication, electronic monitoring, eaves dropping, analysis of clandestine recording, narco analysis, brain mapping, computerization, misinformation techniques, etc. It is imperative to have a well-coordinated effort between scientists of technical setup of intelligence setup and forensic paternity in the interest of work.

Naxal Violence : Theoretical and Growth Perspectives

J.K. Misra

Key Words

Theoretical Perspective, Growth, Systematic Analysis, Naxal Violence, Maoism, Cultural Revolution, Ideology, Mass Movement, Principal of Cohesiveness, Class Consciousness, Value System, Deprivation, Police-to-population Ratio.

Abstract

Through reflections on the extent and principal causes of Naxalite problem we may pose some theoretical questions related to the origin and development of the Naxal violence presently synonymous with communist revolutionary "terrorism" in our country. A true interpretation of Naxalism is not possible without knowing what it meant to be a Naxalite and what the practice of Naxalism meant to the participants themselves. Here our premise may be that Naxalites have an ideology. By ideology, we mean a belief system or interrelated assumptions through which polity or society are viewed. After the ideological character of a problem is recognized we realize that it is a long term problem which would entail intense and complex struggle on the political front and in the area of ideas.

Management style : A Blind Eye to Underground Economy of Prison

H.S. Bhawara and Baljeet Kaur

Key Words

Management Style, Blind Eye, Underground Economy, Total Institution, Oppressive Condition, Inmates, Extortion, Physical Abuse, Rehabilitation Programme, Overcrowding, Reciprocal Relations, Policy Implications.

Abstract

The underground economies of prison have a significant impact on prison gang life. One of the major causes for the underground economy in prison is the relationship between prison gangs and guards. "A reciprocal relationship exists between prison gangs and guards in which both sides reap benefits from each other's. Gangs are implicated in about 85% of all prison violence, and racial or ethnic gangs dominate prison society in many institutions. Prison gangs usually have stricter "blood-in, blood-out" rituals than street gangs, and they control the hidden economy and rackets in many prisons. They are more tightly organized than street gangs, and in some cases, can arrange the killing of someone on the street or in another prison.

Extraction and Detection of Morphine from Viscera by New Solvent Systems Using High Performance Thin Layer Chromatography Plate

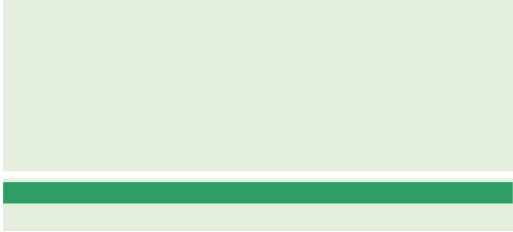
Dr. A.K. Jaiswal and Archana Negi

Key Words

Morphine, Cerebral Somniferous, Poison, Viscera, Solvent Systems, HPTLC plate, Draggendroff, Rf.

Abstract

Morphine is the principal alkaloids of Opium and is non-volatile in nature. Morphine is considered to



be a Cerebral Somniferous Poison. The effects of Morphine can be described in three stages viz. Excitement, Stupor and Narcosis. Although several instrumental methods like UV, GC and HPLC are available for separation and identification of Morphine, the cost of analysis is very high. Therefore, a simple, rapid and reliable HPTLC method for separation of Morphine has been

presented. The proposed system is well suited for day-to-day analysis. The main advantages of HPTLC are the low-cost, simultaneous analysis of large number of samples and minimum sample preparation is required. Morphine was first extracted from viscera and then identified on the HPTLC plates by using various new solvent systems. For the detection on developed plates, Draggendroff's reagent was

used. For the analysis, a total of 46 solvent systems were selected, in which 22 solvent systems were found to give good result. Rf of sample in different solvent systems was in between 0.13 to 0.95 and the time taken by solvent system was in between 19 min to 106 min. In case anyone of these 22 solvent systems is not available, other mentioned system can also be used for the analysis of Morphine.



ASSESSMENT AND EVALUATION OF COMMUNITY POLICING

Sankar Sen*

Introduction

Community Policing in bits and pieces is now being practised in many counties of the world. Indeed, it has become a buzzword of law enforcement across the world. It represents a paradigm shift in law enforcement and a recognition by the police that community is its best resource and the greatest ally in the fight against crime and disorder. However, for the success of community policing projects, there should be in-built mechanisms for periodic evaluations of the programme. However, evaluation of community policing policies and practices poses some difficult problems. The concept has been implemented in a wide variety of ways depending on the vision of the police officers, demands and characteristics of the different communities, resource availability, and an array of other factors, which contribute to the uniqueness of any community policing programme. This is because community policing is not just a uniform set of tasks, it is a philosophy of management and service delivery, which makes an evaluative effort difficult.

Proactive vs Reactive

A further problem is that community policing requires

administrators, managers, supervisors, and officers to think about their responsibilities differently. Reactive and "incident driven" policies have to make way for proactive and innovative ones. Hence, evaluation cannot be done on the basis of merely tabulating the number of calls answered, response time, prosecutions launched, arrests made etc. This will not give a clear idea of the realization of the goals of the community policing. Further, there is a problem of unanimity. Community policing is implemented in different ways in different areas. There is also significant variability in allocation of resources and deployment of personnel.

Evaluation is necessary for any kind of ongoing projects. It is a necessary step towards a better understanding, if further changes are called for. One of the common points of contention is whether in the evaluative process, the evaluator is very subjective. It is a fact that very often an evaluation is not value-free as evaluators become advocates of their own cause and very often their results may be justification for the status quo rather than useful and objective appraisals.¹ There is also

Key Words

Evaluation
Community Policing
Process and Reports
Common Problem
Proactive
Innovative
Status quo
Personnel Utilization
Operationalising
Personnel Allocation.

¹Petersilia, J. 1987, The Influence of Criminal Justice Research, Monograph prepared for the National Institute of Justice, US Department of Justice, The Rand Corporation, Santa Monica, p. 102.

*Senior Fellow
Institute of Social Sciences
8, Nelson, Mandela Marg,
Vasant Kunj, New Delhi-70



Abstract

Evaluation of community policing practice and policies always poses problems. This is due to the fact that community policing is just not an uniform set of tasks; it embodies a new philosophy of service delivery and management, which makes an evaluative effort difficult. However, evaluation is necessary to enable the policy makers to discover weaknesses in implementation. There can

the fear of failure and the fear that weaknesses of the programme and implementer may be exposed.

It is also possible that an evaluative study will enable the policy makers to discover weaknesses in implementation. There may be inherent flaws in the theory or concept itself, but there may also be institutional constraints, which are not anticipated, or resisted by any of the players in the implementation process for different reasons. Indeed, evaluation strives to unearth faulty assumptions and continuously redefines goals in the light of information derived during implementation.

The evaluations are carried out either by people working inside the department or evaluators hired from outside. Johnson noted that inside evaluations are not always useful because some inside evaluators may be tempted or pressurized to misrepresent their findings.² Outside evaluations are an obvious solution to this problem because independent evaluators are in a better position to use accepted scientific methods to gather data and then report their findings objectively.

Questions for Community Policing Evaluation

Any evaluation of community policing programme should focus

on some of these issues:

- What effects will a community-policing programme have on residents' quality of life, including their perceptions of the amount of crime, disorder and fear they experience?
- What effects will a community-policing programme have on actual rates of crime and levels of disorder in a neighbourhood?
- What effect does community policing have on officers who practice it?
- Is community policing an efficient use of police time and resources?

In USA, some research studies done in the last two decades, have focused on the effectiveness of foot patrol in reducing crime and fear of crime and improving police citizen relations. Robert Trojanowicz and Dennis Banas found in their case study that foot patrol led to decrease in crime rates, increase in perception of safety and improved police-citizen relations over a three-year evaluation period.³

Scientific Evaluation

Scientific evaluation means that it is logical, objective, and has inherent procedures of "quality control" which attempt to ensure the accuracy of the information collected, analyzed, and

²William C. Johnson, *Public Administration: Policy, Politics and Practice* (Guliford, CT: Dushkin Publishing Group) 1992.

³Robert Trojanowicz and Dennis Banas, *An evaluation of the Neighbourhood Foot Patrol Programme in Flint Hills, Michigan* (East Lansing: Michigan State University, National Neighbourhood Foot Patrol Centre), 1982.



interpreted in the evaluative process. The type of methodology used will vary based upon the nature of the program or activities evaluated.

There is always need for rigorous evaluation of community policing strategies before further expanding them. Evaluation of community policing will have to focus upon the outcome of the programmes and cannot just rely upon the quantitative analysis of the processes. Apart from noting changes in the crime rate, evaluation should also consider the level of fear reduction and other least tangible outcomes of improved community-police relations. Sometimes, number of cases tends to increase because of improved relations between the police and community. The increase in reporting is often an indicator of success of improving relationship.

Problems in evaluation

The common problems found in the evaluation processes are:

- Very often, police departments which are of bureaucratic and paramilitary nature rely on uniform procedures.
- Rigid accountability to the letter of procedures tends to take precedence over the spirit of procedures.
- Community policing requires greater flexibility, use of discretion and innovation. Very often, the organization and the people in it find it difficult to accept and make the change.

Little feedback, positive or negative, is given to the department's various units on the quality and value of community policing activities. There is very often a tendency to keep evaluation results, particularly results which are intermediately collected in ongoing programmes, among the administrative staff. It is not communicated to other supervisors and line level employees performing the community policing activities. Providing feedback is not only good for programme development and implementation; it also helps in good management.

Further, there should be ongoing communications between different units within the department and different ranks. This will help efficient working of community policing programmes. The communications must be two way - both horizontally and vertically within the organization. Not only leaders should communicate to field officers, line level personnel but there must also be lateral communications between units of the police department. All units of police department must share information, thoughts and ideas as related to their responsibilities and department's goals.

Community policing does require different personnel utilization practices. Programme evaluation must critically examine personnel allocation and deployment decision. There should be long-term assignment of personnel with functions along

be internal flaws in theory and concept as well as unanticipated institutional constraints. Evaluation should preferably be done by an outside agency as independent evaluators are not in a better position to report their findings objectively. Before further expanding community policing projects, rigorous evaluation is necessary. Evaluation programme must critically examine personnel allocation as well as deployment decision. Evaluation must ensure



that there is avoidance of unnecessary waste and timely information is produced so that it becomes useful for decision making. It has to be logical, objective with "inherent procedures" of quality control, which attempts to ensure the accuracy of information collected, analyzed and interpreted in the evaluative process.

with the commitment of providing supporting resources to serve in an effective manner.

Experimental Deployment

Departments, while adopting community policing philosophy must deploy officers to perform activities in support of the philosophy. When policies and practices of the philosophy have been tested, then resources are allotted to operationalize the philosophy. The largest and most well-known study in the US is the evaluation in New York City's (CPOP) programme. The study made a significant contribution in reflecting a common shortcoming in the research in community policing. The evaluators focussed mainly on officers and citizens directly involved in the programme instead of looking at the effects on the whole community itself.

A series of studies by Brazilian researcher Tulio Kahn have looked more broadly for impact of community policing on local residents generally and the results were encouraging. Kahn's study of community policing in Sao Paulo suggests that in the neighborhood with community policing, people feel somewhat safer and are more likely to express trust in the police.⁴ There is really a need to investigate whether community-policing programmes can change people's feelings of security and change their attitudes towards police and enhance willingness to report crimes.

In essence, evaluation of community policing activities is meant to ensure that:

- Activities and processes are effective and accomplish what is intended to be done.
- Efficient - they are effective without waste or undue expenditure of resources.
- Evaluative processes are valid and reliable.
- Timely information is produced within timeframes which makes the information useful for decision making.
- Community policing policies, programmes and activities are all directly related to the department's mission and goals.

Operationalising

Because community policing requires substantially different personnel, utilization practices, any programme evaluation has to examine effective personnel allocation and deployment decision. Many police departments, when initially adopting community policing philosophy, will deploy more officers to perform activities in support of the philosophy. There is greater flexibility in this kind of experimental deployment.

However, when policies and practices of community policing philosophy have been tested and fine-

⁴ Tulio Kahn, (2002) "Civilian Oversight of Police", in http://www.altus.org/altus/research_tools/bibliography_hot_topics.

tuned, resources have to be allocated for operationalising this philosophy. In many ways, allocation can be viewed as a strategic activity and deployment as more a tactical activity. Indeed, evaluation plays an important role in both allocation and deployment of resources.

Evaluation Reports

Generally speaking, an evaluation report should have three component parts:

- (a) **Descriptive** : The report should describe the issues and processes, which are subject to analysis. The report should also present objectively all relevant information and data for the users' consumption.
- (b) **Interpretative** : Evaluation should analytically interpret the raw data and information and its impact on issues and activities involved.
- (c) **Available alternatives** : In the light of interpretation, the evaluator must prescribe alternative actions and strategies.

Evaluation reports should also show the ratios of the cost to results regarding the outcome of programme activities. Overall it should show that the programme evaluation is descriptive and not prescriptive. It can also provide alternatives for action. However, it cannot tell what actions to take. Decision-making remains basically a human responsibility. Evaluation is also programme-oriented and not individual-oriented. It examines aggregate issue-cumulative effects of programme, policies and activities and not the individual steps in the process. Further, the programme evaluation is a function in support of organizational goals and not a goal in itself.

US Experience

In USA, elaborate evaluation of community policing programmes and strategies has been done in many areas. The most well-known study is the evaluation of New York City CPOP Programme. In

this evaluation programme, the researchers focused on six police precincts carrying out community policing programme. The researchers interviewed the community policing officers at the start of the programme and after six months. The field researchers used a common form (problem - process record) to record how each officer approached the task of problem solving. Based on the information in the form, the field researchers graded the officers on how they handled each problem and the researchers also asked each of the six supervisors to grade their officers. The researchers could then compare the grades given by the field researchers with those given by the supervisors.⁵ In New York, the researcher attempted to assess the perception of the community members by conducting extensive interviews with ten community leaders in each of the six study precincts. The decision to interview community leaders rather than survey a large number of residents selected at random is partly a matter of cost and also a recognition that most citizens might not have heard of community policing even if its implementation was successful.⁶

Chicago Study

In studies of community policing in Chicago done by Wesley and others,⁷ the researchers surveyed the same one thousand five hundred residents before and after programme implementation, and could trace the changes in residents' perceptions about police activity over the periods. The researchers found that some of the groups who had low opinion about the quality of policing during the pilot period of project registered slight improvement of the quality of the police service. The researchers also found that the programme did not have any effect on the Hispanic population; they did not participate and also they also did not notice any improvement. In Chicago, large number of officers were also interviewed and it could be seen that black and Hispanic officers were

⁵E. McElory, Colleen A. Cosgrove, and Susan Sadd, *Community Policing: The CPOP in New York* (New York, London, New Delhi, Sage, 1993), pp. 12-15.

⁶*Ibid.*, pp. 151-53.

⁷Wesley G. Skogan and Susan M. Hartnett, *Community Policing: The Chicago Style*, New York and Oxford: Oxford University Press, 1997).

less satisfied with status quo and more optimistic about community policing than white officers. The Chicago researchers, thus, revealed the cleavages within the police departments which mirrored cleavages within the community.

The evaluation of community policing initiatives have focussed on the relationship between strategic problem-solving efforts and the fear of crime, crime rates, disorder and satisfaction with the police. Eck and Spelman found evidence that proactive problem-solving approaches in concert with community members and relevant city agencies can lead to a reduction in the incidence of specific crimes.⁸ Hans Toch and James Grant found that a collaborative approach to problem solving involving the police, residents, and representatives of various city agencies can curtail neighbourhood social and physical disorder.⁹

Within the evaluation process, the following questions are necessary for the further programme development:-

1. *Organization and Development Issues*

- ◆ How extensive will resource allocation to various programmes be in comparison to the department as a whole?
- ◆ Do the crime patterns and service demands in the jurisdiction warrant specializations? If so, what types?
- ◆ What is the relationship of community policing activities to other activities in the department?
- ◆ Will there be changes needed in the authority and responsibility for community policing activities?
- ◆ How comprehensive will community policing activities be?

2. *Administrative Issues*

- What criteria and procedures will be used to target community policing activities and problems?
- What will be the relationship and extent of resource allocation and demonstrable results of community policing efforts?
- On what criteria are community policing goals changed or revised?

3. *Operational Issues*

- How extensive will community policing activities permeate all departmental activities?
- What will the performance measures be and why?

A scientific evaluation may have to be logical, objective and should have inherent procedures of "quality control" which attempts to ensure the accuracy of information collected, analysed, interpreted in the evaluative process. The type of methodology to be used depends upon the nature of the programme or the activities to be evaluated. Initially, this largely relates to the idea of comparison - the factors against which the comparison made typically fit into the development of the programme so that an effective evaluation can be made.

Types of comparisons may include :

- **“Real” versus “Expected” Outcomes** : It serves as a means to assess the accuracy of projections and forecasts. This can be used to assess the accuracy of hypotheses, conclusions, and recommendations. Actual or "real" results of a programme or activity as determined by the evaluation are compared to the expected results developed in the planning and development phases of the programme/activity.
- **“Before” versus “After” Status** : It examines whether specific activities have had an impact or

⁸John E. Eck and William Spelman, Problem solving : police oriented policing in Newport News (Washington DC: Police Executive Research Forum, 1987) p. 250.

⁹Hans Toch and James D. Grant, Police as Problem solvers, (New York: Plenum, 1991).

contributed to a change in the goals or phenomena peripheral to the goals. For example, measuring burglary rates and citizens' perceptions of safety before a Neighbourhood Watch is started and then after the programme has been in effect for a year. Changes, if any, in the burglary rate and/or the feelings of safety may be attributed to the Neighbourhood Watch.

- **Contributory Value** : The contributory value attempts to assess the degree to which the programme activities contributed to goal attainment. For example, a community outreach programme initiated by the Police department may make citizens more aware of the needs of the public schools or city recreation department. While this may be viewed as a positive effect, it is not related to the police department goals.
- **Quality Control Assessment** : This is an overall, broad-based assessment of the utility, accuracy, general value, orientation, and need of the community policing philosophy and its related programmes. As a result, "fine tuning" may need to be made in order that programme and activity quality are reasonably attainable.

Common Problems on Evaluations

Some common problems have been found in the evaluation of police programmes and operations. These are:

- The department becomes too enmeshed in daily activities and finds it difficult to change roles and procedures to respond to the special needs of the department. Being hierarchical and bureaucratic nature, it relies heavily on uniform procedures with limited discretion. Consequently, daily activities become routinized. But community policing requires greater flexibility, use of discretion, and innovation. Sometimes, police organizations find it difficult to adjust themselves to these changes.

- Very little feedback, positive or negative, is given to the various units of the department on the quality and value of community policing practices. There is a tendency to keep evaluation results wrapped in secrecy and known only to the administrative staff. Sometimes, even the supervisors of the programme on evaluation do not receive evaluation results.
- There must be ongoing communications between all units within the department to make community-policing initiatives work efficiently and effectively. The communications must be two way-both horizontally and vertically within the organization. All units must share information, thoughts, and ideas as related to their responsibilities and the department's goals. Evaluation methods should be designed to measure the applicable communications related to the programme and activities in question.

Personnel Utility

Community policing requires substantially different personnel utilization practices. Programme evaluation will also be critical to effective personnel allocation and deployment decisions. Resistance to community policing often occurs when line officers and supervisors believe that the administration does not intend the real change. This resistance and cynicism of officers and supervisors will lead to reinforce the cynicism of the community.

Researchers also have a role to play in helping law enforcement to develop discreet and realistic goals for community policing - not the laundry list of grand claims that public officials often have to make before launching. In fact, effective programme evaluation is largely dependent upon how well an initiative is thought of and developed. It is critical at the outset to establish a framework of which will be the basis for operations in order to have clear criteria to assess. Meaningful evaluation can be performed only when an initiative has been clearly and comprehensively planned.



Key Words

Organ Trade
Donate Organs
Kidney Bazaar
Organ Transplantation
Human Organ Transplant
Act
Brain Death
Organ Donors
Medical Tourism
Cross-country Organ
Donation
Immunosuppressive

HUMAN ORGAN TRANSPLANT : LEGAL AND ETHICAL CONTOURS

Dr. K.P.Singh* and
Chitragada Singh**

Introduction

Over the past fifteen years, transplanting human organs has become a standard and remarkably successful medical procedure, giving new life to thousands of people with failing hearts, kidneys, livers, and lungs. But very few countries have sufficient organs to meet patients' needs. In the United States, for example, some 50,000 people are on the waiting list for a transplant; fifteen percent of patients who need a new heart will die before one becomes available. The shortages are even more acute throughout the Middle East and Asia.

This lack of available organs arouses desperation and rewards greed. Would-be recipients are willing to travel far to get an organ, and many surgeons, brokers, and government officials will do nearly anything to profit from the shortage. In India, well-to-do people and their doctors buy kidneys from debt-ridden Indian villagers; in China officials

profitably market organs of executed Chinese prisoners. The international commerce in organs is unregulated, indeed anarchic. We know a good deal about trafficking in women and children for sex. We are just beginning to learn about the trafficking in organs for transplantation¹.

Organ Transplant

Transplant (with respect to organ transplant) means to transfer an organ, a portion of tissue etc. from one part of the body to another or from one person or animal (donor) to another² recipient). Such a replacement of diseased tissue or organs by healthy ones is called transplantations³. It is usually for the purpose of replacing the recipient's damaged or failing organ with a working one from the donor site. Organ donors can be living or deceased (also referred to as cadaveric). Organ transplants⁴ are generally sub-titled as "life saving", while tissue transplants⁵ as "life enhancing".

¹Rothman, David J. "The International Organ Traffic" *The New York Review of Books*, March 26, 1998/1998;45 (5): 14-16.

²Webster's Encyclopedic Unabridged Dictionary of the English Language, Gramercy Books New York 1996 Edition.

³Taylor, Green, Stout "Biological Science" CUP III Edition 2002.

⁴Organs that can be transplanted are the heart, kidneys, liver, lungs, pancreas, and intestine.

⁵Tissues include bones, tendons, cornea, heart-valves, veins and skin.

*IG, Haryana Police Academy, Madhuban.

**III Year Law Student, U.I.L.S., Punjab University, Chandigarh.



Types

The kinds of organ transplants that are relevant are : Autografts, Allografts and Isografts.

Autograft is a procedure of transplant of tissue from one to oneself. Sometimes this is done with surplus tissue, or tissue that can regenerate, or tissues more desperately needed elsewhere⁶. Sometimes, this is done to remove the tissue and then treat it or the person, before returning it.⁷

An **Allograft** is a transplanted organ or tissue from a genetically non-identical member of the same species. Most human tissue and organ transplants are allografts. This, however, will result into the receiver of organs to take immunosuppressive drugs to prevent their body's antibodies rejecting and destroying the new organ. This dramatically affects the entire immune system making the body vulnerable to pathogens.

Isograft is a subset of allograft in which organs or tissues are transplanted from a donor to a genetically identical recipient (such as an identical twin). Isografts are differentiated from other types of transplants because while they are anatomically identical to allografts, they are closer to autografts in terms of the recipient's immune response.

Living vs Deceased Donors

Here it would also be pertinent to draw a distinction between living and deceased donors. In living donors, the donor remains alive and donates a renewable tissue, cell, or fluid (e.g. blood, skin); or donates an organ or part of an organ in which the remaining organ can regenerate or take on the workload of the rest of the organ⁸. Deceased (formerly cadaveric) are donors who have been declared brain-dead and whose organs are kept viable by ventilators or other mechanical mechanisms until they can be excised for transplantation. Apart from brain-stem dead donors, who have formed the majority of deceased donors for the last twenty years, there is an increasing use of Donation after Cardiac Death - DCD - Donors (formerly non-heart beating donors) to increase the potential pool of donors as demand for transplants continues to grow. These organs have inferior outcomes to organs from a brain-dead donor; however given the scarcity of suitable organs and the number of people who die waiting, any potentially suitable organ must be considered.

Brain Death

In the last three decades, the concept of "brain death" i.e. a state where the brain is irreversibly

Abstract

The relevance of human organ trading has increased manifold in the present times, owing more to demand-supply imbalance rather than to the leaps in medical advancements. This article seeks to analyze this situation where the marvels and intricacies of surgical sciences have become commonplace and are being exploited for as simple an emotion as greed. Apart from discussing the recent shocking trends in

⁶Examples include skin grafts, vein extraction for CABG, etc.

