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## Board of Reviewers





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# IPJ

# The Indian Police Journal

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## Editorial Board

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# EDITORIAL MESSAGE

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The article, **"Remembrance of Recent Vs. Remote Memory of an Event : A Key to Investigation of Cold Cases "**, deals with the analysis of loss of memories with the passage of time and suggested methods through, which the evidential value can be preserved.

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# Thikri Pehra: A Sparingly used Initiative of Community Policing-needs a Relook

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**Abstract:**

Thikri Pehra (Pahara) means to 'guard at local level' or to provide Night Vigil/Watch for a locality may be a village, town or city in emergencies or in normal times. It may be a term unknown to many in the present Generation. Thikri Pehra is an age old concept in the Indian Society, perhaps emerged 'As and When' 'humans' felt the need for their security. In the early times, the concept of State police was non-existent, thus people were responsible for guarding themselves, against any threat to their life and property. With the coming of State Police or Organised Police, the onus of individual security and security has got shifted to the Police only. Police are playing a multi-dimensional role today, virtually looking after all the security needs of every individual besides maintaining law and order in society. Today, Police have added responsibilities to perform such as personal verifications, providing security to V.I.Ps, dealing with emergencies such as fire and floods or any other natural or unnatural calamity. Police also have a role to play in sensitising society on many aspects related to life. Pressures of technological developments and changing norms of governance, where transparency and accountability are of prime importance, can visibly be seen. Thus, Police are reeling from pressure of high expectations of society and their limitations to perform under the given work environment which is further hard pressed by the ever increasing population and crime. In the light of above presented scenario, not too frequently used practice, popularly known as Thikri pehra, of early times, to provide security and safety to the residents at local level and relieve police of some of its ever increasing burden, has been examined and assessed to prove its relevance in present times.

**Keywords:**

Springly, Insitative, Community Policy, Institutions Thikri Pehra, Tradtional Policing.

## Concept of Thikri Pehra

Thikri Pehra (Pahara) is an indigenous term (frequently used in North Western States of India especially in Punjab, Haryana, Delhi and also known as Night Vigils in J&K, Himachal, Rajasthan). Other synonyms of Thikri pehra are rotational night vigils or community night vigils or community vigils or community policing at night which are used in other settings. Vigil stands for a watch or guard (Pehra) at small/ local level (Thikri) which literally means 'guarding at local level' or providing a Night

**Author's Intro:**

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Vigil/Watch for a locality may be a village, town or city in emergencies or in normal times.

Thikri is a word which finds its origin in Hindi/ Punjabi language, which means an Earthware Small piece or Small Earthware piece to cover a Chillum (clay made top-container of Hookah). Pehra means Watch, thus, Watch at small level (village or local level) is referred to as Thikri Pehra It may be a term unknown to many in the present generation. Thikri Pehra is an age old concept in Indian Society, perhaps emerged 'As and When' 'humans' felt the need for their safety and security. In the early times, the concept of State police was non-existent, thus people were responsible for guarding themselves against any threat to their life and property. This bootstraps community policing is an ancient institution in India popularly known as Thikri Pehra (Voluntary but Compulsory done by armed local residents) common in areas with limited police presence.[1]The Indian experiment of 'Thikri Pehra' results in controlling, preventing and the check-up of the crime in the local settings.

The concept and philosophy of Thikri Pehra lies in the theme that People of the area in turn will take control of the security of their area by way of patrolling at night or if required in the day time as well. The approach of Thikri Pehra in villages is to involve villagers in organized groups, armed mainly with sticks and occasionally with spears and swords and a sprinkling of guns if anyone has a license for one, whenever there is an upswing in crime. It is a voluntary effort on the part of villagers/ community, generally involving youth for their muscle power, agility and enthusiasm. It is based on the principle of 'cooperation' with the objective of making community/village/town life secure and safe with the efforts of all the residents. The process of involving people through their participation in policing can be viewed as Thikri Pehra and the origin of the idea is based on the reason that police are undergoing significant changes in their role playing which is fast turning into multi-dimensional and then the ever increasing concerns of the people regarding their safety & security against the backdrop of upward shoot of crime graph in the society has further strengthened this reason. Police, no longer, are treated as the sole guardian of law and order in the society, therefore, the onus to protect and secure the locals has been transferred to the community and this approach, perhaps, may yield the expected results. In fact, through Community Policing the citizens get involved into the process of policing for themselves.

Usually, Thikri Pehra is taken as 'Night Vigils' but that may be the limited use of the term because in certain situations Pehra can be extended to day times as well or can be prolonged to round the clock surveillance (24x7). The term Thikri Pehra is often confused with the concept of Civil Defence, at least the both the concepts have common aims to protect & save life, minimising damage to the property. The structural and organizational differences found between the two make them distinct. There exists Civil Defence organisation headed by the Director General, Civil Defence under the Union Ministry of Home Affairs which is responsible for framing Civil Defence policies, whereas Thikri Pehra is not organized like Civil Defence.

## Traces and Origin of Institutions Controlling Crime at Village Level

### Chowkidar –the kingpin

History refers to no specific period or date to suggest the origin of the village policing or so to say village patrol or Thikri Pehra. Going by the 'Granny' stories, we find that small dwellings of humans necessitated the need for protecting the life from animals initially and from humans later on. Even while looking at the life of Animals, we find that in certain species, while living in group, use a rotational vigil by its members to guard themselves against any danger to their life. As and when the Monarchs started collecting toll from the subjects, the need to

appoint a keeper on the tolls known as Chokidar was felt. The term is traced to the Urdu word '**cauki**' which means toll house and dar means the keeper, thus putting together Chowkidar (Chokidar) stands for a Gatekeeper or Watchman on the toll house in a village or town. Gradually, the position of Chowkidar in a village or town assumed more roles and one of the roles which gained prominence was that of a watchman or guard to keep vigil on the actions of those who tried to threaten the life and property of the residents besides keeping vigil on the activities of the residents on behalf of the rulers. As per the Old Testament of Bible, "Morning comes and also the night".[2]No wonder Chokidar carries the mystery of night with him thus he performs hard tasks. With the times, needs and demands of security and order also have changed rather became demanding. The existing security system underwent changes to better organize itself.

Early references to police or criminal justice organization are not