⁷Examples include stem-cell autograft and storing blood in advance of surgery.

⁸Primarily single kidney donation, partial donation of liver, small bowel, or pancreas.



the matter there is also an elaboration upon the Indian law on this topic which is primarily a study on the Human Organ Transplant Act, 1994 and its lacunae in regard to procedural formalities and investigation. Various models in different countries that have a bearing on the understanding of this topic have been discussed in the article. It is only imperative that there be checks on human organ trade at every step of the way. This article

damaged but the heart is beating, came into being in the western world. 'Death' as we understood it over the years was redefined. 'Brain Death' represents a state of irreversible damage to the brain, which over a period of time (12 to 36 hours), leads to cardiac arrest⁹. This is typically seen in patients with severe head injury, massive stroke, brain tumors, brain hypoxia, and as a complication of neurosurgery. Such brain dead individuals or "heart beating donors" are in intensive care units on artificial respiration and removal of organs from them is performed as an operative procedure.

French physicians first described the concept of brain death in 1959, before the era of organ transplantation. However, it was then legalised and popularised due to its implications for organ transplantation. Till recently, 47 countries in the world had accepted "brain death" as a legal concept and 39 countries had enacted specific laws on organ transplantation¹⁰.

Consent

The form and method of obtaining consent for removal of organs from brain dead individuals has varied. Generally, two forms of consent have been practised. The commonest form of consent is "informed consent" in which close

family members agree to donate organs of the deceased after "brain death". The other form of consent is called "presumed consent". This grants authority to doctors to remove organs from brain dead individuals whenever usable organs are available in the absence of objection from the deceased in his or her lifetime or family members. This system has been legalised in European countries like Austria, Belgium, Denmark, Finland and France. A majority of transplants in the developed world are now done using cadaveric donors with a minority of kidney transplants performed from living donors.

Historical Background

The more likely accounts of early transplants deal with skin transplantation. The first reasonable account is of the Indian surgeon Sushruta in the second century BC, who used autografted skin transplantation in nose reconstruction rhinoplasty. Success or failure of these procedures is not well-documented. Centuries later, the Italian surgeon Gaspare Tagliacozzi performed successful skin autografts¹¹. The first attempted human deceased donor transplant was performed by the Ukrainian surgeon Yu Yu Voronoy in the 1930s; rejection resulted in failure. Joseph Murray performed

⁹Nagral, Sanjay Dr. *Combat Law*, Volume 4, Issue 4 November-December 2005 (published 08 December 2005 in *India Together*)

¹⁰*Ibid.*

¹¹He also failed consistently with allografts, offering the first suggestion of rejection centuries before that mechanism could possibly be understood. He attributed it to the "force and power of individuality" in his 1596 work *De Curtorum Chirurgia per Insitionem*.



the first successful transplant, a kidney transplant between identical twins, in 1954; successful because no immunosuppression was necessary in genetically identical twins. Dr. Christian Barnard was the first to transplant heart in 1967. Pancreas was transplanted for the first time by Richard Lilliehei and William Kelly in 1966. Joel Cooper succeeded in transplanting lung lobe in 1983. First successful hand transplant was done in France in 1998. Partial face transplant was done successfully in France in 2005, while the Chinese have succeeded in transplanting penis in 2006. As the rising success rate of transplants and modern immunosuppression make transplants more common, the need for more organs has become critical. Advances in living-related donor transplants have made that increasingly common.

Trends

Despite the efforts of the transplantation societies, it is not possible to access an accurate source on the number, rates and outcomes of all forms of transplantation internationally. Estimations are the best alternatives. Before discussing the country's specific models it will

be relevant to mention the following statistics¹²:

In addition to the citizens waiting for organ transplants in the US and other developed nations, there are long waiting lists in the rest of the world. More than 2 million people need organ transplants in China, 50,000 waiting in Latin America (90% of which are waiting for kidneys), as well as thousands more in the less documented continent of Africa. Donor bases vary in developing nations. In Latin America, the donor rate is 40100 per million per year, similar to that of developed countries. However, in Uruguay, Cuba, and Chile, 90% of organ transplants came from cadaveric donors. Cadaveric donors represent 35% of donors in Saudi Arabia. There is continuous effort to increase the utilization of cadaveric donors in Asia, however, the popularity of living, single kidney donors in India yields India a cadaveric donor prevalence of less than 1 pmp.

Motivations

Living related donors donate to family members or friends in whom they have an emotional

would also answer how to incorporate those checks within the fabric of law and consequently, the society.

Regions	Organs		
	Kidney (pmp*)	Liver (pmp*)	Heart (pmp*)
USA	52	19	8
Europe	27	10	4
Turkey	11	3.5	1
Asia	3	0.3	0.03
Latin America	13	1.6	0.5

*per million population

¹² Source: Amnesty International see also: <http://www.transplantation-soc.org/globalalliance.php>; http://www.istanbulsaglik.gov.tr/w/sb/teclk/pdf/organ_nakli_genel_istatistikler.pdf.

investment. The risk of surgery is offset by the psychological benefit of not losing someone related to them, or not seeing them suffer the ill-effects of waiting on a list. This operates as an emotional motivation. Whereas, the motivation can be altruistic where the donor and the donee are not related either by bond of blood or love. Some people choose to do this out of a need to donate. Some donate to the next person on the list; others use some method of choosing a recipient based on criteria important to them. Websites are being developed that facilitate such donation. It has been featured in recent television journalism that over half of the members of the Jesus Christians, an Australian religious group, have donated kidneys in such a fashion¹³.

Sometimes, the motivation is neither emotional nor altruistic but that of pecuniary benefits. These are called compensated donation, where donors get money or other compensation in exchange for their organs. In the United States, the National Organ Transplant Act of 1984 made organ sales illegal. In the United Kingdom, the Human Tissue Act, 1961 made organ sales illegal. In India, the Human Organ Transplant Act has similar provisions. All of these donations reflected a certain degree of wilfulness on the part of the donor but there can also be donations where they occur due to coercion, fraud or misrepresentation. These are called forced donations and their identifying feature is that the organ donation is done against the will of the donor. There have been various accusations that certain authorities are harvesting organs from those the authorities deem undesirable, such as prison populations¹⁴. The World Medical Association stated that individuals in detention are not in the position to give free consent to donate their organs¹⁵. Illegal dissection of corpses is a form of

body-snatching and may have taken place to obtain allografts¹⁶.

Medical Tourism

One of the driving forces for illegal organ trafficking and "transplantation tourism" is the price differences for organs and transplant surgeries in different areas of the world. According to the New England Journal of Medicine, a human kidney can be purchased in Manila for \$1000 - \$2000, but in urban Latin America a kidney may cost more than \$10,000. Kidneys in South Africa have sold for as high as \$20,000. Price disparities based on donor race are a driving force of attractive organ sales in South Africa, as well as in other parts of the world. The Voluntary Health Association of India reports the prospect of such a small fortune has enticed about 2,000 impoverished Indians to sell a kidney every year. In China, a kidney transplant operation runs for around \$70,000, liver for \$160,000, and heart for \$120,000¹⁷. Although these prices are still unattainable to poor, compared to the fees of the United States, where a kidney transplant may demand \$100,000, a liver \$250,000, and a heart \$860,000, Chinese prices have made China a major provider of organs and transplantation surgeries to other countries.

Position under Indian Law

Living "related" kidney transplants have been performed in India for the last three to four decades. The immediate results are comparable to international standards but long-term results are poorer. However, a large majority of renal failure patients in India are on long-term dialysis, an alternative inferior to transplantation.

¹³<http://www.cnn.com/2006/HEALTH/06/01/living.donors/index.html>.

¹⁴A classic example is that of China where the Chinese Deputy Minister of Health, Huang Jiefu, claims approximately 95% of all organs used for transplantation are from executed prisoners. The lack of public organ donation programme in China is used as a justification for this practice. However, bowing to international pressure, the Chinese Medical Association has agreed on a moratorium of commercial organ harvesting from condemned prisoners but has still not specified a deadline.

¹⁵WMA - Policy: Council Resolution on Organ Donation in China.

¹⁶http://money.cnn.com/2005/10/07/news/midcaps/corpse/?section=money_latest.

¹⁷China admits taking executed prisoners' organs; Demand is high, and supply is low -- except on death row; the nation leads worldwide in capital punishment. By Mark Magnier and Alan Zarembo. Los Angeles Times, November 18, 2006.

Not surprisingly, money counts even more in India, which has an abundant supply of kidneys because physicians and brokers bring together the desperately poor with the desperately ill. The sellers include impoverished villagers, slum dwellers, powerloom operators, manual labourers, and daughters-in-law with small dowries. The buyers come from Egypt, Kuwait, Oman, and other Gulf States, and from India's enormous middle class (which numbers at least 200 million). They readily pay between \$2,500 and \$4,000 for a kidney (of which the donor, if he is not cheated, will receive between \$1,000 and \$1,500) and perhaps twice that for the surgery. From the perspective of patients with end-stage renal disease, there is no other choice. For largely cultural reasons, hardly any organs are available from cadavers; dialysis centres are scarce and often a source of infection, and only a few people are able to administer dialysis to themselves at home (as is also the case in the US). Thus, it is not surprising that a flourishing transplant business has emerged in such cities as Bangalore, Mumbai, and Chennai¹⁸.

In 1994, perhaps for reasons of principle or because of public embarrassment, a number of Indian states, including the regions of Mumbai, Chennai, and Bangalore, outlawed the practice, which until then had been entirely legal. But the laws have an egregious loophole so that sales continue almost uninterrupted.

Human Organs Transplant Act

Till the enactment of the Human Organs Transplant Act (HOTA) in 1994, there was no

comprehensive legislation allowing the removal of human organs from brain dead cadaver. In 1991, the Government constituted a committee to prepare a report, which could form a basis for an all-India legislation. Although the main terms of reference of the committee were concerned with "brain death", it also recommended that trading in human organs be made a punishable offence. The Act legalises 'brain death,' making removal of organs permissible after proper consent. Although there have been a few hundred such cadaver transplants in the metros in the last two to three years, the numbers are still below what was expected or what is needed.

Salient Provisions

The Act also seeks to restrict "unrelated" live donation of organs¹⁹ and makes commercial trading an offence²⁰ as well as regulating hospitals conducting the removal, storage or transplantation of human organs²¹. The HOTA makes it mandatory for institutions conducting transplants to register with an authority appointed by the state government²². The authority will scrutinise donations to ensure that there is no commerce involved. This authority will also enforce standards, investigate complaints and inspect the hospitals regularly to monitor quality²³. Persons associated with hospitals conducting transplants without proper registration are liable for punishment²⁴. Thus, it is probably for the first time that an external body has been given legal powers to scrutinise and monitor the activities of medical institutions and donors²⁵. The registered medical practitioner is also required to explain to the donor and

¹⁸Rothman, David J. "The International Organ Traffic" *The New York Review of Books* March 26, 1998/ 1998; 45(5): 14-16.

¹⁹Section 9(1)-(3) provide that no human organ can be transplanted from a donor, before his death, into a recipient unless the donor is a near relative of the recipient; but for reasons of affection or attachment of the donor with the recipient, such transplantation is possible subject to approval by the Authorization Committee.

²⁰Section 11 read with Section 19. No donor and no person is empowered to give authority for the removal of any human organ for any purpose other than therapeutic purposes. The punishment for commercial dealing is imprisonment for a term not less than 2 years which may extend to 7 years and a fine Rs.10,000-20,000.

²¹Section 10.

²²Section 10(1) read with Section 14 of HOTA 1994.

²³Section 13 (3).

²⁴Section 18 (1) any person who renders his services for an unauthorized transplant of human organ will be liable for punishment with imprisonment for a term which may extend to 5 years and with a fine upto Rs.10,000. This would be followed by removal of the name from the register of the State Medical Council for a period of two years for the first offence and permanently for subsequent offences.

²⁵Section 13 (3) (iv) (v),

the recipient all possible effects, complications and hazards connected with the removal and transplantation of the organ respectively²⁶.

Altruistic vs Commercial Donors

For a few years following the passage of the Act, commercial trading either decreased or went underground. The discovery of organized rackets recently in Gurgaon/Noida on the outskirts of Delhi and in Karnataka in 1998 made it apparent that it had resurfaced with a vengeance. The difference lies in the ingenuity of the players. In the last few years, the buying and selling of organs has taken on a new and peculiar form. The unrelated donor and the recipient now file an affidavit in front of the authorisation committee stating that they are emotionally related and therefore, the transplant should be allowed under the clause of altruistic donation. It is another matter that most often the donor is obviously a poor, uneducated person and the recipient a rich individual. Figures show that nine out of ten times, committees grant such requests²⁷.

In other words, these so-called altruistic donations are now allowed by a clause in the law. Thus, what was once considered unethical and illegal now has official sanction making the state-appointed authorities the new players in the kidney bazaar. In a series of articles last year, a leading news magazine wrote about how in South India, state authorisation committees, instead of being watchdogs had become colluders in the game of unrelated donation²⁸. However, this is sought to be combated by the Supreme Court as is evident from the latest case under the HOTA²⁹, where it has been held that the Authorisation Committee has to be satisfied that such donation of human organ is not for commercial consideration, but for reasons of affection or attachment towards recipient or for any other special reason. The

burden is on the applicants to establish the real intent by placing relevant materials for consideration. Whether there exists any affection or attachment or special reason is within the special knowledge of the applicants, and a heavy burden lies on them to establish it. Several relevant factors like relationship if any (need not be near relationship for which different considerations have been provided for), period of acquaintance, degree of association, reciprocity of feelings, gratitude and similar human factors and bonds can throw light on the issue.

Check & Balance

The court further went on to state that since the object of the statute is to rule out commercial dealings, it would be desirable to require the donor and recipient to give details of their financial positions and vocations. The court has further recommended that it would be appropriate for the legislature to accordingly frame the rules so that requirement for disclosing incomes and vocations for some previous financial years get statutorily incorporated. This would help the Authorisation Committee to assess whether any commercial dealing is being affected by the donation or not³⁰.

Accurate statistics on kidney transplantation in India are not available, but Frontline estimates that about one third of transplants come from living, unrelated donors; four years after the new law went into effect, the rate of transplantation has returned to its earlier levels. It is true that not every hospital participates in the charade, that the market in kidneys is less visible than it was, and it may well be that fewer foreigners are coming to India for a transplant. But the lower classes and castes in India, already vulnerable to so many other abuses, continue to sell their organs³¹.

²⁶Section 12.

²⁷Nagral, Sanjay Dr. *Combat Law*, Volume 4, Issue 4 November–December 2005 (published 08 December 2005 in *India Together*).

²⁸Ibid.

²⁹Kuldeep Singh v. State of T.N. (2005) 11 SCC 122.

³⁰Ibid. (paras 10 and 12).

³¹"Kidneys Still for Sale," *Frontline*, 14 (December 13–26, 1997), pp. 64–79.

Investigation and Prosecution

The Human Organ Transplantation Act, 1994 makes provisions and lays down the procedure for donation and transplantation of human organs. The scheme of prosecution of offenders under the Act appears to be inadequate. The Act is a central act and is not applicable to the states automatically, "health" being a subject-matter of "state-list" in the scheme of legislation under the Constitution of India. Any state, however, can adopt the Act by passing a resolution in the legislative assembly. Once the Act is adopted by a state, its provisions can be regulated by the "Authorization Authority", to be notified by the state under the provisions of the Act. As per Section 22 of the Act, the Court can take cognizance of an offence under the Act only on the complaint of the "Appropriate Authority" concerned or on the complaint of a person who has given notice of not less than 60 days in such a manner as may be prescribed to the "Appropriate Authority".

Police has no role for them in the investigation of cases relating to this illegal trade by invoking the provisions of Indian Penal Code like cheating, illegal confinement and mutilation of body etc. It cannot be said with certainty that such an assumed jurisdiction under the IPC would stand the scrutiny of law in the Court during trial or not. The "Appropriate Authority" authorized to prosecute the offenders under the Act consists of medical professionals and officers from the civil administration. They are neither designed nor equipped to take on to the highly organized criminals involved in this trade. It cannot be expected from them that they would conduct raids on the criminals and follow them in foreign countries.

Police Empowerment

In order to curb the menace of trade in human organs, it is essential that police is given powers to take cognizance of the offences under the Act. Even this would not suffice. The tentacles of the trade in human organs

have spread throughout the world and international crime mafia is controlling it from remote. To unearth the illegal trade completely, it is imperative that an agency like CBI, which has experience in handling crimes having international ramifications, is involved in the investigation. It would be timely if the intelligence agencies mount a vigil on the hospitals which have come up on the map of "medical tourism". Out of the total persons who go missing every year in India, eleven thousand women, five thousand children and twenty thousand men remain untraced for ever. More than one lac persons are cremated by police as unidentified dead bodies in the country every year. Links, if any, between the organized trade human organs and the alarming number of missing persons and unidentified dead bodies are to be searched and it requires quality investigations. These impending issues which have certain bearing on the trade of human organs can be resolved only if the relevant laws are suitably amended and an effective enforcement agency is put in place. Otherwise, the campaign against the illegal trade of human organs would remain inconclusive.

Models in Other Countries

The routes that would-be organ recipients follow are well known to both doctors and patients. Italians (who have the lowest rate of organ donation in Europe) travel to Belgium to obtain their transplants; so do Israelis, who lately have also been going to rural Turkey and bringing their surgeon along with them. Residents of the Gulf States, Egyptians, Malaysians, and Bangladeshis mainly go to India for organs. In the Pacific, Koreans, Japanese, and Taiwanese, along with the residents of Hong Kong and Singapore, fly to China. Less frequently, South Americans go to Cuba and citizens of the former Soviet Union go to Russia. Americans for the most part stay home, but well-to-do foreigners come to the United States for transplants, and some centres allot up to 10 percent of their organs to them³².

Both developing and developed countries have forged various policies to try to increase the safety and availability of organ transplants to their citizens. Brazil,

³²Rothman, David J. "The International Organ Traffic", *The New York Review of Books* March 26, 1998 1 1998;45(5): 14-16.

Italy, Poland and Spain have ruled all adult potential donors with the "opting out" policy, unless they attain cards specifying not to be. Iran is the only country in the world where it is lawful for one citizen to sell an organ to another for transplantation. However, whilst potential recipients in developing countries may mirror their more developed counterparts in desperation, potential donors in developing countries do not. The Indian government has had difficulty tracking the flourishing organ black market in their country and have yet to officially condemn it. Other countries victimized by illegal organ trade have implemented legislative reactions. Moldova has made international adoption illegal in fear of organ traffickers. China has made selling of organs illegal as of July, 2006 and claims that all prisoner organ donors have filed consent. However, doctors in other countries, such as the United Kingdom, have accused China of abusing its high capital punishment rate. Despite these efforts, illegal organ trafficking continues to thrive and can be attributed to corruption in healthcare systems, which has been traced as high up as the doctors themselves in China, Ukraine, and India, and the blind eye economically strained governments and health care programmes must sometimes turn to organ trafficking.

Chinese Model

China does 10,000 transplants a year, and experts say that at least 90% of organs are taken from executed prisoners, without signed consent, since Chinese have taboos against donating organs of deceased family members³³. Close relative donations represent only 2% of transplants. Amnesty International has criticized this practice, and accused the Chinese of executing people without fair trials. According to the Chinese Deputy Minister of Health, Huang Jiefu, approximately 95% of all organs used for transplantation are from executed prisoners. The lack of public organ donation

programme in China is used as a justification for this practice. However, reports in Chinese media raised concerns if executed criminals are the only source for organs used in transplants, while doctors in other countries, such as the United Kingdom, have accused China of abusing its high capital punishment rate³⁴.

In October, 2007, bowing to international pressure, the Chinese Medical Association agreed to restrict transplantations from donors to their immediate relatives³⁵. China has made selling of organs illegal as of July, 2006 and claims that all prisoner organ donors have filed their consent. Despite these efforts, illegal organ trafficking continues to thrive and can be attributed to corruption in healthcare systems, which has been traced as high up as the doctors themselves. It has also been observed that Japanese citizens living in China take advantage of Japan's strict organ transplant laws and sell Chinese organs to Japanese citizens at home.

Israel Model

In Israel, there is a severe organ shortage due to religious objections by some rabbis, some of whom oppose all organ donations and others who advocate that a rabbi participate all decision making regarding a particular donor. This shortage has resulted into one-third of all heart transplants performed on Israelis being done in the Peoples' Republic of China; others are done in Europe. Dr. Jacob Lavee, Head of the heart-transplant unit, Sheba Medical Center, Tel Aviv, believes that "transplant tourism" is unethical and Israeli insurers should not pay for it³⁶.

The reasons for the shortage can be attributed to Orthodox Jewish precepts that define death exclusively

³³ *Wall Street Journal*, April 7, 2007, Change of heart: China reconsiders fairness of 'Transplant Tourism'; foreigners pay more for scarce organs; Israelis debate reform, Andrew Batson and Shai Oster.

³⁴ China's system also has its defenders. Why waste the organs? Why deprive prisoners of the opportunity to do a final act of goodness? But once again, the objections should be obvious. The idea that prisoners on death row--which in China is a miserable hovel in a local jail--can give informed consent to their donations is absurd. Moreover, there is no way of ensuring that the need for organs might not influence courtroom verdicts. A defendant's guilt may be unclear, but if he has a long criminal record, why not condemn him so that a worthy citizen might live?

³⁵ Pact to block harvesting of inmate organs, Pg I, *South China Morning Post*, October 7, 2007.

³⁶ Press release, Chinese Medical Association Reaches Agreement With World Medical Association Against Transplantation Of Prisoners's Organs, *Medical News Today*, Oct 07 2007.

as the failure of the heart to function, not the cessation of brain activity, a standard that makes it almost impossible to retrieve organs. The primary purpose of statutes defining death as the absence of brain activity is to ensure that organs to be transplanted are continuously supplied with oxygen and nutrients; in effect, the patient is declared dead, and a respirator keeps the heart pumping and the circulatory system working until the organs have been removed, whereupon the respirator is disconnected. Some rabbis give precedence to saving a life and would, therefore, accept the standard of brain death for transplantation. But overall rates of donation in Israel are very low. The major exceptions are Kibbutz members, who tend to be community-minded, as well as other secular Jews.

Iran Model

In 2006, Iran became the only country to allow individuals to sell their kidneys, and the market price is US\$2,000 to US\$4,000. The Economist³⁷, and the Ayn Rand Institute³⁸ approve, and advocate a legal market elsewhere. They argued that if 0.06% of Americans between 19 and 65 were to sell one kidney, the national waiting list would disappear (which, the Economist wrote, happened in Iran). The Economist argued that donating kidneys is no more risky than surrogate motherhood, which can be done legally for pay in most countries.

Belgium Model

Belgium has a surplus of organs because it relies upon a "presumed consent" statute that probably would be rejected in every American state. Under its provisions, you must formally register your unwillingness to serve as a donor; otherwise, upon your death, physicians are free to transplant your organs. To object you must go to the town hall, make your preference known, and have your name registered on a national computer roster; when a death occurs, the hospital checks the computer base, and unless your name appears on it, surgeons may use

your organs, notwithstanding your family's objections. It was told by health professionals in Belgium that many citizens privately fear that if they should ever need an organ, and another patient simultaneously needs one as well, the surgeons will check the computer and give the organ to the one who did not refuse to be a donor. There is no evidence that surgeons actually do this; still many people feel it is better to be safe than sorry, and so they do not register any objections³⁹.

Because its system of presumed consent has worked so well, Belgium has a surplus of organs and will provide them to foreigners. However, it will not export them, say, to Milan or Tel Aviv, which would be entirely feasible. Instead, it requires that patients in need of a transplant come to Belgium, which then benefits from the surgical fees paid to doctors and hospitals⁴⁰.

Organ Transplant : Concerns

Recent development of websites and personal advertisements for organs among listed candidates has raised the possibility of selling organs once again, as well as sparking significant ethical debates over directed donation and "good-Samaritan" donation.

The existence and distribution of organ transplantation procedures in developing countries, while almost always beneficial to those receiving them, raise many ethical concerns. Both the source and method of obtaining the organ to transplant are major ethical issues to consider, as well as the notion of distributive justice. The World Health Organization argues that transplantations promote health, but the notion of "transplantation tourism" has the potential to violate human rights or exploit the poor, to have unintended health consequences, and to provide unequal access to services, all of which ultimately may cause harm. Regardless of the "gift of life", in the context of

³⁷http://www.economist.com/opinion/displaystory.cfm?story_id=8173039.

³⁸http://www.aynrand.org/site/News2?JServSessionldr012=e38noczlb2.app7a&page=NewsArticle&id=11517&news_iv_ctrl=1085.

³⁹Rothman, David J. "The International Organ Traffic" *The New York Review of Books* March 26, 1998 / 1998;45(5): 14-16.

⁴⁰Ibid.

developing countries, this might be coercive. The practice of coercion could be considered exploitative of the poor population, violating basic human rights according to Articles 3 and 4 of the Universal Declaration of Human Rights. There is also a powerful opposing view, that trade in organs, if properly and effectively regulated to ensure that the seller is fully informed of all the consequences of donation, is a mutually beneficial transaction between two consenting adults, and that prohibiting it would itself be a violation of Articles 3 and 29 of the Universal Declaration of Human Rights.

Even within developed countries there is concern that enthusiasm for increasing the supply of organs may trample on respect for the right to life. The question is made even more complicated by the fact that the "irreversibility" criterion for legal death cannot be adequately defined and can easily change with changing technology⁴¹.

Ethical Concern

Almost all major national and international medical bodies have opposed the sale of organs and the transplantation of organs from executed prisoners; but none of the medical organizations has been willing to take action to enforce their views. The Convention on Human Rights and Biomedicine 1997, has laid down that removal of organs or tissue from a living person for transplantation purposes may be carried out solely for the therapeutic benefit of the recipient and where there is no suitable organ or tissue available from a deceased person and no other alternative therapeutic method of comparable effectiveness⁴². The World Medical Association in 1984, 1987, and 1994 condemned "the purchase and sale of human organs for transplantation." But it asks "governments of all countries to take effective steps," and has adopted no measures of its own.

It has also criticized the practice of using organs from executed prisoners without their consent; but it fails to ask whether consent on death row can be meaningful. The association leaves it to national medical societies to "severely discipline the physicians involved." Neither it nor any other medical organization has imposed sanctions on violators.

Defenders of Trade

However, despite all the ethical and moral arguments raised against organ transplants, the market in organs has its defenders. To refuse the sellers a chance to make the money they need, it is said, would be an unjustifiable form of paternalism. Moreover, the sellers may not be at greater risk living with one kidney, at least according to US research. A University of Minnesota transplant team compared seventy-eight kidney donors with their siblings twenty years or more after the surgery took place, and found no significant differences between them in health; indeed, risk-conscious insurance companies do not raise their rates for kidney donors⁴³. And why ban the sale of kidneys when the sale of other body parts, including semen, female eggs, hair, and blood, is allowed in many countries? The argument that these are renewable body parts is not persuasive if life without a kidney does not compromise health. Finally, transplant surgeons, nurses, and social workers, as well as transplant retrieval teams and the hospitals, are all paid for their work. Why should only the donor and the donor's family go without compensation?

But because some body parts have already been turned into commodities does not mean that an increasing trade in kidneys and other organs is desirable. To poor Indians, as Margaret Radin, Professor of Law at Stanford, observes⁴⁴, "Commodification worries may seem like a luxury. Yet, taking a slightly longer view, commodification threatens the personhood of everyone, not just those who

⁴¹Whetstone L, Streat S, Darwin M, Crippen D. (2005). "Pro/con ethics debate: when is dead really dead?" *Critical Care* (London, England) 9 (6): 538-42.

⁴²Article 19 Chapter VI Organ and Tissue Removal from Living Donors and Transplantation purposes, Convention on Human Rights and Biomedicine 1997.

⁴³John S. Najarian, Blanche M. Chavers, Lois E. McHugh, and Arthur J. Matas, "20 Years or More of Follow-Up of Living Kidney Donors," *Lancet*, 340 (October 3, 1992), pp. 807-809.

⁴⁴Margaret Jane Radin, *Contested Commodities* (Harvard University Press, 1996), p. 125.

can now afford to concern themselves about it." Many of the poor Indians who sell their organs clearly feel they have had to submit to a degrading practice in order to get badly needed sums of money. They would rather not have parts of their body cut out, an unpleasant experience at best, and one that is probably more risky in Mumbai than in Minnesota. Radin concludes: "Desperation is the social problem that we should be looking at, rather than the market ban We must rethink the larger social context in which this dilemma is embedded.

Suggestions

Over the last few years, the media, health and social activists have attempted in various ways to expose the trade. The passage of HOTA itself was partly in response to pressure from the media and activists. Other measures include demands to medical councils to take suo moto action, which has been ignored so far and calls made by medical associations to their members to uphold ethical values and not participate in such actions.

The complete failure of the law on one hand and a lack of professional ethics on the other make it essential for different and more imaginative strategies. These could include tightening the clause that allows unrelated transplantation, including members of NGOs and public organisations in the authorisation committees, a greater transparency in their working, mechanisms for granting exemplary punishment to, and professional isolation of those found guilty. Usually most of the players, especially medical professionals, have escaped and have been successfully rehabilitated. Promotion of the alternative of cadaver transplantation is also needed but this by itself cannot fulfill the need for organs. In any case, buying of organs would still be an easier way out for those who have the resources. Given the potent mixture of desperate patients, willing medical professionals, the availability of poor and helpless donors and a complete failure of monitoring agencies, many of these strategies are unlikely to succeed easily⁴⁵.

⁴⁵Nagral, Sanjay Dr. *Combat Law*, Volume 4, Issue 4 November–December 2005 (published 08 December 2005 in *India Together*).

⁴⁶Ibid.

Conclusion

The end justifies the means and the means don't matter. This is crucial to the whole issue. For if the most important players in transplantation themselves are not convinced that the practice of medicine in general and transplantation in particular must respect certain social ethics, then any number of laws can be circumvented and in turn rationalised.

This philosophy is also a product of the growing ethos of commercialisation of medicine in India, an ideological swing towards a market economy that has suddenly acquired new respectability. More importantly, it now has the tacit support of the State. A closer look at the organ trade shows the extent to which it takes place in the private sector with the state authorities as tacit partners. In some cities including Mumbai, this has led to the collapse of speciality departments in public hospitals, which were once very active. In a related development, a section of the transplantation community actually published an argument in leading medical journals that since "we now buy and sell everything in society, why not organs?" The fact that they could be so brazen about it reflects on the permissiveness of the new economic climate.

The battle needs to be fought at two levels. Besides law and monitoring agencies, there is a need for an ideological battle against what is essentially a human rights violation and a form of social exploitation. This is only possible if a coalition of political and people's health movements and those within the medical profession, who acknowledge both these levels, fight this battle. However, with the retreat of ideology both in politics and in the profession, this is going to be a difficult task. It is unfortunate that in the last few decades, organ transplantation has become associated with commerce and not healing. For those who still believe in the Hippocratic oath, it is indeed a daunting task to swim against the rising tide⁴⁶.



IMPACT OF VISITING ON PRISONER'S REFORMATION AND REHABILITATION

Dr. Deepti*

Key Words

Visiting system
Visits
Reformation
Rehabilitation
Visiting Board
Law-abiding Citizen

Introduction

Prisons are now recognized globally as 'correctional institutions' suggesting that these are the places which, while essentially being custodial institutions, carry the additional responsibility of rehabilitating the offenders and releasing them back into the society as law abiding competent members to make positive contribution to their community. The modern correctional philosophy perceives incarceration as a stage next to the path of reformation and rehabilitation.

It is now widely believed that the contemporary correctional philosophy aims at everybody has a right to enjoy normal life by rehabilitating prisoners in the society after their release from prisons. It would not be out of place to mention here that rehabilitation is a continuous process to prepare prison inmates lead a normal life as law-abiding citizens in the society. The underlying idea is that there is no human being who cannot be reformed, and every prisoner has a right to get second chance to rehabilitate himself/herself in a society. (Shrivastava Deepti, 2006) Like all human beings, the person who is

in prison has a myriad of personal relationships that affect his or her personal development. In addition to the relationships that are made and broken with other prisoners and with prison staff, there are relationships with family and friends, perhaps with former victims, and relationships within the community to which the prisoner will return on release. Anyone of these sets of relationships will have a greater or lesser influence on the prisoner at any one time and prison staff has to be continually aware of this.

Outside Link

Prisoners should be given the opportunity to maintain and develop links with their families and the outside world. Visits are perhaps the most important way in which such links are preserved. The responses reveal that some prison systems allow weekly or two-weekly visits; others make the frequency of visits depend on the treatment or security category into which a prisoner is classified. However, the duration of visits can vary greatly; it is sometimes limited to five minutes, which penalizes the relatives, as they sometimes have a long way to travel, at considerable expenses, to the prison and often have

*Professor and Head of the Department of Sociology, Higher Education, M.P., Bhopal



to wait for lengthy periods. Since maintaining and developing family links is essential to any rehabilitation programme, the international standards are clear that it is not appropriate to use prison visits as a means of punishment or reward.

Mullah Committee

The Mullah Committee observed that a large number of offenders sent to prisons do not require any therapeutic correctional treatment. They are as normal as the citizens outside prison walls are, and they need to be protected from the harmful effects of exposure to prison life. The Committee recommended that "protection of society as an objective of punishment has been universally accepted and this can be achieved through reformation and the rehabilitation of offenders". While taking due note of the need to keep out of circulation for a longer time all the harmful, habitual, dangerous recidivist prisoners, the Committee came to the conclusion that a progressive prison system has to operate keeping in view the integration of both protection as well as correctional and rehabilitation aspects (Bali Kamayani 2007).

People who are sent to prison lose the right to free movement but retain other rights as human beings. One of the most important of these is the right to contact with their families. Besides, this being the right for the prisoner, it is the right for the family members as well who are not in prison. They

retain the right of contact with their father or mother, son or daughter, brother or sister who has been sent to prison. Prison administrations have a responsibility to ensure that these relationships are maintained and developed. Provision for all levels of communication with immediate family members should be based on this principle. It follows that the loss or restriction of family visits should not be used as a punishment under any circumstances. (*International Centre for Prison Studies, 2002*).

Right to Communicate

The right to communicate with the family members apply also to prisoners. The expectation is that the best possible arrangements should be made to allow contact between prisoners and their families. Ensuring the best possible access to family must be part of a system that treats prisoners with humanity.

The fact that prisoners are physically cut off from their family and friends while being imprisoned encourages the loss of contact and the breakup of relationships. Besides the adverse effect that this has on prisoners' psychological well-being while confined, it also affects their future readjustment to life outside. Since imprisonment naturally strains family ties and friendships, it is critical that the prison system does not further exacerbate prisoners isolation by creating obstructions to their contacts with outsiders. Prisoners visiting system has significant impact on their reformation and rehabilitation.

Abstract

Prisons are now recognized globally as 'correctional institutions' demonstrating their ideas as places where, besides custody, the emphasis is on, while essentially considered to hold rehabilitating the offenders and releasing them back into society as law abiding competent members. It is now firmly believed that prisoners should be given the opportunity to maintain and develop links with their



families and the outside world. Visits are perhaps the most important way in which such links are preserved. The Mulla Committee observed that a large number of offenders sent to prisons do not require any therapeutic correctional treatment. They are as normal as citizens outside prison walls are, and they need to be protected from the harmful effects of exposure to prison life. People who are sent to prison lose the right to free movement but retain other

Objectives

The present paper aims at achieving the following objectives:

- ❖ To ascertain the effectiveness of existing prisoners visiting system.
- ❖ To assess the impact of prisoners' visiting system on prisoners' family.
- ❖ To appraise the impact of prisoner's visiting system on their reformation and rehabilitation
- ❖ To find out the causative factors working behind the defects and drawbacks of the system.
- ❖ To suggest measures to streamline the functioning of the system and to make it serve as an instrument of bringing about prison reform.

Sources of Data

A list of offenders and their concerning prisons was prepared to evaluate the functioning of the system against the required standards set out in the Jail Manual and in various judgments of the Supreme Court of India. The analysis has been based primarily on visitors' statement. This provided an indication of the frequency of visits, the issues taken into consideration and the efficiency of the recording procedure itself.

Effectiveness of Existing System

The effectual prisoner visiting system of any country plays a vital role in the prisoners' reformation

and rehabilitation, but on the other hand, if prison system is ineffective and sick, it creates insecurity and frustration in the prisoners, family. To assess the Indian prison conditions, a workshop was organized by M.P. Human Rights Commission in 1998 in Bhopal to discuss on 'Prisons and Human Rights'. This workshop provided a unique opportunity to ex-prisoners to share their experiences, with the participants of this workshop on the conditions prevalent in prisons and the fulfilment of their rights regarding contact with the outside world. During deliberation a number of ex-prisoners and their family members gave fairly striking, vivid and moving accounts as well as valuable insights into the problems of those held in judicial custody.

The younger brother of an ex-prisoner said that he had visited his brother frequently in the jail during the eight year period. The main problem faced by him was to avail his visiting rights without bribing prison staff. Although bribes were not openly asked for, it was an unspoken rule that the visiting time was in direct proportion to the money that one secretly paid to the warder. One could meet one's relatives without paying bribes, but the frequency would be greatly reduced and the time allowed would be very short. In his experience, on payment of a bigger amount, one could even go inside and talk to the prisoner in privacy. He also alleged that often the food or some other items sent to the prisoner did not reach the person.



Many of these were either stolen or consumed by the prison staff.

Another lady speaker whose husband was convicted and sentenced to life imprisonment explained her plight as a woman without financial or social support, while having to support two children and an aging mother-in-law. She gave instances when she was not allowed to meet her husband and had to pay bribes to various members of the prison staff. Not only was she shown little sympathy but was also humiliated at times by the staff. She complained that in spite of a number of petitions on her part to stay the transfer of her husband to another prison, he was moved far away from their hometown, making visits all the more difficult. (*CHRI & MPHRC, 98*).

Impact on Prisoner's Family

Imprisonment often breaks up family relationships and links with the community. Imprisonment have its negative impacts on incarcerated persons as well as on family, specially on children. Mothers who are in prison have special needs as regards to contact with their families. Visiting system of Indian prisons is ineffective, outdated and purposeless and cannot provide a second opportunity to prisoners in their rehabilitation in society, because it not only has its own implications on the overall status of prison reform in our country but also on the entire modern correctional philosophy and the objectivity of prison administration as a whole.

The prisoners living in prisons deserve special attention because they live in such environment which is incapable of providing essential care, which is absolutely necessary for their proper treatment and secondly, they are liable to be contaminated by the evil influences prevalent in jails in their reformatory stage of life which is highly damaging for their proper treatment and rehabilitation as responsible and useful social human beings. Lack of proper visit of family members may intensify this smash up. Conversely, families too have undergone the adverse impact of visiting system in prisons.

According to Patton (1998), in a law review article summarizing research, "Female prisoners who have contact with their children and who complete family reunification programmes which reintroduce them in a Community-based setting have lower recidivism rates than female prisoners without access to their children or such programmes. Therefore, the strong family and community ties should be encouraged to increase the likelihood of prisoners' success in life after their release from prisons.

Causational Factors

The Department of Correctional administration works as a part of the Criminal Justice System as a whole. Prisons are being used as a tool of social control. Many researchers have stressed that allowing prisoners to spend quality time with

rights as human beings. One of the most important of these is the right to maintain contact with their families. In addition, it is equally a right for the family members who are not in prison. They retain the right to contact with anyone of their family, father or mother, son or daughter, brother or sister, who, has been sent to prison. Prison administration has a responsibility to ensure that these relationships are maintained and developed. Provision concerning the levels of communication



with immediate family members should be based on this principle. In view of this, the loss or restriction of family visits should not be used as a punishment under any circumstance. The present paper covers the impact of effective visiting system on prisoner's reformation and rehabilitation.

with immediate family members should be based on this principle. In view of this, the loss or restriction of family visits should not be used as a punishment under any circumstance. The present paper covers the impact of effective visiting system on prisoner's reformation and rehabilitation.

their loved ones as an effective tool in rehabilitation. But remote prisons, inconvenient visitation schedules, non-cooperative attitude of prison staff, lack of proper meeting room, overcrowded prisons, untrained staff and poor infrastructural problems are creating hurdles in maintaining an effective visiting system. The following causational factors are working behind poor visiting system.

Poor Strength of Staff

During this research study, data revealed that in prisons all over the country, the number of inmates per correctional/welfare staff is very high. Correctional officers face significant job-related pressures. In many states, they have to cope up with understaffing, mandatory overtime, rotating work, and low pay. However, correctional officers identify the threat of violence by inmates as their most frequent source of stress. The strain of dealing with mentally disordered behaviour of

prisoners can add to the considerable inherent stress of the job. Findings from the study indicate that number of correctional staff is very low and only unskilled management staff is involved in correctional process.

Overcrowded Prison

Prison overcrowding leads to many problems; poor visiting system is one of them. Prison overcrowding is currently an extremely pertinent policy issue for serious consideration as many prisons nationwide routinely operate over capacity.

Poor Staff-Prisoners Relation

Due to unsatisfactory relationship between the staff and prisoners, the inmates are not feeling openness for their meeting requirement and they suppress their feelings. Data of this study indicates that Staff/inmate unsatisfactory relationship is also one of the major factors of poor visiting system.

Educational level of Indian Prisoners



Source : Prisons Statistics, 2005

Uneducated Prisoners

The author found that education can minimize the problem of poor visitation. But the majority of prisoners have a very poor education level, i.e. 31,775 convicts out of a total 1,08,572 convicts kept in various jails in the country were illiterate and 49,977 were educated below 10th class and 82,628 under trial prisoners were illiterate and 1,13,885 were educated below 10th standard out of 2,37,076 undertrials in jails in the country.

Messy Prison Visitation

A good visitation cannot be done in a muddled manner, nor will it come about by accident. It can only be achieved when there is a coherent strategy based on the premise that a good Prisoner Visitation System holds the key which is publicly valued as the key to a good prison system.

Lack of Essential Facilities

According to a study conducted at sampled states on prisoners and their family members, 90 % of respondents said that Visitors' centres usually have no toilets, do not have drinking water, hot drinks and snacks facilities. Some can offer support, advice and information. However, the standard of services varies greatly across sampled states. This problem has become an obstacle barring family members from visiting their loved ones, especially for parents of small children who cannot necessarily hold their hunger and thirst.

Remedial Measures

There is indeed overwhelming evidence to suggest that better the quality of visitation throughout a prisoner's incarceration, greater are the effects on the prisoner in terms of his or her post-release adjustment, the family of the prisoner, and the community. There is such strong and universal consensus on this point that many states assume the positive correlation in

their official policies. Our study suggests following recommendations to streamline the prison visiting system:-

- ◆ *Proper information of visiting times*
- ◆ *Systematic visiting process*
- ◆ *Meaningful visitation*
- ◆ *Cheap transport facility for prisoner's family*
- ◆ *Facility for night stay*
- ◆ *Separate visiting board*
- ◆ *Awareness campaign for the family members of the prisoners.*

Conclusion

Visiting a family member or a friend in prison can be a difficult experience; however, they consider this as of vital importance and do everything in their power to make it as easy and comfortable as possible. Family visits are a very important way for prisoners and their families to maintain contact during any period of imprisonment, and for prisoners' reformation and rehabilitation. Therefore, the existing arrangements and facilities for prisoners' visiting system need to be streamlined and upgraded, to make them an effective tool of prisoners' reformation and rehabilitation.

References

1. Bali Kamayani, 2007, "Prison conditions in India", Human Rights Law Network.
2. Shrivastava Deepti, 2005, "Death in Judicial Custody", BPRD MHA, New Delhi.
3. International Centre for Prison Studies; 2002A "Human Rights Approach to Prison Management"; *Handbook for Prison Staff Andrew Coyle.*
4. CHRI & MPHRC, 98. Prisons and Human Rights; (CHRI) & (MPHRC). 25th & 26th April 98.



STRATEGIC MANAGEMENT OF TRAINING INFORMATION SYSTEM IN CPMF

Rakesh Kumar Singh*

Key Words

Critical Resource
Training Information
Competence
Professionalism
Potential Management
Change Manager
Diversified Job
Security Threats
Potential Appraisal.

Introduction

Training information is a critical resource of an organization. It is one of the most valuable information system, which can enrich the performance tremendously if its potentials are fully exploited. It is a resource having terrific potential to add value and can enhance professionalism in any organization. The management of training information system (T.I.S.) has had many success stories in corporate and government organizations as well. In Central Para Military Forces (CPMF), this system is implemented in a very limited way, e.g., while deciding about posting to training institutions and for some assignment in higher offices, although its applicability at the field level is more critical. The job of policing is becoming worse day by day; made by a fluid political scenario in neighborhood and within the country because of lack of inspirational leadership, disgusting social scenario and non-existent ethical standards. It gets compounded with image problem and lack of trust which "man in khaki" is facing in our society.

The pressure CPMF are facing today require that it promptly deal with the burning terror and naxal issues. The

state police trained for law and order duties find it challenging to cope up with totally different sort of violence committed by organized groups of national and international spread with well-coordinated terror links. Not surprisingly, the CPMF especially CRPF which has been assigned the internal security management task is called for services frequently. The competence essentials had necessitated division of internal security tasks amongst various CPMF. Now each force is responsible for dealing with security matters in a specified horizon. Thus, there is now stricter and straight appraisal/monitoring of performance of each organization.

Pressure and T.I.S.

This has put pressure on human resource factor in the organization because basically the output is directly and largely related to the performance of individuals. Training information system is a computer-based application software tailor made for an organization for effective training and development related data processing. This is one of the essential tool of human resources development and core component of managing information about personnel in a big organization. This system assists in identifying

*Second-in-Command,
81 Bn, CRPF,
Near Circuit House,
Ambikapur, Chhattisgarh,
PIN 479001.



the strong and weak aspects of own employees, suitability of personnel for specific job and growth needs. Strategic contribution includes employee orientation, identification and correction of deficiencies in skills, corrective training, and attitudinal orientation.

Training becomes part of employee's growth and development. The effective information system makes it cost effective and digitalization the ease of use, thus it ensures wider acceptability and participation.

Positive Interventions

A few areas in which the training information system has potential of positive interventions are:

- **Training Management**
- **Performance Management**
- **Assets Management**
- **Perception Management.**

Training Management

Training administration has become a complex process. In the age of multiple skills and key areas of responsibilities, an employee is required to be trained in many skills and changing technology compels to do it many times. This process is equally true for CPMF too, but we are gladly accepting it. The security problem posed by anti social elements in each pockets of nation is quite different and need different strategies to deal with. Thus, there is different need of training to meet

requirement of professionalism. Managing training requirement of such a big organization (CRPF is having more than three lac personnel, the biggest CPMF) is a gigantic task and if not managed properly, it will have lot of chances of error.

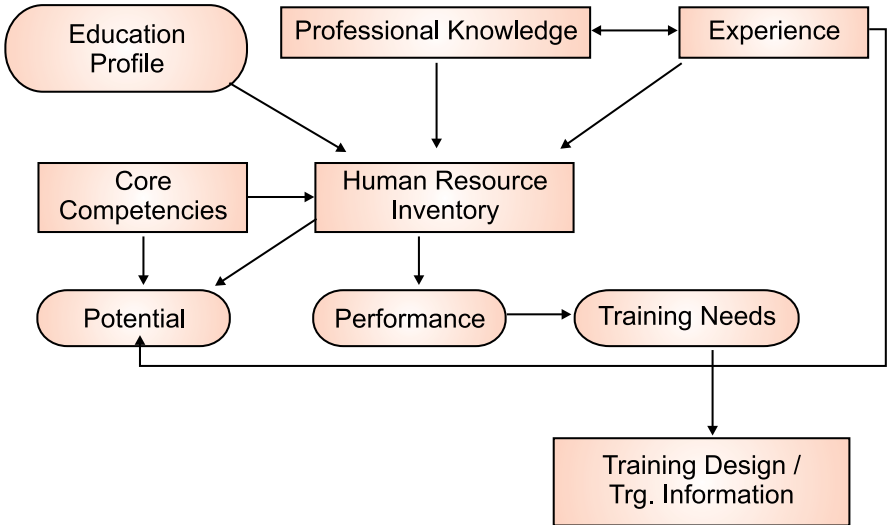
This enforces our belief that the training administration should be scientifically managed. The basic training administration functions include maintaining training profiles of units and individuals. The data would be about training institutions, courses, capacity of courses, training facilities, aids available, external training and education, trainer profile, potential and maintenance of skills inventory. Subsequently, the evolution of training programmes and feedbacks are the core areas, which are part of training administration. There are varieties of uses for the human resource information system in training programme management. Comprehensive database of above-mentioned information will help in specific training need requirement of each job. Computerization of database will help in managing above critical information in a flawless manner. Computerized training administration management can also be integrated with development programme and performance appraised system with an appropriate software interface. This integration will also assist in identifying weakness in an individual's profile that could be rectified through appropriate training and education.

Abstract

Training Information System (T.I.S.) is an effective management system to develop competence and professionalism in an organization. The Central Para Military Forces (CPMF) have grown tremendously in numbers recently and its deployment is widespread across the nation. The problems which the nation is facing have also diversified in nature and gravity. To professionally meet these challenges,



HUMAN RESOURCES TRAINING PROCESS



it is necessary that the training information system should be improved. The digitalization of Training related data will help in integration of Training functions with operational needs. The personnel branch in CPMFs need to look into it from Human Resources Development perspective.

Training Information is a critical resource of an organization. It is one of the most valuable information, which can enrich the performance tremendously

Performance Management

Training managers of corporate say that they have to make their men competent to move the earth for clients. Similarly we have to secure the earth for our people. We have to make security personnel competent enough to instill confidence among people that the earth on which they are standing is safe and secure enough for them to move it in the right direction. So they can concentrate on social and economic wonders which have become buzzword in Indian context these days.

Performance is being ensured though appropriate training input. During training people inculcates new habits, refines skills and useful knowledge to improve performance. In-service and pre-promotional courses in CPMF are designed to enhance operational and administrative capabilities by

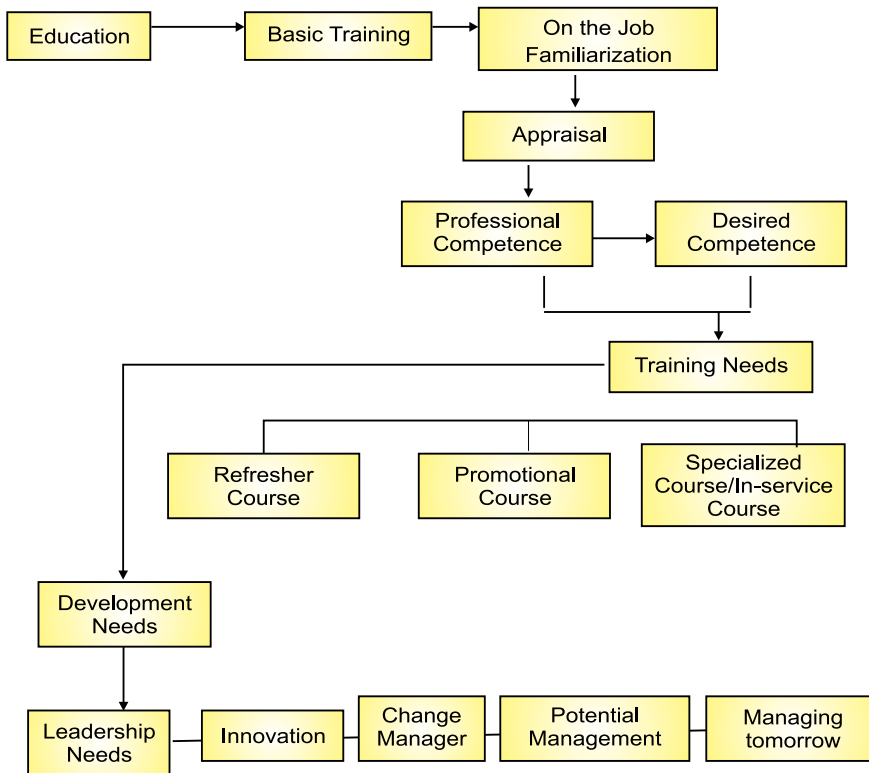
addressing the issues and challenges pertaining to organizational mission. Performance management is about achieving results in a manner that is consistent with organizational expectations and desired behaviours. Competency provides how to perform the job effectively and training tells this "how" and develops effectiveness. The analysis of the above information and designing the training module is part of Training Information System.

Assets Management

The proper assets management is assets created. Optimum utilization is also force multiplier in CPMF where resources are less and problems have increased manifold. The equipments are also very costly and of restrictive nature, so commercial production is not feasible. In this scenario, the equipments should



POLICE TRAINING PERSPECTIVE



be utilized and made available to needy troops on demand by proper information system which will ensure that trained people are available to use, otherwise most of the time equipments remain unutilized for want of better knowledge of use and its potential as force multiplier.

Perception Management

The perception management is one of the effective tools of psychological operation which CPMF has to carry. This management skill requires lots of data for positive impact on people about organizational acceptance. The effectiveness of organization is

influenced by emotions, motives and actions of the affected personnel. The image of well-trained force can achieve it. In various ways, perception can be managed by combining projection of competence, level of training to deal with critical situation, operational efficiency, security, cover and psychological operation.

In organizational context, the sound information system will reiterate confidence in system and can be inspirational. That will enable to manage perception of people about the tasks which they think utopian.

The challenges before CPMFs are diversified. It needs to

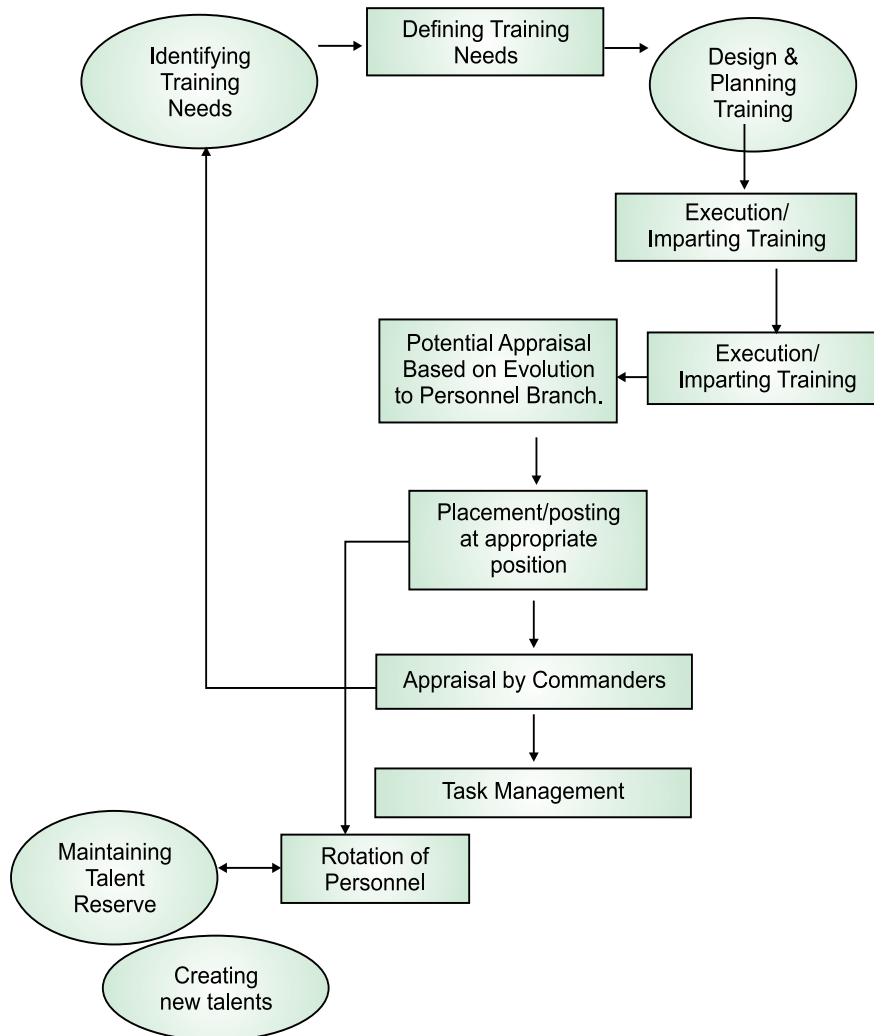
if its potentials are fully exploited. This system can assist fruitfully in training and performance management, assets management as well as perception management.

Training managers of corporate say that they have to make their men competent to move the earth for clients. Similarly, we have to secure the earth for our people so that the development and growth of nation takes place without any hindrance.

take care of the whole gamut of problems coming up before our nation having 29 states, 30 languages, many national and state political parties with own political as well as politico-social ambitions. This diversity results into every situation being different. This requires customization in dealing with every problem, as "ideal model" does not suit ideally all the time. The competence inconsistent with commitment to the nature of task need to be identified and data in this respect should be available for right impact of the contribution made by people. Impact

analysis of T.I.S is also desirable to measure training effectiveness. The trainees and field Units from where the Officers and men are spared question the worth of training. However, this analysis will help in cost-benefit analysis. The purpose of measuring training effectiveness should be to identify changes made by the training programme and to provide support to people through other means. This identification needs to be documented, classified and then suitable module needs to be developed. Hence, comprehensive training information system.

IDEAL TRAINING AND PLACEMENT PROCEDURE IN CPMF



CRPF Perspective

Specifically discussing the role of training information system in CPMFs, it is pertinent to discuss this system in real context within an organization. The author is making an effort to explain its potential with CRPF. The CRPF with 201 Units, various other institutions like 16 sector offices, 45 ranges, 37 Group Centres and 12 training institutions is among one of the largest Para-military force of the world. The CRPF in its 12 training institutions is running more than 50 types of courses and training around 21000 personnel every year. This is in addition to various courses/training being organized at unit level or through ad hoc arrangements. It has more than two lakh sixty two thousand personnel to manage for the diversified role it is playing nationally and internationally. For example, the role of CRPF in J&K is quite different from its role in North-eastern States. In Central India, the naxalites have posed challenges totally different from the role CRPF is playing in Delhi, Mathura, Ayodhya or in Nandigram. These different problem-domains require different level of skills, endurance, knowledge and attitude.

This richness in all its individual's personality with common training is difficult to inculcate. Thus, there is a need for specialized training, with proper time management to make the competent people available for the job at appropriate time. Broadly, the men in CRPF needs following types of general orientation for the most common duties they are performing:

- ❑ **Anti-Military Operations.**
(J&K Theatre)
- ❑ **Counter- Insurgency Operations.**
(NE Theatre)
- ❑ **Anti-Naxalites Operations.**
(Central/East India)
- ❑ **Anti-Communal riots.**
(All over India)
- ❑ **Common law and order duties including VIP security, security of vital installations.**
- ❑ **Election duties.**
- ❑ **UN deployment/deputation.**

Professional Analysis

Professional analysis of the above tasks will reflect that the job competence required for each type of job is quite different and the scale and severity of the problem demands that any deficiency in skill is fatal. Above mentioned duties are just a reflection of variations of the common orientation for these duties. For effective performance in these duties, diversified specialization is required. The Force is doing it but proper planning is lacking. For example.

- **IED and explosive training** is required to counter threats in J&K, NE and Naxal theatres. However, you need more trained personnel for naxal areas keeping in view the recent trends. Expertise in countering vehicle borne IED and planting of IED in Urban areas, National highways are essential in J&K context. The resources in terms of men and materials like anti explosive vehicles / detectors etc are required more in naxal and J&K areas. Similarly, human rights sensitizations, proper representation of personnel of all regions, religions/gender sensitivity are a few core competences required to work efficiently in communally sensitive areas.
- **For security of VIP**, personal physical toughness, mental alertness, skills in close battle tactics, expertise in unarmed combat and mental/physical endurance to work for long periods with optimum alertness and vigilance are essential. This competence is quite different from Counter Insurgency operations which are launched in north-eastern states or the skills required for commando like operations which CRPF successfully did to counter *fidayeens* attack on Parliament and Akshardham temple attack.
- **Election duties** in any democratic country are very sensitive and important. In a few democratic countries, the political parties prefer the role of government controlled forces. However, the neutrality and effectiveness of CRPF is such that the opposition parties ask for CRPF more than the

ruling party. This trust speaks of professionalism of CRPF in election duties. Consequently, the election commission is increasingly enhancing the participative role of CRPF in election process. This needs continuous updation of Election Commission's rules and legal aspects. During Parliamentary election, maximum force is committed for election. Therefore, the competence building processes need to be the fastest one. Training Information System (T.I.S.) will enhance the capacity to do such gigantic tasks efficiently.

Vertical Training

In addition to these competence building trainings, the CRPF is running various Pre-promotional courses for entire personnel of the Force. In CRPF, from a constable to DIG everybody has to undergo certain courses to achieve or say becoming eligible for promotion to the next rank. Thus, the course is not only compulsory for men but also the department needs to get it conducted well in time so that the vertical growth is not obstructed nor key posts remain vacant for want of non-eligible personnel because of not undergoing certain prescribed courses. Thus, Human Resource function is closely linked with the training functions. As usual in any government departments both branches generally pursue its own agenda with limited coordination and lot of correspondence. The Training Information System (T.I.S.) will be able to fill these gaps.

Conclusion

The Role and relevance of Training Information System can be well understood, if there is synergy between job and competence identification. The T.I. S is a professional approach to bridge the gaps between expectation and achievement. This is a developmental approach and ideally suits the changing scenario. Therefore, for its implementation one has to make efforts beyond the boxes and think different i.e. thinking professionally. For example like product brand, the organizations should accept that there is a need to keep themselves salient, relevant and continuously reinvent to keep in tune with the professional needs.

The CPMF has to manage its professional image since its image has booster effect also, which accelerates its success. Thus, the message is that grow exponentially as well as professionally for longer sustenance of image and relevance, by professionally managing the internal administration by maximizing the role of digitization and latest management techniques like Training Information System.

Bibliography

1. B.R. Virmani : 'Management Training and development - An evolution approach.'
2. Dr (Mrs) Premila Verma : 'Evolution of training'.
3. 'Creating value through people' : Ed-Pritham Singh, Ajay Singh, Daisy Chauhan.



DNA PROFILING OF BONE BY USING NEW RAPID DNA ISOLATION PROTOCOL

**Mr. Shrikant H. Lade* and
Dr. (Mrs) R. Krishnamurthy****

Case Study

Mumbai based advocate Leena Anil Devasthale and her medical student daughter Deepti Devasthale were held guilty for the murder of a Pune based orthopaedic surgeon and were sentenced to death by a Pune trial court.

The court sentenced them to death on two counts : Both mother and daughter have been found guilty of kidnapping as well as murdering Dr. Deepak Sridhar Mahajan, who was a surgeon at the Yashwantrao Chavan Memorial Chavan Hospital in Pimpri, for a ransom of Rs. 25 lakhs. The court also fined the duo Rs. 49,000 each.

This is the first time a Pune court has awarded capital punishment to women. The prosecution's case was that the accused had allegedly kidnapped Mahajan for extortion and had forcibly injected drugs in the presence of witnesses Ketan Kale and Rahul Bhosale at a lodge in Sadashiv Peth on July 2, 2006.

The body of Mahajan, who died due to overdose was dismembered and then dumped at various remote places like Katraj, Nashik Phata in

Bhosari and Satara Road. Even after committing the gruesome murder, the duo continued demanding extortion money from the victim's wife Smita. They were arrested on July 7, 2006 when the police intercepted their calls to Smita. Evidence were collected by Police Officers from the scene of crime and submitted it to the Forensic Science Laboratory, Mumbai for DNA profiling to identify the deceased.

One and half year old bone samples found in forest were analysed for DNA profiling. We apply decalcification DNA isolation protocol for bone and use of nanocep devices to isolate and concentrate DNA. DNA was not amplified and the case was reported negative. Second time, the same bone samples were received in the laboratory for reanalysis and was asked to analyze from CDFD, Hyderabad. Our Directorate approached CDFD, Hyderabad to give training regarding DNA isolation and profiling of case bone samples. The CDFD Hyderabad used decalcification protocol for bones which is of seven days old along with use of costly nanocep device. The case bone samples were analysed in CDFD, Hyderabad but could not yield any result.

Key Words

Benzyl chloride
Cell lysis
Aqueous layer
PCR Inhibitors
Extraction
Purification
Nanocep Devices
Declarification
Isolation Protocol
Genotyping
Phenol
Lysis Buffer

*Asst. Chemical Analyser,
Directorate of Forensic Science
Laboratories, Government of Maharashtra,
Santacruz (East), Mumbai 400098.

**Director,
Directorate of Forensic Science
Laboratories, Government of Maharashtra,
Santacruz (East), Mumbai 400098.



In CDFD, Hyderabad and other Forensic Science Laboratories in India DNA isolation protocol from bone sample is done in seven to ten days. We started a new two day protocol with benzyl chloride demineraliser for DNA isolation from bone samples. By using this quick protocol, we solved the murder case which was previously analysed in CDFD, Hyderabad. The identity of the deceased was done by studying DNA profiling of the father of suspected victim. Y – STR genotyping was carried out by using AmpFISTR Yfiler PCR Amplification kit. This research paper was presented at the All India Forensic Science Conference and was awarded the 1st prize.

in water, burnt, or buried for a long time, due to the reduced quality and quantity of DNA in the bone samples. The dramatic degradation of the DNA and the presence of PCR inhibitors in the collagen significantly complicate the process of DNA identification in dated and charred bones. In this article, we present a novel strategy to obtain DNA from bones based on the use of Cell Lysis Buffer, Benzyl Chloride, and Phenol : chloroform : Isoamyl alcohol extraction. This method increases the purity and yield of DNA significantly and improves multiplex STR genotyping using fluorescence-based methods. The results of this research will assist forensic scientists in the identification of DNA from victims.

Abstract

Isolation of DNA from Forensic Samples are a real challenge to Forensic Scientists. Deteriorated bone samples poses a difficult task for a proper DNA isolation. The isolation of DNA from bone samples is a lengthy procedure.

This protocol for DNA isolation from bone sample is very simple and advantageous. It uses only one liquid transference

Introduction

Previously it was a challenge to extract DNA from bones soaked

DNA in bone samples is more resistant to the environment's chemical and physical erosion compared to the





DNA in soft tissue, due to the protection afforded to it by the bone itself. DNA is highly degraded in aged and burnt bones, and it is difficult to extract DNA of sufficient quality and quantity from the bone samples. The presence of PCR inhibitors complicates the application of STR multiplex methods. Removing the PCR inhibitors from the test samples is a critical step in order to successfully identify DNA in aged and/or burnt bone specimens.

Novel Method

In this paper, we describe a new DNA isolation method that combines the use of Cell Lysis Buffer, Benzyl chloride, Phenol : Chloroform : Isoamylalcohol 25:24:1 v/v to extract DNA from bone samples without a further DNA purification step. This novel method provides an easy, rapid and efficient way to obtain high quality

DNA from bone and offers important advantages over alternative methods in terms of DNA purity and yield.

Effective cell disruption has been achieved by shaking the sample in lysis buffer containing high concentration of detergent. We used Benzyl chloride because of its structural analogy with phenol. Additionally, Benzyl chloride interacts with cell wall carbohydrates and lipid membrane, promoting cell disruption.

Case : The DNA extracted from bone samples and blood sample of Sridhar Mahajan was typed at 17YSTR loci using PCR amplification technique. Amp- FISTR Yfiler PCR amplification kit was used for DNA profiling of the samples.

The DNA profiling results of bone and blood of Sridhar Mahajan are summarized in the Table below.

Table 1 : DNA Profiling results of Bone and Blow of Shri Sridhar Mahajan

YSTR LOCUS	Genotype	
	DNA Bone	DNA Sridhar Mahajan
B DYS456	15	15
B DYS3891	-	12
B DYS390	23	23
B DYS38911	30	30
G DYS458	15	15
G DYS19	14	14
G DYS385	14,15	14,15
Y DYS393	13	13
Y DYS391	10	10
Y DYS439	12	12
Y DYS635	22	22
Y DYS392	12	12
R Y GATA H4	11	11
R DYS437	16	16
R DYS438	10	10
R DYS448	20	20

step and can process several samples with minimal time and equipment. The use of Benzyl chloride early in the extraction protocol increases DNA yield and purity. The isolated DNA is useful for PCR assay and amplification of nuclear DNA. DNA can be used either undiluted or at low dilutions in PCR assay. This is applied in a case where the bone was totally deteriorated and the isolation by the above



method gave a breakthrough in connecting a complicated murder case of two years old.

Male haplotypes of bone match with male haplotype of Sridhar Mahajan. Thus, DNA profile of bone and DNA profile of Sridhar Mahajan are from the same paternal progeny. Haplotypes for 17 Y-Chromosomal STR loci of bone sample was carried out by using AmpFISTR Yfiler (Applied Biosystems, Foster City).

Results

To reduce the time of isolation and liquid transfers, three steps of the protocol i.e. incubation in lysis buffer, Benzyl chloride treatment and Phenol : chloroform : Isoamyl alcohol 25:24:1 (v/v) treatment were performed in the same tube. Thus, only one transfer step of centrifuge tubes was required to precipitate DNA from aqueous fraction after Benzyl chloride - Phenol : Chloroform : Isoamyl alcohol treatment. Benzyl chloride treatment can increase the yield and quality of DNA because of a more effective cell disruption and early extraction of PCR inhibitor. PCR amplification products were preferentially generated using undiluted DNA.

Discussion

We made considerable modifications to the protocol that uses Benzyl chloride to isolate DNA from bone samples using fewer reagents and purification steps. The protocol presented here reduces tube - transfer steps by performing lysis buffer incubation, Benzyl chloride

treatment, and complementary organic extraction in the same initial centrifuge tube. This procedure prevents the loss of DNA and reduces the risk of contamination by laboratory DNA sources. DNA obtained by precipitation with isopropanol after Benzyl chloride and Phenol : Chloroform: Isoamyl alcohol extraction is suitable for PCR amplification. Reduction of chemicals and steps makes it possible to process several samples in a day or two.

Benzyl chloride is known to interact with hydroxyl radicals in carbohydrates of cell wall, thus allowing a more effective cell disruption. Like phenol, Benzyl chloride is a benzene derivative that possesses similar properties of the former compound to extract lipids, proteins, and carbohydrates to the organic fraction while, retaining DNA soluble in the water fraction.

We found that, Phenol : Chloroform : Isoamyl alcohol extraction without previous Benzyl chloride treatment resulted into lower DNA yields than the use of these solvents after Benzyl chloride treatment. Benzyl chloride can generate a DNA yield approximately twice more than samples treated with Phenol : Chloroform : Isoamyl alcohol. This result indicates that there is a complementary lysis action of Benzyl chloride to that obtained by grinding with liquid Nitrogen, which results in a better release of DNA.

References

1. Lorente, J.A., Extracia, C., Alvarez, C. Arce, B., Heinchs, B., Lorente, M. et al. 'Identification of missing persons in the Spanish "Phoenix" Program' *Croat Med. J.* 2001;**42**(3):267-70.
2. Hochmeister, M.N., Budowle, B., Borer , U.V., Rudin, O.Bohnert, M.Dirnhofner, R. 'Confirmation of the identity of human skeletal remains using multiplex PCR amplification and typing kits'. *J. Forensic Sci.* 1994; **40** : 701-5.
3. Hagelberg, E., Clegg, J.B., 'Isolation and characterization of DNA from archaeological bone'. *Proc R. Soc. Lad B* 1991 : **244** : 45-50.
4. Jeffery's A.J., Alen. M.J., Hagelberg. E., Sorenberg, A. 'Identification of DNA from the skeletal remains of Joset Megele by DNA analysis' *Forensic Science Int.* 1992 : **56** : 65-76.
5. Hagelberg, E., Gray, I.C., Jeferey's, A.J. 'Identification of the skeletal remains of a murder victim by DNA analysis'. *Nature* 1991 **352** : 427-9.
6. Gerardo Vazquez-Marrvfo, M.A., Soledad, Vazquez. Garciduenas, Blanca, E. Gomez-Luna and Victor Olalde Portugal. *Plant Molecular Biology Reporter*; **20** : 379-390.
7. Zhu, H., Qu, F., and Zhu, L (1993). 'Isolation of genomic DNAs from plants, fungi and bacteria using benzyl chloride'. *Nucleic Acids Res*; **21** : 5279-5280.



ROLE OF FORENSIC SCIENCE IN INTELLIGENCE SETUP

D.C. Pande*

Key Words

Intelligence Bureau (IB)
Espionage Work
Statecraft
Chankya's Arthasastra
Science
Intelligence Collection
Individualization
Analytical Approach
Counter-terrorism
Forensic Analysis
Mass Spectrometry
Systematic Study

Historical Background

Ever since the human beings started living with family norms, later in groups, the psychology of one upance have cropped up amongst them. Resultant have been the birth of the present day espionage work of collecting intelligence on one another to be one up. With the lapse of time, jealousy, class and caste inequalities etc have polluted the environment and self-centered interests of individuals developed. Later when the system of Jamindari and Panchayati Raj developed in a Kingdom, the techniques of getting secrets of one another surfaced.

A few individuals who together would have got engaged in the act of espionage, the art of pleasing expression of an accurate information even though being offensive, have given it a shape of profession. In this sequence, Varuna, one of the chief gods of the Vedic pantheon is considered to be a forerunner of Secret Services. Magha, one of the most learned and lucid poets and skilled thinkers, unequivocally asserted that statecraft cannot exist without espionage work. He writes:

'The statecraft in which even a single step is not taken in contravention of the science of *dandaniti* which provides decent living and in which liberal grants are given in recognition of services rendered, does not shine to advantage without spies, just as the science of grammar does not shine without *Papasa Bhasya* (the introductory portion of Patanjali's Mahabhasya), though it is provided with *Nyasa* (a commentary of that name) which strictly follows the words of the Sutras, a good *vrtti* (explanatory work) and an excellent Bhasya'.

Chankya's Arthasartra

There is also a mention of espionage work in Indian Vedas said to be one of the oldest human texts. After the Aryans and Dravidians had spread their philosophy and culture, they solely had taken support of a few spies who were engaged in espionage work and had gained great heights in this secret art. They were given liberal grants in recognition of their services. Chanakya's Arthasastra is truly breathtaking; its practical utility on ground is timeless and the clarity of its exposition is unique. The art of bringing public opinion in ones favour by manipulation and

*Ex-Adviser, Cabinet Secretariat,
Govt. of India



creating miss-information (psywar) put forth by Chanakya around 2500 years ago are still relevant today. Chanakya who was also known as Kautalya (literally a 'crooked'), gives excellent tips for frauds, cunningness, imitative work, machination, gore taught etc the tools of spies. Many intelligence agencies in the world are still following the norms devised by this great scholar. References to intelligence science are also available in the ancient civilization of Egypt, Babylon, Assyria, Greece and China.

Secret Agencies : Tool of Governance

Secret agencies in ancient India were not conceived of as an instrument of oppression but as a tool of governance. Secret agents were considered as 'eyes of the king'. This profession later was ranked to be a second oldest profession of the world.

Need of an intelligence set-up for a country are explained in terms of its security, for better administration, alert foreign policy, alertness for safeguarding borders, keeping an eye on opponents of the existing government, to take care of anti-social elements/enemy agents and spies etc. The modes of operation of an agency are listed as righteously, through wealth, chastisement through open or secret means, disorder created in the hostile troops, by inspiring the enemy with fear, winning those residing in a different country to meet one's needs, by affecting economy, causing

indiscipline, breaking cohesiveness, creating fear psychosis in the enemy governments and hostile atmosphere, and demoralizing the strong adversaries.

Recruitment & Training

An intelligence operator is supposed to remain alert always to make his/her ends meet. To have all those qualities explained earlier therefore, one has to have a knack for such works. Once one such candidate is selected, the next aspect is of training the individual in different trades of the profession. Some of technical trades need to be learnt are modes of clandestine and electronic communication, art of monitoring, art of disguise, documentation, criminology, ballistic science, interrogation, photography, psychology, art of espionage, sabotage and subversive activities, white collar crimes, terrorism and its tools, computer sensitization and any other mode necessary in a given situation.

Paradigm Shift

The intelligence collection and its tradecraft remained shrouded in secrecy and not much was known for a long time. With the advent of computers and especially after introduction of Internet in nineties and its free availability to users, things opened up to some extent. During this century, science in other areas had also progressed to a large extent and intelligence science even could not remain out of its purview. A trade, which was memory-oriented and

Abstract

Concept of Forensic Science is as old as the science of intelligence collection.

History indicates that secret agencies were not conceived as an instrument of oppression but as a tool of governance. The great scholar Chanakya also known as Kautalya, in his Arthashastra has touched on the forensic science through the tools of intelligence science like frauds, cunningness, imitative work, machination,



gore taught etc. On the one hand these tools were used by Secret Agents to collect intelligence, on the contrary investigating agencies involved to decipher the modus operandi of such agents to expose them of their nefarious activities.

With the advancement of science and technology as per the need of a man in the areas of communication between two distant places, starting with first postal and later electronic, documentation

dependent on the ingenuity of the individual, now becomes human plus tech-oriented. With the lapse of time criminal/civil cases and investigation associated with it started feeling the need of authentic evidence for prosecution of offenders in a court of law. A challenge had cropped up for attorneys/lawyers and barristers as well as the magistrates, judges, and jury for a fair disposal of cases after human values started diluting. Thus recognition, collection, identification, individualization and interpretation of physical evidences in more cognizant ways had become the need of the criminal and civil law.

Science as Evidence

Sir Arthur Conan Doyle a physician by profession wrote 'Sherlock Holmes' series between 1887 and 1927 with two motives: writing saleable literature and using his scientific expertise to encourage the science as evidence, a more congruent way to reach to justice. In 1893, Hans Gross, an Austrian Forensic Scientist, wrote the book Handbook of Examining Magistrates, in which he had suggested that perhaps the dirt on someone's shoes could tell more about where a person had last been than making exhaustive enquires to arrive at a conclusion. It was an idea given to the intellectual class to adopt the presumptions of an author of fiction and criminalists handbook to bring in the courtroom.

With this modest beginning, day-by-day use of forensic science

kept increasing in the courtrooms. Scientist's curiosity continued to systematically study items like pigments in a painted picture or material, mineral or gem, origin of geological soil, trigger marks on the empty cartridges, chemicals at the scene of crime, anthropological study of humans, physical items like hair/cloth/glass/metal/inflammable materials/finger prints/paper/ink etc which helps project evidences in a court of law for a fair judgement. Later adoption of these results by Investigation and Intelligence Agencies opened yet another new encouraging field for those pursuing Forensic Science.

Tech-oriented

With the growth in civilization, the criminal and civil cases started propping up rapidly in the courts, who needed to be dispensed early with convincing decisions. Thus, most of the governments and their administration felt the need to revamp the agencies by technically orienting them to look after the interests of the masses. Therefore, technically sound police and special bureaus became the first priority with them. As a result investigating agencies with equal role of intelligence work came into being worldwide.

Volatile Situation

Also towards the end of the eighteenth century and beginning of nineteenth century, things had started taking turn towards a more volatile atmosphere in many countries



which then decided to revamp their special bureaus to have a check on these growing tendencies. These bureaus were made responsible to look after the internal security, organized crimes, law and order, white-collar crimes and violation of national law. By now some people and their governments had also started indulging in drug trafficking, espionage, violating the territorial boundaries etc. This increased the role of police, intelligence agencies and the army of different nations in the international arena. Things went from bad to worst by the middle of the nineteenth century in terms of crimes. By this time, science and technology also had shown good growth in the areas of electronic communication, weaponry, atomic energy, mode of transport and industrialization. Though these developments were made keeping the security, comfort level, industrialization and faster growth of society in view but anti-social elements and people with evil designs also exploited these. This not only increased the workload of investigating and intelligence agencies in terms of routine work but also forced to be one up over such nefarious elements.

Need of scientific modes of investigation to catch the culprits and book them under the law of a state/country had become very necessary with maximum rate of success. Thus over a period of time, each agency looking after internal or external intelligence decided to establish a technical directorate or cell/laboratory with them. This is

also apparent from the details given under the heads 'the beginning of a Technical Path to Investigative Work' and 'an inside view of the Investigating/Intelligence Agencies' as described below.

Dawn of Tech-Based Investigation

In 1920, a young Director in the Bureau of Investigation in USA namely J. Edger Hoover recognized the importance of scientific analysis of criminal matters and encouraged his department to remain abreast of scientific advancements and use these where appropriate. In 1930, the Bureau established a Criminology Library and began collecting and publishing uninformed crime statistics, which earlier was being done by the International Association of Chief of Police. He also encouraged his officers to regularly attend lectures on subjects like finger print comparison, handwriting comparison and ballistics. However, none had thought by then to have a dedicated Bureau's own scientific staff or laboratory. They were following a less reliable and less efficient and costly method to meet their needs on case-to-case basis.

Police Journal

The Bureau established the Scientific Crime Detection Laboratory at North-Western University in Chicago for the first time in 1929 after St. Valentine's Day massacre occurred on Feb. 14, 1929. It was now a project, which needed to be developed well,

to authenticate one's claim, photography to keep a record of things, ballistics for hunting and self protection etc were developed and put to daily use. Secret Agents as well as criminals exploited them to meet their ends. For any country and its government it became necessary to counter the activities of such individuals from hostile countries, for maintaining peace in one's own kingdom. More so the judiciary started feeling the need of a thorough investigative act



before it could give a fair judgement on a petition. Thus physical evidences in more cognizant way had become the need of the criminal and civil law. Thus forensic science gave impetus to scientists to work in this area having an important role in society. Their curiosity continued by making systematic study of items like pigments in a painted picture material collected from site, mineral or gem, origin of geological soil, trigger marks on the empty cartridges, chemicals

meeting the needs of Bureau in times to come. The then Director, Edger Hoover took the initiative to start a Scientific Journal involving the laboratory fully by the name American Journal of Police Science. He encouraged the Bureau's Special Agents in-charge to subscribe to the Laboratory's American Journal of Police Science and he himself contributed articles to the Journal. It is a dire need for any Research/Operational laboratory to have its own Journal incorporating useful articles for the consumption of the field officers and also for those working in the Laboratory.

Hoover was well aware of this fact and he not only enthused his officers to read the Journal but also sent Bureau agents for training at the Chicago Crime Laboratory. So far the investigation and intelligence setups used to be operating through different Directorates under the same head. So the Laboratory was catering to all those Directorates who needed its support. Hoover's vision of having the Laboratory facility got further boost when a Special Agent Charles Appel, a staunch supporter of Hoover in fighting crime with science, attended training classes in a number of analysis and mould making for courtroom testimony. Appel not only used his new knowledge to the Bureau's casework but also continued to seek out additional training and educational opportunities.

Special Lab

Appel also researched the

development of Crime Laboratory and between 7 and 21 July, 1932 with the approval of Hoover gave shape to his new vision of a separate Laboratory Division by the name "Criminology Research Laboratory" to look after the crime prevention work. He, of course, was successful in implementing his envisaged view of Laboratory for Bureau of playing a central role in American Law Enforcement, by serving as a source of information and criminology support with full backing from Hoover. It has splendidly served the Federal Bureau of Investigation ever since. The Laboratory later was renamed in 1933 as '**Technical Laboratory**'. As time passed the workload increased running short of space. It kept moving to different locations suiting its operational requirements and conveniences, which finally moved to, state-of-the-art facility on the Marine Corps Base in Quantico, Virginia, where it is said to be standing today with scope for expansion with respect to the challenges likely to be faced in future.

Model for Others

This case elucidates as to how authentically the Laboratory can influence the investigation, legal and intelligence work of a country. With a wider vision and support of forward looking officers like Hoover/Appel and devoted scientists/technicians, this important Directorate can contribute a lot to any nation in its investigative/intelligence work to provide justice to masses and also to the governments to frame their policies. 'Technical Laboratory' under

*Reader

Department of Social Work, Punjabi
University, Patiala, (Punjab)



FBI subsequently became a model for other countries to follow the suit.

Later, the other established laboratories who had been extending support for the cause of their countries are La Polzia Scientific in Italy, the Center of Forensic Sciences in Toronto, the National Institute of Police Science in Japan etc.

India

There was no look back for the Forensic Science in the international arena and India also had not lacked behind in contributing to the cause of this science world over, through Central and State Laboratories. Today Forensic Scientists/Professionals are serving people through the disciplines of Documentation, Ballistics, Serology, Finger printing, DNA Finger Printing, Chemical Analysis/Chemistry, Anthropology, Photography, Nuclear Science, Physical Sciences, Brain Mapping, Computer Forensic, Explosives, Lie Detector, Psychology, Instrumentation, Phonetics having bearing to tape recording/use of voice prints/electronic surveillance, facial recognition etc. If we look back into the history, we find that the investigation and intelligence collection go side by side. As time passed and science progressed, it made this globe a compact ball in terms of travel time, contacting one another electronically and transportation of materials.

Role Revamping

Man-made boundaries and people living there started having

suspicion on one another, which slowly spread from one nation to another. Revamping the role of police, army and intelligence in the international scenario are the resultant of that. Just as human justice became an important element of a country, espionage/intelligence collection also became an important responsibility of a country to frame its effective policy in the international arena. Most of the countries had an investigation agency with them in the initial stages to look after the internal as well as external security elements. As time passed, the work of one agency became unmanageable, so divided into two, one to look after the internal intelligence/investigation and another for external.

Academic Support

While attending the Exhibition and Symposium PITTCON 2004 at Chicago from March 8-12, 2004, various topics relating to forensic science were discussed and analytical equipment and material displayed. In different symposium sessions/oral session/poster session relating to Forensic Analysis, Polymer Characterization, Analytical Chemistry in Forensic Sciences etc a large number of papers were read or presented from world over. There were a good number of papers from various laboratories under Federal Bureau of Investigation. Some of the topics discussed were as follows: -

- Utilizing Mass Spectrometry in Forensic DNA Analysis : by Brian A Eckenrode, Federal

at the scene of crime, anthropological study of humans, physical items like hair/cloth/glass/metal/inflammable materials/finger prints/paper/ink etc helping, project evidences in court of law for a fair judgement.

In 1920, the Bureau of Investigation in USA made a beginning by recognizing the importance of scientific analysis as criminal matter. By 1929, the Bureau established a Criminology Library and also thought of dedicated



Bureau's own scientific staff plus laboratory and established the Scientific Crime Detection Laboratory at Northwestern University in Chicago. They also started the American Journal of Police Science involving laboratory workers as well as investigating officers. They finally established a full-fledged laboratory with state-of-art facility on the Marine Corps Base in QuantioVirginia. Later many other countries followed suit and established their own laboratories

Bureau of Investigation, Bruce Budowle, Robert English, Valerie Cavett, Mark Wilson.

- The Analytical Approach and Significance Assessment of an Atypical Type of Trace Evidence :by Maureen Bradley, FBI, Preston Lowe, Dennis Ward.
- The study of optimum conditions for the operation of Multidimensional Gas Chromatography/Mass Spectrometer : by Eshwar Jagerdeo, FBI, Edward A Plannkoch.
- The study of Separate Electron Impact Ionization (EI) and Chemical Ionization (CI) Ion Volumes versus a New Combined EI/CI Ion Volume for Quardruple Mass Spectrometer : by Lisa Schumacher, FBI, Jeffery N Leibomitz, Eshwar Jagerdeo, Mare LeBeau.
- FBI's Counter-terrorism and Forensic Science Research Unit (CTFSRU) : by Stephen T Homeyer, FBI, Brian A Eckenode.
- Detection of Pepper Spray on Clothing and Residues : by Brian A Eckenrode, FBI.
- Analysis of Dyed Fibers by Micro-spectroscopy : by Edward G Bartick, FBI Academy, Brand L Clelland, William F Peannan, Kui Chan S. Michael Angel, James E Hendrix, Stephen L Morgan.

- Analysis of Water-soluble Colorants by Liquid Chromatography / Mass Spectrometry for Forensic Applications : by Jeffrey N Leibowitz, FBI, Eshwar Jagerdeo, Lisa Sctumacher, Marc Le Beau.

Inside View of Some Intel Agencies

The following details of some of the agencies explain better the statement made above.

- ★ **Federal Bureau of Investigation (FBO) USA:** Theodore Roosevelt in 1908 founded an Investigation Bureau in the Department of Justice. J.H. Hoover reorganized it in 1924 and made it into the FBI. In 1939, due to bigger streaming of spies the FBI became the status of a counter intelligence organization and then in the year 1947 a set up by the name *Central Intelligence Agency (CIA)* raised to look after foreign intelligence. The functions and general responsibilities of both the organizations were defined. Whereas the Department of Justice controlled FBI, the CIA operated directly under the President of America.

Functions of FBI mainly related to investigating internal violation of federal law. It is required to investigate espionage, sabotage, subversive activities and other actions



related to national security, organized crime and drug trafficking, terrorism and white collar crime. It works together with CIA but the FBI is the only service, which is not to provide the CIA with gathered information. On the other hand if they want to operate abroad they must cooperate with the CIA or a military service.

★ **Central Intelligence Agency (CIA)-USA:** Functions of CIA mainly related to external intelligence in cooperation with FBI. CIA is divided into following five directorates: -

- Directorate of Intelligence ----- DDI
- Directorate of Operations ----- DDO
- Directorate of Science and Technology-----DDST
- Directorate of Administration -----DDA
- Directorate of Planning

★ **Komitet Gosudarstvennoi Bezopasnosti - Committee of State Security-(KGB) USSR**
Russia had an intelligence service by the name MGB that was later reorganized in 1954 creating KGB. The reorganized set up had three main tasks - to empower communism in USSR (the fight against class enemy), to guard the state border and to

command espionage work abroad. KGB was divided into several administrations, which are as follows:-

I *Division* – Foreign Intelligence - it had various divisions some of which are as follows:-

Division K – Counter intelligence

Division TX – Technical and Science

Division A – Dis-information and covert operation.

II *Division* – Department of Inner Security.

III *Division* – Counter Intelligence inside the army and department of state.

IV *Division* – Division of Communication, Cryptology, and connection.

V *Division* – Division supporting rear department for other Divisions.

However, after reorientation of communism in USSR and disbanding of KGB, new intelligence agency formed by the name 'Agenstvo Federalog Bezopasnosti' (AFB) with only a little change in its structure.

★ **Military Intelligence, Dept -5-(MI-5)-United Kingdom:**
The British Secret Service MI-5 was founded by reorganization of several services in 1909. The

looking towards this state of affairs. History tells that investigation and intelligence collection go side by side. With increase in human civilization emphasis had grown on human justice as well as espionage/intelligence collection resulting into the strengthening of police, army and intelligence set up in a country.

A study of different intelligence agencies reveal that most of them have a Technical Directorate



and a laboratory set up must be the part of that, with element of forensic science. Not much is known of these laboratories and their work culture on the garb of secrecy of these sensitive departments. However, some of the areas where these laboratories may be working relate to documentation, explosives, DNA fingerprinting, chemical analysis of material, photography, crypto-analysis, clandestine electronic and other modes of communication,

main tasks of MI-5 were to fight against the foreign espionage. The government directs it. It also keeps an eye on foreign services, inner subversion, runs checks of employees in the administration, checks foreigners, emigrants, immigrants and communication systems.

MI-5 is divided into various sections, which reads as follows:

- A. Intelligence resources, action planning, *technical support (equipment)*
- B. *Personal Section.*
- D. Counter Intelligence and non-terrorist activities (organized crimes, anti-state activities, Proliferation).
- G. Internal terrorism T-Inland terrorism.
- H. Strategic questions, financial issues, analysis.

Britain has yet another service called **MI-6** (Military Intelligence, Department-6; Secret Intelligence Service which is responsible for military intelligence. It has four directorates plus eight territorial departments. The directorates read as -

- Tasks and production
- Foreign Intelligence
- *Supporting Service (Equipment)*
- Personal Department.

★ **Bundes Nachrichten Dienst- (BND)-Germany**
German Intelligence Service

was founded in 1956 through the reformation of the semi-official Gehlen Organization (GO). It underlines directly with the Chancellor. *The set up has following four divisions:-*

Division 1 -- Intelligence, collection of information from the military, political and economic areas.

Division II -- *Technical, monitoring of RF transmission and broadcasting. It is assistant to the first Division.*

Division III -- Analysis, further processing of the stuff gained by the first Division.

Division IV -- HQ. Manages the administration, training, and public relation.

★ **S. Mossad - Le Aliyah Beth (Reszut) - Israel:** The secret intelligence service of Israel by the name **Mossad** was created in 1948. It was founded by the then Prime Minister David Ben-Gurion and I. Harel Was named its head. It operated throughout the world in spite of its low staff strength. **Mossad's** efficiency of work had been so good that it became a model for many other services. Its inner organization is said to be very much similar to BND but a different strategy for deploying agents. It is said to have an excellent analysis skill. It is divided into the following five divisions -



1. Operational.
2. Intelligence.
3. Industry espionage and inner security.
4. *Special departments for dis-information and covert actions.*
Rear Section (personal, advocate; education etc.).

Intelligence Buerau - (IB) - India

The **Intelligence Wing** of India is reported to be world's oldest intelligence agency. Spying is regarded to be an indispensable feature and integral part of an efficient administration and a sound foreign policy from ages. In 1947, the Intelligence Wing of India was recast as the **Central Intelligence Agency** under Ministry of Home Affairs, Government of India, shrouded in secrecy. The reason for the perception may be because in 1885, Major General Sir Charles Metcalfe MacGregor was appointed Quartermaster General and head of the Intelligence Department for the British Indian Army at Simla. The objective then was to monitor Russian troop deployment in Afghanistan, fearing a Russian invasion of British India through the Northwest during the late 19th century.

In 1921, a new state-run surveillance and monitoring agency – Indian Political Intelligence (IPI) – was established, in reaction to the development of Indian anarchist activities in England. IPI was run jointly by the Indian Office and

the Government of India and reported jointly to the Secretary of the Public and Judicial Department of the India Office, and the Director of Intelligence Bureau (DIB) in India, and maintained close contact with Scotland Yard and **MI5**. The **IB** said to be one of the world's 5 best Intelligence agencies, is used to garner intelligence from within India and also execute counter-intelligence and counter terrorism tasks mostly through officers of IPS Cadre as well as from military, to carry out coordination and the higher level of management. Intelligence collection primarily carried out by junior executive level of IB officers.

The **IB** is divided into two parts, general and technical. Intelligence collection is organized together by these Cadres through the State and Central level officers. Apart from these, IB also have national level units to keep track of issues like terrorism, counter-intelligence, VIP security and threat assessment especially in sensitive areas. Upto 1968, IB was looking after both internal and external intelligence. In 1968 it was decided by the then government to separate the external wing, and the Research and Analysis Wing, then came into being for external intelligence.

electronic monitoring eaves dropping, analysis of clandestine recording, narco analysis, brain mapping, computerization, mis-information techniques, etc. It is imperative to have a well-coordinated effort between scientists of technical setup of intelligence setup and forensic paternity in the interest of work.

Research and Analysis Wing - R&AW) - India

Prior to September 1968, IB was responsible for internal as well as external intelligence. With increasing pressure on IB in tackling internal as well as external challenges, especially after getting independence and partition of the country, Sino-Indian war in 1962 and Indo-Pakistan war of 1965, an external intelligence agency was created on 21st September 1968 by the name **Research and Analysis Wing**. Its responsibilities were to monitor the political and military developments in adjoining countries, which have direct bearing on India's national security and in formulation of the foreign policy of the government. Like IB, this organization is also divided into general and technical wings. Intelligence collection is a joint responsibility of these Cadres.

Ministry of State Security - (MSS) - People's Republic of China

The Ministry of State Security (MSS) was established in 1983. Before this the Central Department of Social Affairs (CDSA), the primary intelligence organ of the Communist Party of China (CPC) before its accession to power in 1949, was there. The CDSA provided the CPC with assessment of the world situation based on news reports and furnished the Communists with intelligence. The CDSA later became the Central Investigation Department (CID). The MSS was established as a result of the merger of the CID and the counter-intelligence elements of the Ministry of Public Security of the People's Republic of China. In 1998 the MSS underwent an overhaul to come to its present shape. The mission of the MSS is to ensure "the security of the state through effective measures against enemy agents, spies, and counter-revolutionary activities designed to gather foreign intelligence from targets in various countries overseas". The broad geographical scope of coverage of MSS agents could be ascertained from the fact reported that at one point of time nearly 120 agents were operating under non-official cover in the U.S.A, Canada, Western and Northern Europe and Japan as businessmen, bankers, scholars, and journalists. The organization is said to be divided into the following bureaus:-

- I Bureau---Domestic Affairs
- II Bureau---Foreign Affairs
- III Bureau--Hong Kong, Macau and Taiwan
- IV Bureau--Technology
- V Bureau--Local Intelligence
- VI Bureau--Counter Intelligence
- VII Bureau--Circulation
- VIII Bureau--Research (Institute of Contemporary International Relations)
- IX Bureau--Anti-Defection and Counter Surveillance
- X Bureau--Scientific and Technological Information
- XI Bureau--Personal and Educational
- XII Bureau--Supervision and Auditing

Other offices:

- General
- Political Department
- Party Committee

Intelligence Bureau (IB)-Pakistan

After the partition of British India, two new intelligence agencies were created in Pakistan called the Intelligence Bureau (IB) and the Military Intelligence (MI). It is reported that each agency had its own specific responsibilities, but all shared the common goal of preserving Pakistan's national security. Since any significant domestic or foreign political activity relates to national security of Pakistan, a lot of overlapping was reported of these agencies. The MI had generally been focusing on matters of immediate military interests and the IB was concentrating on domestic political activities, politicians, suspected terrorists and suspected foreign intelligence agents. The IB is reported to keep tabs on political operatives from countries it considers hostile to Pakistan's interests and is also said to harass domestic opposition parties. It is reported to resort to wiretapping and occasionally intercept and open mail. The IB is said to be under Prime Minister's Cabinet Division.

Inter-Services Intelligence-(ISI) - Pakistan

The weak performance of the MI in sharing intelligence between the Army, Navy, and Air Force during the Indo-Pakistan War of 1947 led to the creation of the Inter-Services Intelligence (ISI) in 1948. Its creation is said to be by an Australian born British Army Officer, Major General R. Cawthorne, then Deputy Chief of Staff in the Pakistan Army. It was structured to be manned by officers from the three main military services, and to specialize in the collection, analysis and assessment of external intelligence, either military or non-military. It is also responsible for gathering intelligence from foreign and domestic sources either by surveillance, interception, monitoring of communication, or conducting offensive or espionage missions and cataloging it. The ISI also organizes smooth coordination of intelligence between Pakistan's three main military branches and is also responsible for training spies, security of top Pakistani generals.

The ISI's headquarters are located in Islamabad and currently the head is called Director General who has to be a serving General in the Pakistan Army. ISI is said to be divided into several departments and each tasked with various duties with the overall aim to safeguard Pakistan's interests. These are as follows:-

- Joint Intelligence X- (JIX): JIX is the coordinator of all the other departments in the ISI and prepares report for submission to concerned quarters after compiling the inputs.
- Joint Intelligence Bureau - (JIB): The largest part of ISI, which has three sub-sections (a) operations in India, (b), conducting anti-terrorism operations and (c) providing security to VIP personalities.
- Joint Counter Intelligence Bureau: JCIB is said to be operating through its diplomats abroad to collect intelligence mainly in the Middle East, South Asia, China, Afghanistan, Central Asian Republics, Europe, Africa, and South America.
- Joint Intelligence North: It is said to be exclusively responsible for the Jammu and Kashmir region and in particular the Indian troop movement along the Line of Control.
- Joint Intelligence Miscellaneous: It is said to be responsible for conducting espionage, offensive spy missions, surveillance, and any other activities during war time.
- Joint Signal Intelligence Bureau: Three Deputy Directors each said to be charged with wireless communication intercepts, monitoring enemy agents and other assets and conducting reconnaissance operations such as photography are in-charge of these. Recruitment to this is said to be from Military College of Signals Academy or Army Signal Corps.
- Joint Intelligence Technical: It is said to be responsible for developing gadgets, monitoring equipment, explosives and even known to have a chemical warfare section etc.

Unavoidable Facts

The above details are indicative of the fact that the trade of intelligence had its roots in the philosophy of prosecuting an offender in a court of law. With increasing exposure of culprits to modern tools and techniques, the work of investigating/intelligence agencies has become arduous to get advance knowledge of the activities of such elements. Most of them therefore have to imbibe the scientific and technological developments in their organizations to counter such elements. It has also become necessary as most nations took advantage of technical modes to expose their spies/agents operating in other's country. Therefore for an intelligence operator, to work in land or a foreign land, knowledge of these modes has now become essential. Similarly, the inter-state and international gangs also make use of technical aids to create panic amongst the people and kingdom to give shape to their nefarious activities/ideas and plans which also need to be countered.

Forensic Science made a stride during the nineteenth century in the prosecution work and many laboratories sprang up which not only devoted time in routine but also started concentrating on research activities to meet new challenges. Civil and criminal justice against crime became the prime responsibility of a country and was taken care of first by agencies like FBI of USA but soon other countries also followed suit. The pressure of spies, terrorists, mafia, drug traffickers and those committing white-collar crimes increased. FBI/CIA (USA), KGB (USSR), MI-5/MI-6 (UK), Mossad (Israel), IB/ R&AW (India), MSS (China), IB/ISI (Pakistan) etc. had taken birth in the world scenario on different dates. These were to take care of the crimes committed by anti-social elements and adversaries of their country. With initial investigation through general nature of work, all the agencies *had felt the need to have technically oriented trained hands with them to support the field work. Many countries went on the lines of USA for a workable technical set up.* The most suited was a set up matching with "Forensic Laboratory" which had come up in many countries in the nineteenth century. Because of clandestine mode of operation of these agencies the laboratory work also remained shrouded in closely guarded secret. Thus nothing much is available in the form of open literature. Each agency had to have its own modes suiting to their field operators as per their priorities. However to ameliorate the technical set up under them, support of forensic research had been a best option in terms of acquiring equipment and training of staff for meeting their challenges.

Case for Separate Setup

Main areas in which these *technical setups* were to develop expertise are **forensic psychology (analyzing the minds of criminals/suspects/agents), clandestine communication, electronic surveillance, drugs and poisons, explosives, documentation, phonetics, modes of mis-information, photography, audio and videography, geology, trace examination of materials, physical sciences, polygraph, DNA finger printing, facial recognition, brain mapping, computers forensic etc.** Most of these subjects are very much a part of the *modern day 'Forensic Laboratory'* where they not only examine the routine cases but also *carry out research on new trends and techniques* adopted by

the culprits. They get opportunities to study cases *offensive and defensive in nature* and psychology of the terrorists/spies/thieves/criminals. Thus a direct rapport of technical laboratory staff working in investigation/intelligence setups with Forensic Scientists is always good to open their minds to tackle new challenges and also to train them. All such Laboratories ought to have the latest equipment with them with proper training of the staff to operate these, and interpret the data properly and immediately. This is necessary keeping in view the dissipation of the information well in time to activate the action-oriented agencies. Most of the Forensic Laboratories under police set ups are always heavily burdened with their routine/research works. Such laboratories also cannot discuss their cases till the final verdict in the court of law. Their support thus cannot be forthcoming always for the routine cases of intelligence set ups. Technical establishment of intelligence/investigating agencies thus ought to be self sufficient to organize their works well in time. Equipment for such laboratories can be added depending on the challenges presently being faced by the agencies as well as the trends of the anti-social elements and terrorists/militants/spies in the international arena, to prepare themselves well in advance. It once again emphasized that the present day need is more for *computer based techniques; explosives; fraudulent activities relating to official documents, counterfeits, fake certificates to establish an individuals identity, imitation, plastic surgery; mis-information techniques; miniaturized electronic/photo/video gadgets; unauthorized use of radio frequencies; smuggling especially drugs/radioactive materials/precious metals/explosive ingredients/arms and ammunition etc; security systems; biological/chemical/nuclear weapons and many newer modes which spies/terrorists/militants have adopted.*

Orientation of General Duty/Technical Staff

The two wings, general duty and technical, of investigation/intelligence setup are complimentary to each other. Anyone working in isolation cannot give optimal results to an organization. It is therefore necessary to orient both of them together after joining a set up at one stage or the other. A common training platform is the most ideal forum for such a philosophy. Secondly, both need to remain motivated equally to give their

maximum to the organization at any point of time. An intermittent updating of the officers and staff members for both the streams is always a necessity. Apart from routine nature of work, the technical staff ought to take up one or the other research project and make effort to complete it in a given time frame. This not only enthruses such individuals to remain abreast with the technical developments around, but also helps to develop the habit of reading the relevant literature, imply it in their project and make the report after completion of project.

Forensic Science & Intel Community : Ground for Mutual Help

A few examples where forensic science is of immense use to intelligence agencies are illustrated below. This is just an explanation of a few facts but in actual practice there will be many more challenges where the intelligence operator will have to take support of scientists and engineers involved in forensic type laboratory work.

- **Detection of Counterfeit and its Origin:** Counterfeit menace has spread worldwide. Countries, whose currencies are being counterfeited, do make efforts through their intelligence agencies to identify the places where their currencies are being duplicated, so as to plug it. This also enthruses many countries to fortify their currencies by constant updating the security features incorporated in them. Scientists help identify the level of expertise; type of paper/ink/printing security elements; comparison of each analyzed item with that of a genuine. It helps confirm by analysis of material collected from suspected places and comparison with data of counterfeit for authentic opinion on the site, of counterfeits printing. Examination of watermark and security thread also helps to identify the likely mechanism being followed by the counterfeiter.
- **Detection of Explosives and their Origin:** Each country produces its explosives with a specific composition. Scientists help identify various parameters of explosives from recovery zone or the place of explosion and also study configuration of the device simulated or recovered. These parameters are shared with intelligence operators after comparison with data bank, to identify the country/individual/group from where these explosives possibly may have been obtained or support given to assemble a device for launching the incident. Ultimately it helps to establish the link of operators with terrorist/anti-social elements/groups.
- **Analysis of Hand as well as DNA Fingerprints:** The chance fingerprints from the scene of crime help the intelligence agencies to confirm the involvement of some of the suspects at the site of incident. Also analysis of DNA fingerprints from underneath the stamps/flap joint of the threat letter/letter bomb affixed with sputum or spit/urine/nose dropping from scene of crime, help make comparison with data of suspects available with Crime Record Bureau. The chance fingerprints also help confirm the visit by suspects to a particular site.
- **Examination of Audio/Video tapes and CDs**
The critical examination of the said tapes/CDs in the laboratories help intelligence operators to establish authenticity of the recordings to reach to a conclusion in a specific case.
- **Examination of Precious/Radioactive materials**
The chemical examination by scientists of those items in possession of a person, help intelligence agencies to win the culprits/smugglers to establish their motive and also use such people as the talent through black mail if need arises.
- **Document Examination:** The critical examination of fraudulent documents in the possession of culprits/suspects/anti-social elements helps intelligence agencies in many ways in defensive and offensive operations.
- **Cyber Crime:** This tradecraft is also of great importance to intelligence agencies for their offensive and defensive operations.
- **Narco Analysis test:** This tradecraft is a good tool for interrogation of the suspect to get the truth from him/her.

- **Brain Mapping:** In addition to narco-analysis test, brain mapping gives further inputs to the interrogation work.

Conclusion

The given details emphasize the need of orienting an organization technically in present day scenario. The technical staff ought to remain abreast with the latest scientific and technical development world over. For this, it is necessary for each of them to read as much literature as possible in their respective areas and make efforts to add latest techniques and instruments to carry out research. At no stage, the routine should be a factor of satisfaction for them. Professional achievement through research work and carrying out the challenging tasks on ground should be the only mode of satisfaction for them. As far as an organization is concerned they should motivate such workers by allowing to attend the relevant conferences and seminars and discussing the research of open nature. Attending seminars and conferences throughout one's professional life is important for keeping current in the field. They ought to be updated intermittently through regular training programmes and on ground exercises with general duty staff. The technical setup ought to be ready always to face any type of challenge in the interest of the nation.

References

1. Intelligence Encyclopedia: Forensic Science.
2. Intelligence Bureau (India): From Wikipedia, the free encyclopedia.
3. Federal Bureau of Investigation: From Wikipedia, the free encyclopedia.
4. American Academy of forensic science resources.
5. COINTELPRO (Counter Intelligence Program): From Wikipedia, the free encyclopedia.
6. KGB: From Wikipedia, the free encyclopedia.
7. Forensic Science: By Agnieszka Lichanska.
8. PITICON March 7-12 - Chicago, IL Abstracts.
9. MI5: From Wikipedia, the free encyclopedia.
10. MOSSAD: From Wikipedia, the free encyclopedia.
11. Intelligence failure: Tales which sting - Rajeev Deshpande & Vishwa Mohan TNN.
12. Spymaster's Pandora Box India's Intelligence Unveiled: By M.K. Dhar.
13. Research and Analysis Wing: From Wikipedia, the free encyclopedia.
14. The Kaoboy of R&AW: By B. Raman.
15. MSS China: From Wikipedia, the free encyclopedia.
16. Web www.gobalsecurity.org/install/world/Chinamss.htm.
17. Manuscript. MSS: From Wikipedia, the free encyclopedia.
18. Talk: Inter Service Intelligence: From Wikipedia, the free encyclopedia.



NAXAL VIOLENCE : THEORETICAL AND GROWTH PERSPECTIVES

J.K. Misra*

Introduction

The Maoist blood lust along with irresistible power urge constitutes the biggest threat to the internal security of a stoic India. Naxalism once described as infantile disorder by Lenin practices annihilation of the enemy. It is a sub-rural terror masquerading as revolution. And taking advantage of the stoic passivity of a soft State, Naxal menace has become the biggest killing machine of the country. Going by its design and sinister political game seizure of urban India by encircling cities from the country-side remains their ultimate fantasy.

Through reflections on the extent and principal causes of Naxalite problem we may pose some theoretical questions related to the origin and development of the Naxal violence presently synonymous with communist revolutionary "terrorism" in our country. A true interpretation of Naxalism is not possible without knowing what it meant to be a Naxalite and what the practice of Naxalism meant to the participants themselves. Here our premise may be that Naxalites have an ideology.

By ideology we mean a belief system or interrelated assumptions through which polity or society are viewed. After the ideological character of a problem is recognized we realize that it is a long term problem which would entail intense and complex struggle on the political front and in the area of ideas.

Ideology

Ideology indicates thought-ways or thought-processes which influence one's behaviour. It may be pointed out that ideology is indeed the problem of the social form of consciousness, historically the problem of the determination of individual consciousness by social circumstances and that of the social consequences of consciousness either individual or collective. To elaborate, the concept of Ideology surfaces as the principle of cohesiveness of social groups indicative of a 'value system' as well as of "class consciousness". Naxalites's thesis of cultural revolution furnishes an example of it. Also we have to distinguish between the ideological statements and documents produced by the Naxal leadership, their "literate ideology", and, on the other hand, their activity and significance

Key Words

Theoretical Perspective

Growth

Systematic Analysis

Naxal Violence

Maoist

Cultural Revolution

Ideology

Mass Movement

Principal of Cohesiveness

Class Consciousness

Value System

Deprivation

Police-to-population Ratio

*Former, Reader & Head Sociology Deptt.,
Hindu College, D-19, Ramganga Vihar I,
Moradabad.



Abstract

Through reflections on the extent and principal causes of Naxalite problem we may pose some theoretical questions related to the origin and development of the Naxal violence presently synonymous with communist revolutionary "terrorism" in our country. A true interpretation of Naxalism is not possible without knowing what it meant to be a Naxalite and what the practice

of their actions, their "existential ideology".

Political Violence

Conditions leading to political violence may have both psychological and societal variables. Psychological variables relate to dynamics of human motivation stoking potential for collective action. Societal variables include the extent of cultural and sub-cultural sanctions for the overt aggression, the experience of past political violence, the articulation and rationalization of tactics justifying violence, the legitimacy of the political system and the kinds of responses it shows and has shown to address the issues of relative deprivation. The scope and intensity of political discontent mainly determines the magnitude and forms of political violence in a system. Politicized discontent is subservient to violence in politics.

To come to the theories of revolution, the specifying relationship between some set of preconditions and the occurrence of revolution constitute the theories of revolution. The relation between perceived deprivation and the frustration concept in frustration - anger - aggressive theory provides logical basis for explaining the meaning of violence and a clear description of what it includes.

Theories of Political Violence

To explain the theories of Violence, (a) It is a normal response

to provocation, (b) It is a response that is consistent with norms supporting its use. Other theories may be classified into two categories, (i) On the level of socio-psychological analysis -like Frustration -Aggression Theory, (ii) On the level of socio - cultural or sociological analysis like System Tension Theory, Anomic Theory, Theory of sub-culture of Violence. In broader terms, there may be two kinds of theories - (a) Social - Bond Theory - leading to a Feeling of relative deprivation, (b) Theory of Polarization and Cluster Effect - explaining inter and intra community violence.

The frustration - aggression proposition suggests that greater the frustration, stronger is the aggression against the source of frustration, and similarly greater the intensity of deprivation, greater is the magnitude of violence. Mild deprivation will motivate a few, moderate deprivation will push more and very intense one is strong enough to draw large numbers of frustrated persons into action.

A systematic analysis of political violence may be done on the basis of three component variables: the extent of participation, the destructiveness of action and the span of time the violence lasts. The process of political violence is marked by three stages - those in which discontent is generated, politicized and actualized in political violence with each contingent on the preceding one.



Growth Perspective

Now to shift attention to discuss the Growth (Development) perspective, it may be pointed out that the Naxalite revolt in India grew in magnitude and strength for many reasons:

- First, the movement, coinciding with the formation of the first United Front government in West Bengal (1967) with the Communist Party of India (M) as its main constituent, received increasing official support, attention, and press coverage.
- Secondly, it was looked upon as a mass upsurge and armed struggle in India by the Chinese Communists Party.
- Thirdly, Naxalbari became the symbol of armed peasant uprising and of Maoism in India and evolved as a new political movement deriving its name from it.

Origin

Now let us see how the Naxal movement has originated? It started from Naxalbari, a small village in Darjeeling district at the tri-junction of India, Nepal and the present Bangladesh where Charu Mazumdar has laid the seeds of a peasant revolution 40 years ago. As for the present spread of the movement, it may be pointed out that what was initially confined to pockets in West Bengal and Andhra Pradesh in early 1970s has spread in a virulent form

in tribal woods of Chhattisgarh, Orissa and Jharkhand. Jharkhand and Chhattisgarh together account for 67.46 per cent of total incidents and 75.98 per cent of casualties in 2007.

Thus, the Naxal movement has snowballed into a pervasive political phenomenon, spreading across about 160 districts in 14 states of India till recently. But the latest position is that the Maoist violence spiral upwards is affecting 16 of the country's 33 states. Naxalites are desperate but highly committed persons who swear by violence, forming an invisible army in our midst.

Indian Expansionism

They rally around the objective of 'Indian expansionism'. They aver if India had a leader like Mao (who is adored by them) the separatist and secessionist groups would have been subjugated and brought to their knees. They take violence as the sure weapon of socio-economic transformation by way of radical reforms - agrarian, social, economic, and political which they hold so dear to their heart. They dream of a New Democratic Revolution through protracted warfare. A report from the Home Ministry maintains that they are in unholy alliance with the LTTE and ULFA. To say a word about the Maoist's connection with several MPs and MLAs of Jharkhand and Bihar, and top level leaders of many political parties have been in regular contact with leaders and

of Naxalism meant to the participants themselves. Here our premise may be that Naxalites have an ideology. By ideology we mean a belief system or interrelated assumptions through which polity or society are viewed. After the ideological character of a problem is recognized we realize that it is a long term problem which would entail intense and complex struggle on the political front and in the area of ideas.

cadre of the CPI (Maoist) and sought their help to advance their political and personal interests.

Threat to Internal Security

The Naxal movement is qualitatively known for its army style organization, sophisticated weapons and detonators, well-groomed and well-equipped ranks and well-trained and highly qualified intelligence network. They have strategic attack plans, well-coordinated attacks and hunt for high profile targets. As it turns out, the Naxalites (Maoists) constitute a militant force to be reckoned with. Their outfit is longest running, least publicized and poses the greatest danger to internal security of the country. The problem of Naxalism, by any account, spells the single most formidable internal security challenge our country has experienced ever before.

The movement is getting boosted by (i) the London based Revolutionary International Movement, (ii) Coordination Committee of Maoist Parties and Organizations of South Africa (CCOMPOSA), and Nepali Maoists etc. The compact revolutionary zone or red corridor from Pashupati to Tirupati was conceived by CCOMPOSA. The movement has, of late, emerged with devastating capabilities and displayed its capacity to overpower the state machinery in a particular area: Koraput district headquarters in Orissa was quickly occupied in 2004, the prisoners in Jehanabad prison in Bihar were freed in 2005, again in Orissa 2006 Udayagiri town was captured, in Chhattishgarh in 2007, 55 policemen were gunned down, landmine attack on Sept. 2007 on the convoy of Janardhana Reddy, former Chief Minister of Andhra Pradesh and the killing of Sunil Kumar Mahto, M.P., Jharkhand Mukti Morcha on 4th March, 2007, outlaws killed former Jharkhand Chief Minister Babulal Marandi's son are only a few such daring incidents to mention.

New High in Violence

The Naxal violence registered a new high spanning the middle of 1970 to the middle of 1971, claiming

about 4000 violent incidents, involving 565 lives; over 2000 people were killed in Maoist violence between Jan. 2003 and June 2007. Charu Mazumdar has assessed that every corner of India is like a volcano about to erupt and he even set the target for liberation of India by 1975.

To increase the number of militant outfits, the CPI (ML) in early 1971 announced the raising of People's Liberation Army, imparting strength to the 'peasants' revolutionary armed struggle. Similarly, the People's War Group in Andhra Pradesh founded by Kondapalli Seetharamaiah in 1980 revived and revamped the movement spreading its tentacles to the jungles of Chhattisgarh, Andhra Pradesh, Orissa, Maharashtra and tribal areas of Madhya Pradesh, Jharkhand, Bihar, and West Bengal. The People's War Group has made inroads in some bordering pockets of Karnataka and Tamil Nadu. In early 1990s, violence registered again a virulent form with Andhra Pradesh and Bihar already declared as worst-affected States. In Chhattisgarh, recently the People's Liberation Guerrilla Army (Maoists Armed Wing) came into being with a majority of armed cadres between 14 to 25 years or age. It supports the view of Ghanshyam Shah that Naxalite movement rested with Youths who belonged to urban educated middle class. The PLGA has recruited women at par with men and imparted military training to enable them to lead guerrilla squads.

Mass Movement

To bring changes in tactics and strategies, Naxalites with popular support in view have resorted to mass agitations, mass movements, mobile warfare strategy (evolved by CPI - Maoist) for supplementing armed struggle. It forced the government to rethink its strategy. Militarily, they may sometimes be subdued and their number is brought down but their ability to strike is increasing, resembling the case of their being down but not out. Contrary to that assessment, recent observations and evidences prove that their violent campaign continues unabated in the unpleasant remoteness of India. Also as a change in their strategies, Naxalites are planning to move to regions where big projects in mining, irrigation or industrialization have been planned

or under way. They are opposing Centre's SEZ policy for its creating 'neo-colonial enclaves'. Naxalites are also planning to take the people's war to urban areas specially to industrial towns.

Lately, India Today's team visited the Maoist hot bed of Dantewada town in the forests of Abujmarh in Chhattisgarh, for an inside idea of the mode of operation of Maoists, their training methods and arms, etc. They observed that the entire villages are controlled by the Maoists who are supreme in jungles with a high morale. There lives an army of outlaws who are at war against the Indian Government. They have indulgence in revolutionary fantasies, indoctrination, and intimidation.

Social & Economic Justice

To conclude, if we have to analyse the reasons for the continuity of the Naxal problem it may be said that it is not because all is well with their ideology and tactics; rather to be more true their success is ascribable to the following two factors: -

- First, the basic causes accounting for the growth and development of the movement have not been given due attention by the powers that be. For example, poverty continues as a natural and common fate, land reforms have been implemented half-heartedly, unemployment confronts large numbers of youth, corruption is rampant, meting out raw deal to the tribals whose rhythm of life has been derailed due to flawed planning and development process, and the gap is widening between the haves and have-nots. The tragedy is that many are prospering as the Indian economy booms but simultaneously the ranks of the dispossessed are escalating too. The latter fall an easy victim to the Naxalites' call for social and economic justice. It may serve as a reminder to our policy makers, planners and administrators that all is not well with our planning and development process, and the pitfalls and flaws need to be addressed.
- Secondly, the government has no strategic plan to address the problem dismissing it as a State subject.

And more often than not they are not going to the root of the problem. As a natural consequence of it, the aggrieved, the deprived, and the alienated, under the impression that their problems are getting aggravated with every passing year, continue to struggle against the system. This may explain why Naxalism continues to spread at an increasing pace and the problem of Naxal violence is getting intractable.

Violence cannot be contained by the might of the State alone. North Block cites "inadequacy of administrative and political institutions" as reason for the rise of this extremism. For the Government, dialogue might be reasonable addition to the gun. That, however, would require the Maoists to first disarm themselves. Next the Government would have to rehabilitate them. At the moment, neither the Centre nor the Maoists are willing to talk, and the killing fields are expanding.

Warning Signs and Future

The Naxal movement had died with the death of Charu Mazumdar in 1972 but splinters re-emerged later. One was People's War Group (PWG) (erstwhile CPI (ML) holding sway over North-West Telangana, Eastern Maharashtra and Western Orissa for 20 years. Parallel to this, the Maoist Communist Centre (MCC) of India operated out of Central India. The PWG and the MCC merged to form CPI (Maoist) in Sept. 2004. A Unity Congress was held in 2007 which turned as an important event resolving the differences of 37 years within the camp.

A phase of Naxalite movement implying 'annihilation theory', the rejection of United Fronts, mass organizations and mass activities and urban guerilla activities ended with the death of Mazumdar (1972). However, some other aspects of the Naxalite movement will probably survive Mazumdar's death. The movement claimed to be Maoist, stood for immediate armed struggle with the elected governments. It was a form of expression of discontent of some sections of people, and it also represented a particular mode of operation.

As for its role as a pro-Chinese movement, there will always be some groups in India which will draw inspiration from the Chinese party unless there is a drastic change in the correlation of forces in the international communist movement. In India, although CPI (ML) was recognized as the other competing pro-Chinese groups, it had access to Chinese embassy.

An important part of the Naxalite movement was its emphasis on instant revolution believing that socialism in this country cannot be achieved through peaceful means, and there is no alternative to armed struggle. They hold that winning power through elections in a country is difficult where mass media are prejudiced against the communist, where literacy rate is low, where religion, caste, language play role in politics, and where electoral malpractices are rampant.

Social Phenomenon

Naxalism is also a social phenomenon, a product of discontent felt by sections of people and the sources of discontent still continue as exploitation of tribals, their rights to land are unprotected, no measure to protect them from money-lenders, artificially depressed wages, iniquitous socio-political circumstances, lack of access to resources, inadequate employment opportunities, underdeveloped agriculture, and geographical isolation – all contribute considerably to the growth of Naxal movement. Still another aspect of Naxalism is violence. Violence may break out on the bases of caste, religion, language or class. It may take different forms as riot, terrorist actions, gangsterism or mass demonstrations.

Naxalites resorted to violence on the ground of poverty and inequality. Spontaneous unorganized violent incidents here and there are also symptoms of the same disease. Poverty, unemployment, inequality are also no less oppressive. Nepotism, favouritism and other devices of political gain seen in the administrative circles also provoke violence.

Marxists should draw a lesson from the movement that no particular kind of revolution will survive without

its relevance to the history, culture, social and economic conditions, and political realities of the country concerned. There is a need of a well disciplined party organization allowing for inner democracy and mutual tolerance.

Naxal Problem and Police

What to say of control of Naxal problem; even the normal way of life is unthinkable without proper law enforcement. It is equally crucial for domestic intelligence gathering. To combat terror groups, capabilities more similar to the military are needed and this calls for highly specialized forces combined with a dedicated organization. They should be armed with powers to nab a terrorist from across a State in a manner somewhat akin to that of military personnel. Thus, brooking no delay this may be the high time to constitute such a force in India.

As there are no clear signs of abatement in the Naxal violence, it is mandatory on the part of the administration to take protective and preventive measures in the Naxal-affected areas ensuring a terror-free environment. Special training is imperatively needed for the police for their deployment in the Naxal-affected areas. The training should be oriented to equipping the forces with the skills of field craft, and with knowledge and skill of using the most modern weapons to counter act the guerrilla warfare-tactics of Naxalites. A work plan should be drawn up for the morale boosting of the police. It may incorporate the following schemes and programmes :

- Special allowance to the extent of 30% (or more) of basic pay to those engaged in anti-Naxalite operations.
- Special insurance scheme obviating the anxiety and concern of the forces towards their children and other kindred.
- Desired and convenient posting of the police personnel after undergoing rigours of serving in the Naxal-affected areas.

- Provisions of "good entry", "cash reward", "appreciation letter", and the like is necessary to the encouragement and motivation of police personnel deployed in the Naxal-affected areas.

To elaborate further, the Naxal-affected States will have to create a better-equipped police force and display political will to contain the barbarism. It has been found that in victim States, by and large, police infrastructure is weak. They suffer from lesser police force far below the national average of 54 police personnel, per 100 square kilometers. Police stations are widely scattered and in remote areas are not connected by telephones.

Better Intelligence

It needs no emphasis that intelligence gathering and information sharing are necessary for counter strategy. There are intelligence failures. Only with the exception of Andhra Pradesh, there is no branch in the State devoted to training ground level policemen who gather grass-root information in intelligence techniques. Still worse, State level special branches gathering intelligence are staffed with dissatisfied personnel who, due to lack of training and motivation, are often the dregs of the force. Hence, an untrained force cannot tackle motivated and committed terrorists. The Home Ministry has emphasized the sprucing of police level mechanism. It has asked the State governments to accord top importance to strengthen the Special Branch of the police and set up inter-State intelligence support teams, to spruce up intelligence gathering machinery at the district level. But the State governments do not seem to have taken it up in right earnest.

Higher Police-to-Population Ratio

It is also noteworthy that most Maoist infested States are confronted with the lowest police-to-population ratio. To worsen the situation, funds set apart in the name of police modernization and expansion have generally not been spent for the avowed purpose. Highly

trained, motivated, and committed police personnel are needed to be patterned on army platoons. It is in this context that the Home Ministry is giving thought to raise 118 CRPF battalions and 39 BSF battalions over the next 10 years. As of now, there are 201 CRPF operating battalions whereas the BSF has 157.

Conclusion

To shift discussion, it may be appropriate to the context to give a passing reference to State sponsored 'village defence groups' (Salwa Judum or the peoples peace movement) set up by Chhattisgarh government by arming private persons, giving them arms training and inducting them as Special Police Officers (SPOs) to assist the security forces in anti-Naxal operations. However, considering the flawed working of the Salwa Judum and the excesses committed by its activists it attracted adverse public opinion and comments. Consequently, it did not turn out to be an alternative to police or military personnel in providing protection to villagers from terrorist attacks.

References

- Dasgupta, Biplab, 1974. 'The Naxalite Movement'. Allied Publications, Bombay.
- Pandey, Sachhidanand, 1985, 'Naxal Violence - A Socio-Political Study'. Chanakya Publications, Delhi.
- Ray, Rabindra, 1988. 'The Naxalites and their Ideology'. Oxford University Publications, Bombay.
- Shah, Ghanshyam, 1990. 'Social Movements in India - A Review of Literature'. Sage Publications, New Delhi.
- Singh, Prakash IPS (Ex-DG (P) U.P.), 2006. 'Uttar Pradesh Police Patrika' (Police Prashikshan Nideshalaya, Lucknow, U.P.). *Times of India* 'Terror Won't Work' dated 06/07/2007.



MANAGEMENT STYLE : A BLIND EYE TO THE UNDERGROUND ECONOMY OF PRISON

H.S. Bhawara* and
Baljeet Kaur**

Key Words

Management Style
Blind Eye
Underground Economy
Total Institution
Oppressive condition
Inmates
Extortion
Physical Abuse
Rehabilitation
Programme
Overcrowding
Reciprocal Relations
Policy Implications

Introduction

Prisons are commonly referred to as "total institutions" where almost every aspect of life is controlled by the authorities (Goffman, 1961). Prisons are also places, which accelerate the aging process. It has been estimated that in terms of physical toll on the body, an inmate doing any amount of substantial time will be ten years older than their actual chronological age. The one thing that is certain, for everybody concerned including staff, is that they are "doing time" (a phrase that refers to all kinds of human sufferings that surround the prison environment). For example, guards suffer abnormally high rate of heart attacks, ulcers, hypertension, alcoholism, depression and divorce. Statistically, serving 20 years in prison will take 16 years off of your life expectancy (Silverman and Vega, 1996).

In terms of control, the reality is that there are two groups - the convicts and the staff who are totally at odds with each other, each one constantly fighting each other in numerous ways. Each side sees the other only in terms of stereotypes,

and there is no such thing as getting to know the real person in prison.

Oppressive Conditions

Violence has become a central attribute of prison life. Poor prison conditions are the main cause of prison violence. Numerous research studies indicate that inmate violence is the product of the psychologically stressful and oppressive conditions within the prison itself. Prisoner numbers continue to rise in countries all over the world, resulting into severe overcrowding of prisons and other detention facilities. Although overall figures are difficult to estimate due to some countries' refusal to disclose information about their penal facilities, even such basic facts as the number of inmates held, the world inmate population was roughly eight to ten million people.

Measures of poor conditions, such as inadequate prison management and lack of prison programmes due to overcrowding, are associated with high level of prison violence. Effective prison management, suitable prison capacity and programmes designed to keep

*Scientific Officer, State Forensic Science Laboratory, Raipur (C.G.).

**Lecturer, Institute of Teacher's Education, Pt. R. S. Shukla University, Raipur (C.G.).



inmates busy contribute to relieving psychological tension in the prison. A social and environmental factor like racial conflict between prisoners and psychological effects of prison conditions suffered by inmates also produces violence. Additionally, loss of autonomy, reduced security from gangs and scarcity of goods and services are other reasons of the psychological stress. To lessen the physical and psychological stress, inmates sometimes undertake different illicit activities such as drug trafficking, murder, weapon sale, gambling and selling protection from victimization.

Underground Economy

Illicit activity associated with prison life is the major cause of underground economy of prison. An illicit activity includes such action that constitutes the violation of prison rules and a threat to the orderly operation of a correctional facility. The underground economy of a prison is strongly correlated with prison gangs because prison gang members that have a name and organization towards criminality, controls many of the illicit activities. Gang codes of conduct tend to be underground outlines for criminal enterprise, and what little we know from them comes from translations of confiscated written material.

For the prevention of internal anarchy, prison gangs adopt a formal and paramilitary organizational structure that has defined authority and responsibility. Common

underground economies of prison include weapon sales, gambling, drug trafficking, and prostitution.

Literature Review

The underground economy in prison can be explored by examining the current research dealing with the relationship between prison gangs and guards. Sykes (1967) reported the guards' self-survival reason for overlooking the prison gang activities. Hunt, Riegel, Morales and Waldorf (1993) found that some prison guards support and encourage gangs to develop. They reported that one reason why a guard might support gang activity is because of a financial interest related to the gang's illegal activities, such as gambling, drug trafficking and weapon sales. Knox and Tromanhauser (1991) found that the problems of gang threats to guard is related to how much the gangs are felt to control the importation of drugs into the prisons and the extent to which gangs are felt to dominate drug trafficking inside the prison. They reported higher probability of a threat by gang members against guards during the importation and distribution of drugs in prison. The behaviour of the new generation of inmate gangs coupled with prison, overcrowding has the effect of making prison life unstable and more difficult for prison guards to manage. Toller and Tsagaris (1996) found that the number of teenagers, a target population for gangs, is predicted to grow 23 % in future.

Abstract

The underground economies of prison have a significant impact on prison gang life. One of the major causes for the underground economy in prison is the relationship between prison gangs and guards. "A reciprocal relationship exists between prison gangs and guards in which both sides reap benefits from each other's. Gangs are implicated in about 85% of all prison violence, and racial or ethnic gangs dominate prison society in



many institutions. Prison gangs usually have stricter "blood-in, blood-out" rituals than street gangs, and they control the hidden economy and rackets in many prisons. They are more tightly organized than street gangs, and in some cases, can arrange the killing of someone on the street or in another prison.

Reciprocal Relationship : An Exploration

The underground economies of prison have a significant impact on prison gang life. One of the major causes for the underground economy in prison is the relationship between prison gangs and guards. "A reciprocal relationship exists between prison gangs and guards in which both sides reap benefits from each other's. Gangs are implicated in about 85% of all prison violence, and racial or ethnic gangs dominate prison society in many institutions. Prison gangs usually have stricter "blood-in, blood-out" rituals than street gangs, and they control the hidden economy and rackets in many prisons. They are more tightly organized than street gangs, and in some cases, can arrange the killing of someone on the street or in another prison.

Prison guards play a major role in smuggling drugs, weapons, alcohol and food into the prison. A prison gang might want to conduct illegal activities without the possibility of disciplinary actions from the correctional facility. Therefore, a reciprocal relationship is built in which guards are granted financial percentages of the drugs, gambling or alcohol, battering in exchange for turning a blind eye to the underground activity.

Physical Abuse

Physical abuse of prisoners by guards remains another chronic

problem. Some countries continue to permit corporal punishment and the routine use of leg irons, fetters, shackles, and chains. The heavy bar fetters used in Pakistani prisons, for example, turns simple movements such as walking into painful ordeals. In many prison systems, unwarranted beatings are so common as to be an integral part of prison life. However, the prison gangs can control the daily routines of prison life, such as cell changes, work assignment changes, other daily prison procedures including corporal punishment by providing financial incentives to the guards - a reason for the reciprocal relationship between the guards and prison gangs.

Extortion

Extortion by prison staff, and its less aggressive corollary, guard corruption, is common in prisons around the world. Given the substantial power that guards exercise over inmates, these problems are predictable, but the low salaries that guards are generally paid severely aggravates them. In exchange for contraband or special treatment, inmates supplement guards' salaries with bribes. Powerful inmates in some facilities in Colombia, India, and Mexico, among others, enjoy cellular phones, rich diets, and comfortable lodgings, while their less fortunate brethren live in squalor.

Women prisoners are particularly vulnerable to custodial sexual abuse. The problem is widespread all over the world. Female prisoners

when held together with male prisoners are exposed to rampant sexual abuse and violence either by their inmates or by the guards. Supply of women by the guards to the prison gangs, in order to get financial incentives is another example of reciprocal relationship between the prison gangs and the guards.

Rehabilitation Programme : “No further gang activity”

Correctional staffs are placed at high risk with the beginning of drug trafficking, weapon sales and underground economies of prison. This jeopardizes the stability of the prison. If this continues there will be an increase in the population of incarcerated juvenile gang members. To meet this challenge, correctional facilities need an increase in their gang rehabilitation programmes. Additionally, a programme should also be designed to help inmate facilities dealing with the underground economy of prison. Appointment of some senior officer is also needed to keep an eye on the underground economy of prison. His purpose should be to review and audit records by the officials in the prison. There should be documentation of gang activities and guards corruption that should be reviewed from time to time. This will consequently target the underground economy in prison and thus eliminate it at an efficient rate. Gang rehabilitation programmes might also be developed to help correctional facilities deal with the underground economy of prisons. An effective rehabilitation programme should be designed to segregate gang members as well as to provide a step-by-step rehabilitation system.

Gang-rehabilitation programmes are a valuable method to discourage activities associated with the underground economy of prisons. This may be because inmates are restrained to dissociate with gang members. Thus, prison gangs may disband causing a reduction in illicit activities. Such programmes are also important because they occupy most of the inmates' time with educational tasks, which leaves little time for inmates to think about the underground economy of prison in relation to gang life.

Policy implications

A prison that continuously allows an underground economy to usurp the traditional guard-inmate relationship compromises the safety of the facility and creates disorder. Policy makers should also consider designing a gang-training programme for correctional staff that can help to reduce the chance of illicit activity associated with the underground economy of prison, thus undermining the integrity of the facility. Gang-training programmes increase correctional staff awareness of the underground economy of institutions. Correctional staffs are educated on how drug smuggling is conducted and how prison gangs barter goods and services such as weapons and prostitution. By increasing underground economy awareness, correctional staffs have an advantage in quickly identifying underground economies and in taking steps to prevent them from controlling their respective prisons.

Inmate gangs are the major source of the underground economy in prisons. Educational courses can help stimulate the intellectual ability of many street youths and prevent gangs from developing. More research is needed to create an effective method of understanding why inmates rely on the underground economy of prisons.

References

1. Goffman, E. (1961). *Asylums: Essays on the Social Situation of Mental Patients and Other Inmates*. NY: Anchor.
2. Hunt, G., Riegel, S., Morales, 1. & Waldorf, D. (1993) Changes in prison culture: Prison gangs and the case of the pepsi generation. *Social problems*, **40**(3), 398-409.
3. Knox, G. and Tromanhauser, E. (1991). Gangs and their control in adult correctional institutions. *The Prison Journal*, **71** (2), 15-21.
4. Silverman, I. and M. Vega. (1996). *Corrections*. St. Paul, M.N.: West.
5. Sykes, G. M. (1967). *Crime and society*. New York: Random House.
6. Toller, W. and Tsagaris, B. (1996). Managing institutional gangs. *Corrections Today*. **58**(6), 110-112.



Key Words

Morphine

Cerebral Somniferous

Poison

Viscera

Solvent systems

HPTLC plate

Draggendorff

R_f

EXTRACTION AND DETECTION OF MORPHINE FROM VISCERA BY NEW SOLVENT SYSTEMS USING HIGH PERFORMANCE THIN LAYER CHROMATOGRAPHY PLATE

Dr. A.K. Jaiswal* and
Archana Negi**

Introduction

Morphine occurs as white crystals. Its empirical formula is C₁₇H₁₉NO₃ and its IUPAC name is 7,8-didehydro-4,5-epoxy 17methylmorphinan-3,6-diol. Molecular mass of Morphine is 285.4 g/mol. Morphine melting point in base is 254°C and in hydrochloride is 200°C. Morphine has low solubility in water and is insoluble in Diethyl ether. The ninety percent of morphine is metabolized in liver. Capacity of protein binding

is 30-40%. Percentage of excretion through renal and biliary is 90% and 10% respectively. Half life of Morphine is about 2-3 hours (1-4).

Morphine is derived from the Opium plant which is known as Papaver somniferous (Poppy). The plant grows upto a height of 1 meter and each plant bears 5 to 8 capsules. It is an annual plant. The plant is widely cultivated in the states of Rajasthan, Uttar Pradesh and Madhya Pradesh in India (6-7).

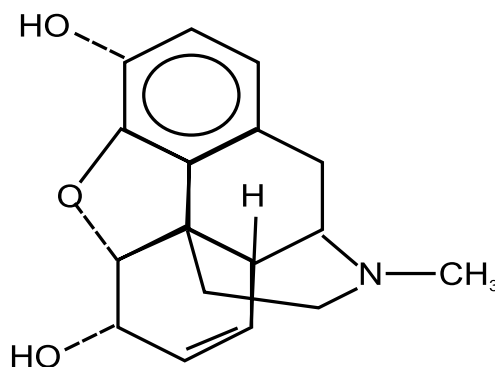


Fig. (a) Chemical structure (5)

*Chemist, Department of Forensic Medicine & Toxicology, AIIMS, Ansari Nagar, New Delhi;

**Student, M.Sc Forensic Science, AIBHAS, Amity University, Sec.-125, Noida (U.P)



Fig. (b) Papaver Somniferous Plant (8)

The unripe capsule of Papaver Somniferous is incised to derive opium. Crude opium is a dark brown or grey, irregular mass with characteristic odour and bitter taste and contains several alkaloids namely Morphine (10%), Codeine (0.5%), Thebaine (0.3%), Papaverine (1%), Noscapine (6%), Narcoenia (0.5%) etc (9).

Morphine is also used to synthesize Heroin by acetylation. Heroin was created in an attempt to find a safer type of morphine and was named presumably due to drug's heroic ability to mimic the effects of morphine without causing addiction. Morphine is the commonest drug used for suicidal purpose, primarily because the death is painless. For



Fig. (c) Incised unripe capsule with crude opium (10)

Abstract

Morphine is the principal alkaloids of Opium and is non-volatile in nature. Morphine is considered to be a Cerebral Somniferous Poison. The effects of Morphine can be described in three stages viz. Excitement, Stupor and Narcosis. Although several instrumental methods like UV, GC and HPLC are available for separation and identification of Morphine, the cost of analysis is very high. Therefore a simple,



rapid & reliable HPTLC method for separation of Morphine has been presented. The proposed system is well suited for day-to-day analysis. The main advantages of HPTLC are the low cost, simultaneous analysis of large number of samples and minimum sample preparation is required. Morphine was first extracted from viscera and then identified on the HPTLC plates by using various new solvent systems. For the detection on developed plates,

homicidal purpose opium is rarely used because of the bad taste. In rural areas Opium has been used to commit infanticide by breast feeding of an infant by a woman who had smeared her nipple with tincture of opium with evil intention. Accidental poisoning is more frequent in children. Morphine is also used as Cattle poison and for Doping race horses. Opium plant is also useful as Poppy oil which is widely used as edible cooking oil. Morphine is used legally as an analgesic for pain after surgery, pain associated with trauma, pain from kidney stones and back pain. Morphine is also used as an antidiarrhoeal in chronic conditions. Opium is also smoked in the form of madak, chandu or opium dross. Morphine is highly addictive when compared to other substances. Physical and psychological dependences develop very rapidly.

The poison acts on Central Nervous System and its symptoms are classified in three categories: Stage of excitement, Stage of stupor and Stage of Narcosis. Average fatal dose is 200 mg as Morphine and 2 gm as Opium. The fatal period is 12 hours. For the treatment of patient Stomach wash should be done. The second wash should be done with 0.25% KMNO_4 as it oxidizes the contents. Once sure that the poisoning is due to opiates, Nalorphine hydro bromide in the dose of 5 mg or Naloxone 0.4–0.8 mg should be given intravenously [11–19]. Various techniques have

been used for analysis of Morphine such as High Performance Liquid Chromatography (HPLC), Gas Liquid Chromatography (GLC) etc., but in the present paper an attempt has been made to analyse Morphine from viscera by High Performance Thin Layer Chromatography plate which is very simple, cheap, rapid and can be performed in very less time as compared to GLC and HPLC. As we know that earlier Hexane (100), Methanol : Ammonia (9.5: 0.5) and Acetone (100) have been used for the detection of Morphine but after the development of these new Solvent System we can use any one of the 22 solvent systems for the detection of Morphine.

2. Experimental

2.1 Material and reagent

(i) *Chemical and Reagent*
Methanol (Division of Glaxo India Limited, Mumbai), Acetic acid (Division of Glaxo India Limited, Mumbai), Ethylacetate (Glaxo Smithkline Pharmaceutical Limited, Mumbai), Cyclohexane (Merck Specialities Private Limited, Mumbai), Isopropanol (Glaxo Smithkline Pharmaceutical Limited, Mumbai), Nitric acid {E. Merck (India) Limited, Mumbai}, Isobutanol (Glaxo Smithkline Pharmaceutical Limited, Mumbai), Ammonia (Division of Glaxo India Limited, Mumbai), Ethanol (Merck KGaA, Germany), Chloroform (Merck Limited, Mumbai), Acetonitrile (Merck Limited,



Mumbai), Toluene (E.Merck (India) Limited, Mumbai), Hexane {E.Merck (India) Limited, Mumbai}, Acetone (Merck Specialties Private Limited), Bismuthsubnitrate (Merck Specialties Private Limited, Mumbai), Potassium iodide (Merck Specialties Private Limited, Mumbai).

(ii) *Glassware* : Beaker, Conical flask, Glass chromatographic chamber, Pipette, Fine capillary tube.

(iii) *Equipment* : Precoated HPTLC with silica gel-G 60F₂₅₄ (Merck kGaA, Germany),

2.2 Preparation of standard solution

1000-ppm solution of Morphine was prepared in methanol by dissolving 0.1 gm of Morphine in 100 ml of methanol.

2.3 Preparation of Dragendroff spraying reagent

(i) 2 gm of Bismuthsubnitrate is dissolved in 25 ml of glacial acetic acid and to it 100 ml of water is added.

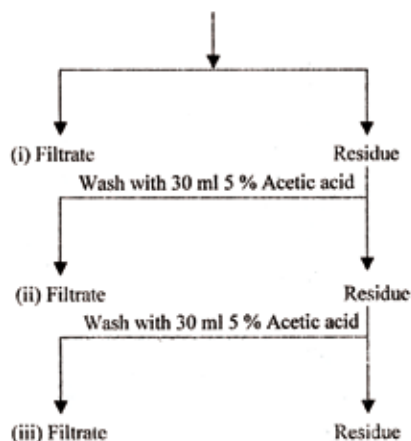
(ii) 40 gm of Potassium iodide is dissolved in 100 ml of water. 10 ml of (i) is mixed with 10 ml of (ii) and 25 ml of glacial acetic acid is added. The solution is then diluted with 100 ml of water.

2.4 Extraction of Morphine from viscera (20-24)

Step 1

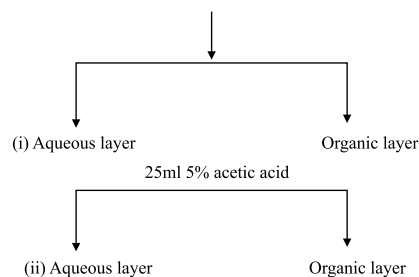
7 gm tissue (cut into fine pieces) + 100 ml of 5% acetic acid

+ solid ammonium sulphate in 500 ml beaker is heated on water bath for 4 hours. The tissue proteins are coagulated. The contents are filtrated off without suction through filter paper pulp.



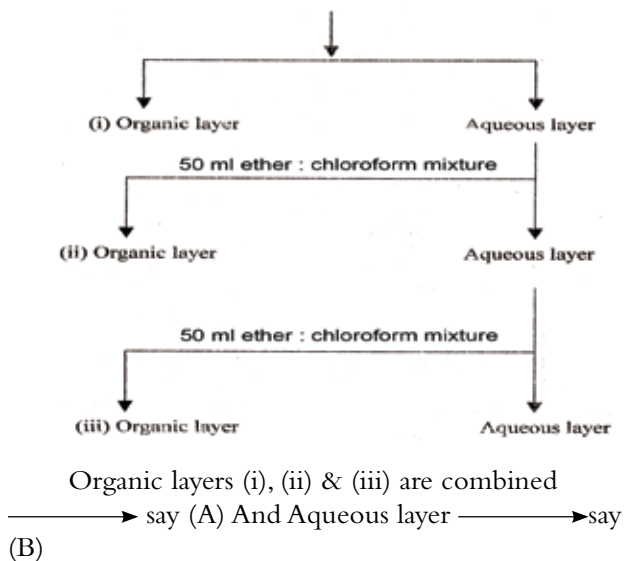
Step II

All the three filtrates are pooled + 50 ml of ether is taken in a separating funnel and shaken for 5 min.

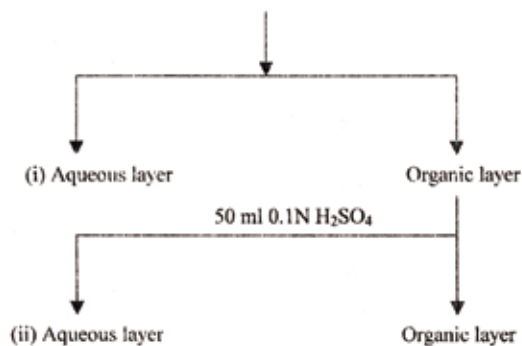


Two aqueous layers are pooled + ammonium hydroxide (to make it alkaline) + 50 ml mixture of ether : chloroform (3:1) taken in a separating funnel and shaken.

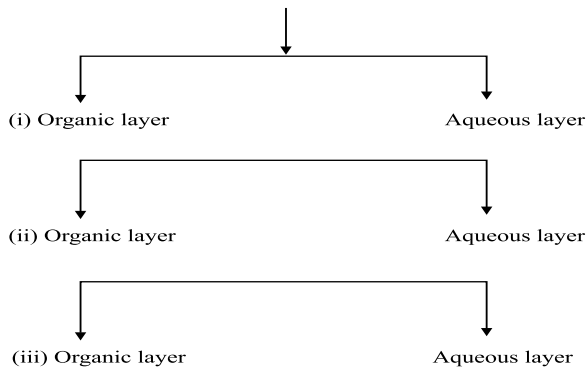
Dragendroff's reagent was used. For the analysis, a total of 46 solvent systems were selected, in which 22 solvent systems were found to give good result. R_f of sample in different solvent systems was in between 0.13 to 0.95 and the time taken by solvent system was in between 19 min to 106 min. In case anyone of these 22 solvent systems is not available, other mentioned system can also be used for the analysis of Morphine.



Combined organic layers (A) + 50 ml portion of 0.1 N H_2SO_4 is taken in a separating funnel.

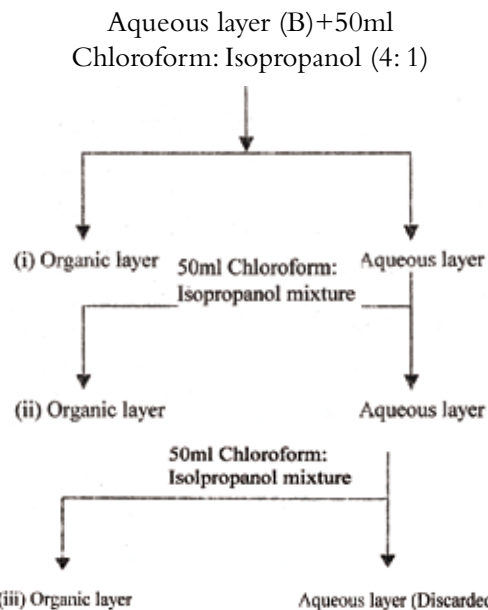


Pooled Aqueous layer + Ammonium hydroxide (to make it alkaline) + 100 ml ether: chloroform (3:1) mixture. Chloroform (3:1 mixture)



The organic layer are pooled and dried by passing the Na_2SO_4 and evaporating to dryness. This contains most of alkaloids and bulk of morphine.

Step III



Three Organic layers (i), (ii) & (iii) are pooled and evaporated to dryness. This organic layer contains remaining Morphine alkaloids.

2.5 Spotting of sample and standard on HPTLC plate

HPTLC plates were activated at $110^\circ C$ for 30 minutes and then cooled at room temperature before spotting. The spotting of standard sample and extracted sample was done manually with the help of fine capillary tube on the HPTLC plate 10×10 cm. The diameter of the spot was maintained small as far as possible. HPTLC plate was then placed in a chromatographic chamber containing different solvent system mentioned in table 1. After development plate was taken out of the chamber, air dried and then sprayed with Dragendroff's reagent. Orange colour spots were observed. Attention was paid to the factors which controlled the reproducibility of result on HPTLC plate. Sample extracted from viscera along with the standard sample was loaded on the HPTLC plate. The different ratio of solvent system was used for development of Atropine.

3. Results and Discussion

After the HPTLC plates were sprayed with the Dragendroff's reagent, Morphine appeared as orange spot in both samples and standard against a yellow background. The reaction was instantaneous. Colour formation was permanent. R_f value of Morphine extracted from viscera, under experimental conditions was found nearly equal to that of standard used. All the 46 solvent systems were analysed and out of which 22 solvent systems were found to be good to run the sample. The 22 as solvent systems which are found as good systems are from 1 to 22 shown in table 1 and solvent system from 23 to 46

are not considered good solvent system for detection of Morphine. R_f value of sample in different solvent systems was in between 0.13 to 0.95 and the time taken by solvent system was in between 19 min to 106 min. Chloroform : Methanol (9:1) resulted highest R_f value i.e. 0.95 and Methanol: ammonium hydroxide (9.5:0.5) took 19 min. to run the sample which is the least time among the 22 solvent systems. Therefore according to highest R_f value and the least time taken to run the sample, both of them can be considered as good solvent systems. In case any one of 22 solvent systems is not available, other mentioned system can also be used for the analysis of Morphine.

TABLE 1 : HPTLC RESULTS OBTAINED WITH DIFFERENT SOLVENT SYSTEMS

S. No.	Solvent System	Time to run	Colour of spot	R_f of standard sample	R_f of extracted sample
1.	Chloroform : Methanol (9:1)	39 min	Orange	0.95	0.95
2.	Acetic acid : Ethanol : Water (3:6:1)	56 min	Orange	0.48	0.45
3.	Diethyl ether : Acetic acid (6:4)	59 min	Orange	0.19	0.15
4.	Ethyl acetate : Methanol : Conc. Ammonia (8.5:1:0.5)	25 min	Orange	0.32	0.3
5.	Methanol : Isobutanol (6:4)	40 min	Orange	0.2	0.2
6.	Isobutanol : acetic acid : water (4:1:5)	106 min	Orange	0.35	0.32
7.	Cyclohexane : Chloroform : Diethyl amine (5:4:1)	41 min	Orange	0.15	0.13
8.	Isobutanol : acetic acid : water (8:0.5:1.5)	106 min	Orange	0.35	0.33
9.	Chloroform : Methanol : Water (3:5:2)	105 min	Orange	0.25	0.25
10.	Ethanol : Water : Ammonia (6:3:1)	77 min	Orange	0.8	0.8
11.	Chloroform : Ethanol : Water (2:6:2)	68 min	Orange	0.3	0.25
12.	Isopropanol : Chloroform : Ammonia (4.5:4.5:1)	52 min	Orange	0.68	0.65
13.	Chloroform : Diethylamine (9:1)	28 min	Orange	0.39	0.39
14.	Chloroform : Methanol : Acetic acid (7.2:1.8:1)	54 min	Orange	0.58	0.55
15.	Chloroform : Methanol : ammonia (6:3:1)	55 min	Orange	0.76	0.76
16.	Chloroform : Methanol : Acetic acid (6:3:1)	44 min	Orange	0.69	0.65
17.	Chloroform : Acetone : Diethylamine (7:2:1)	38 min	Orange	0.35	0.34
18.	Dioxane : Acetone : Water (7:2:1)	44 min	Orange	0.2	0.2
19.	2-propanol : Chloroform : Methanol : Water (5:2:2:1)	64 min	Orange	0.34	0.3
20.	Acetone : Isobutanol : Acetic acid : Water (7:1:0.5:1.5)	41 min	Orange	0.41	0.4
21.	Chloroform : Dioxane : Ethylacetate : ammonia (2.5:6:1:0.5)	33 min	Orange	0.41	0.41
22.	Methanol : ammonium hydroxide (9.5:0.5)	19 min	Orange	0.5	0.5
23.	Hexane : Benzene (5:5)	26 min	Nil	Nil	Nil
24.	Benzene	39 min	Nil	Nil	Nil
25.	Ethylacetate	18 min	Nil	Nil	Nil
26.	n-Hexane : Acetone (8:2)	19 min	Nil	Nil	Nil
27.	Cyclohexane : Chloroform (7:3)	45 min	Nil	Nil	Nil
28.	Ethyl acetate : isopropanol (8.5:1.5)	24 min	Nil	Nil	Nil
29.	Cyclohexane : Toluene : Diethyl amine (7:5:1.5:1)	32 min	Nil	Nil	Nil
30.	Chloroform : acetone (8:2)	26 min	Nil	Nil	Nil
31.	Ethylacetate : Chloroform : Acetone (6:2:2)	20 min	Nil	Nil	Nil
32.	Acetone : Benzene (5:5)	16 min	Nil	Nil	Nil

S. No.	Solvent System	Time to run	Colour of spot	R _f of standard sample	R _f of extracted sample
33.	Cyclohexane : Ethylacetate (5:5)	29 min	Nil	Nil	Nil
34.	Ethylacetate: Cyclohexane: Ethanol (5:4:1)	35 min	Nil	Nil	Nil
35.	Hexane : Ether : Acetone (8.5:1:0.5)	21 min	Nil	Nil	Nil
36.	Hexane : Chloroform (5:5)	20 min	Nil	Nil	Nil
37.	Diethylether : Ethylacetate (8:2)	28 min	Nil	Nil	Nil
38.	Cyclohexane : Diethylamine (9:1)	26 min	Nil	Nil	Nil
39.	Chloroform	29 min	Nil	Nil	Nil
40.	Chloroform : Ethylacetate (9:1)	46 min	Nil	Nil	Nil
41.	Xylene : Hexane : Diethylamine (6:3:1)	20 min	Nil	Nil	Nil
42.	Toluene	17 min	Nil	Nil	Nil
43.	Ethyl acetate: iso-propanol (8.5:1.5)	24 min	Nil	Nil	Nil
44.	Chloroform : Isopropanol (1:9)	100 min	Nil	Nil	Nil
45.	Ethanol : Acetone : Water (1:1:8)	45 min	Nil	Nil	Nil
46.	Benzene: 2 propanolacetone (6:3:1)	48 min	Nil	Nil	Nil

4. Conclusion

Due to the time involved in screening Morphine with other analytical methods, such as Gas Chromatography, alternative methods were sought. HPTLC proved to be an excellent choice because it is a simple equipment, takes less time for development, simultaneous analyses of large number of samples are possible, early recovery of separated components is possible, separation effects are superior, early visualization of separated compounds, sensitive as extremely sharp delineated spots are obtained in HPTLC. The main advantage of HPTLC plate is the low cost. When all the 46 solvent systems were analysed, it was found that 22 solvent systems are good to run the sample. If any one of the solvent systems is not available, we can choose any one of 22 solvent systems. Beside Dragendroff's reagent, we can also use Iodoplatinate solution as a spraying reagent.

References

- (1) I.C.F Poole, S.K. Poole; *Analytical Chemistry. Acta*, **216**: 1989; 109-145.
- (2) Clarke; 'Isolation and Identification of Drugs'; A.C. Moffat, London; 2nd edn; 160-174 & 790.
- (3) M.L. Puttermans et al : 'Analytical Chemistry'; 67; 1984.
- (4) Stewart C.P., Stolman A; 'Toxicology Mechanisms and Analytical methods'; vol. **II**; 1996; 842.
- (5) <http://www.phytomedical.com/Plant/Morphine.asp>.
- (6) Parikh, 'Textbook of Medical Jurisprudence and Toxicology'. 2001.10.1 & 11.4.
- (7) Modi, Jaishring P. 'Textbook of Medical Jurisprudence and Toxicology'. M Tripathi Pub; 2001.
- (8) <http://www.narconon.ca/images/opium.jpg>.
- (9) Reddy K.S.Narayan; 'The essentials of Forensic Medicine and Toxicology'; 6th edn., 1997; 473-491.
- (10) <http://z.about.com/d/worldnews/1/7/t/3/-/-/2004822.JPG>.
- (11) V. Shankar et al; *Forensic Sci. Int.*, **40**; 1989; 45-55
- (12) Saferstein R; 'Criminalistics-An Introduction to Forensic Science', 6th Edn. Prentice Hall, New Jersey; 1998.
- (13) Dreisbach Robert; 'Handbook of Poisoning'; 3rd edn; 225-229.
- (14) Dreisbach Robet; 'Handbook of Poisoning'; 4th edn; 226-228.
- (15) Oliver John; 'Forensic Toxicology'; 119-125.
- (16) D. McNally William; *Toxicology*; 1937: 551-573.
- (17) M.Houck Max. A Siegel Jay; 'Fundamental of Forensic Medicine and Toxicology'; 335-337.
- (18) Sharma B.R. 'Forensic Science in Criminal Investigation and Trials'; 4th edn; 834-837.
- (19) Withaus R.S.; 'Manual of Toxicology', Baillere, Tindal and Cox; London; 1911.
- (20) Gautam M.P. Shubhara; 'Analysis of Plant Poisons'; 2006; 125-133.
- (21) Jaiswal A.K. et al; 'Extraction, Isolation and Clean-up Methods for Pesticides/Insecticides and Alkaloids from Biological Material Part-I'; *International Journal of Medical Toxicology and Legal Medicine*: Vol-9, Jul-Dec, 2006; 28-32.
- (22) Bamford, F; 'Poisons. Their Isolation and Identification,' J&A; Churchill, London; 1947.
- (23) Tiwari S.N. : 'Manual of Toxicology'; 1976; 37-39.
- (24) Rao M.S. : 'DFS Toxicology Manual'; 265, 193-195.

FROM DESK OF DIRECTOR (R&D) BPR&D

28TH ASIAN AND PACIFIC CONFERENCE OF CORRECTIONAL ADMINISTRATORS, 2008

R.C. ARORA,

India is a member of Asian and Pacific Conference of Correctional Administrators set up in the year 1980. Its secretarial responsibility is jointly held by Singapore and countries like Canada, Australia, New Zealand, Solomon Islands, Brunei, Fiji, Tongo, Indonesia, Myanmar etc. Besides state entities, some organizations like UNAFEI, UNODC etc also take part in the Conference from time to time as Observers.

The **Charter** of APCCA provides for as under:

- i) To provide a forum for government officials responsible for prisons or Correctional Administration within the Asia Pacific region (AP).
- ii) To share ideas and work in the professional area of Correctional Administration.
- iii) To develop a network aimed at fostering cooperation among the Asia Pacific region.

The membership of the Agenda/Finance Committee is on voluntary basis with option given for all member countries to be represented on rotation basis.

The 28th Asia Pacific Conference of Correctional Administration, 2008 was held in Langkawi, Malaysia from 23rd - 28th November, 2008. The Indian Delegation was led by Shri Nirmaljeet Singh Kalsi, Joint Secretary (CS), Ministry of Home Affairs, and Shri R.C. Arora, Director (R&D), BPR&D was Deputy leader from the Government of India. In addition to this, DsG Jails, Delhi, Orissa, Punjab, Haryana, Tamil Nadu, Kerala, IG (Prisons), Jharkhand and Jail Officials of Sikkim, Assam, Karnataka and Principal Secretary (Home), Government of Manipur, Secretary, Prison Department, Andaman & Nicobar Islands were part of the delegation.

The 28th APCCA Conference was presided over by **Mr. YBhg Datuk Ahmad Faud Abb. Aziz, the Deputy Secretary General, Ministry of Home Affairs of Malaysia.** Apprising of the detailed deliberations held during the Conference on different aspects of Correctional Administration, he extended his compliments and deep appreciation to the Commissioner General of Corrections, Malaysia, APCCA Secretariat and the Rapporteurs for organizing highly successful event. According to him, the HRD is the central theme of Correctional Administration which will improve in its intrinsic quality with regular sharing of experiences/good practices among a large number of APCCA across different jurisdictions.

He expressed that the thought provoking discussions among the experienced practitioners of Correctional Administration could lead to much better solutions to many a problem hitherto relatively untackled. Rehabilitation of prisoners is one such subject which can help in the reintegration of the prisoners with the society's mainstreams.

The general composition of prison population in most of the member countries of APCCA is dominated by sentenced prisoners as against unsentenced (undertrial) prisoners in India.

Prison subject is within the competence of Federal/Central Government as against is being a State subject in countries like India, Australia, Republic of China etc.

The advantage of the prison subject being with the Central Government helps to plan and execute training programmes in a more coordinated manner, leading to early implementation of the programmes. It is quite manageable in small countries. But for large-sized countries like India, China, Australia the central administration of this subject may pose practical problems. However, to improve policy, planning and implementation of Correctional Programmes in the countries in accordance with the modern day correctional philosophy, it may be worthwhile to bring its subject into the **Concurrent List** in India. This has also been recommended in the **Draft National Policy on Correctional Administration in the Country**.

Well-developed and well-staffed Prison Departments exist in all the member countries of APCCA which helps them to administer this subject not only more efficiently but with the priority it deserves also.

The APCCA forum provides an excellent opportunity with the exchange of **Best Practices in Prison Administration**. It also affords a valuable opportunity to seek well-considered suggestions from other member countries in respect of individual problems, which the individual country may be in the process of analyzing and contemplating remedial action thereupon.

In the Asia Pacific region, it was noticed that many countries have done very well in building Correctional Administration related infrastructure. However, the training facilities for correctional staff in these countries are not very well developed except in few countries like Malaysia, Australia. In this regard, a feeling was gathered from the delegates from these countries that they would look forward to India to contribute significantly in the training related assistance to these countries. At present, we do not have adequate training facilities even to provide for a quality training programme to our own correctional officers, both at induction and in-service stage not to speak of playing a larger role expected by APCCA countries and countries in SAARC region.

It is, therefore, imperative that the capabilities of **BPR&D**, which have been given the responsibility of **Nodal Agency** in the field of Correctional Administration at national level since 1995 without sanction of any staff whatsoever and **Institute of Correctional Administration, Chandigarh**, which has very limited resources, may be upgraded suitably, in order to take up its role effectively. The Draft National Policy on Prison Reforms also recommends on similar lines. The trilateral forum like IBSA and bilateral requests from countries like Mauritius, Iran, Iraq, Afghanistan, Nepal, Sri Lanka, Bhutan etc also underlines the priority which needs to be accorded to this aspect of capacity building in our country.

Notes for Contributors

Editorial objectives

The journal covers articles of general police interest as well as research papers based on empirical data pertaining to police work. Authentic stories of criminal case successfully worked out with the help of scientific aids and techniques are also published. Only original manuscripts are accepted for publication. Articles submitted to the journal should be original contributions and should not be under consideration by any other publication at the same time. A certificate to this effect should invariably accompany the article.

Areas covered include :

Crime, criminology, forensic, science, forensic medicine, police organization, law & order, cyber crime, computer crime, organized crime, white collar crime, crime against women, juvenile delinquency, human resource development, police reforms, organizational restructuring, performance appraisal, social defence, correction/prison administration, police housing, police training, human rights, insurgency, intelligence, corruption, terrorism etc.

Review process

Every article received for publication is subject to the following review procedures :

1. It is first reviewed by the editor for general suitability for publication.
2. If it is found suitable, it undergoes a review process by a member of our Board of Referees.
3. Based on the recommendations of the reviewers, the Editorial Board decides whether to accept the particular article as it is, or seek revision, or reject.

Manuscripts requirement

The manuscripts should be submitted in duplicate in double line spacing with wide margins. Articles should ordinarily be between 2000 and 4000 words in length. Title of the article should be precise.

Authors should also supply an Abstract of 100-150 words with keywords. A copy

of the article saved in floppy/CD in MS-Word may be sent in addition. Contributors are advised to be very brief in introducing the subject and devote most of the paper to the main theme. Authors should take care to ensure accuracy of the data and references. Quotes should be cited accurately from the original source, should not be edited and should refer to the page numbers of the original publication. Capitalization should be kept to the minimum and should be consistent. British spellings should be used rather than American. The typed script may please be carefully scrutinized for typing errors before dispatch. A brief autobiographical note of the authors should also be supplied including full name, designation, postal address and e-mail address, if any. Figures, charts and diagrams, should be kept to a minimum and good quality originals must be provided. At the end of the article a reference list and a short bibliography would enhance acceptability of the contribution. The contribution can also be e-mailed to the Editor in addition to being sent by post.

Copyright

Authors submitting articles for publication must warrant that the work is not an infringement of any existing copyright and will indemnify the publisher against any breach of such warranty. Papers and contributions published in the journal become the legal copyright of the publisher unless otherwise agreed.

Submissions should be sent to :

The Editor,
The Indian Police Journal,
BPR&D, MHA,
Block No. 11, 3rd 4th Floor,
CGO Complex, Lodhi Road,
New Delhi-110003. INDIA
e-mail : dgbprd@yahoo.co.in
editoripj@yahoo.co.in
Tel. : 091-11-24365007
Fax : 091-11-24362425, 24369825

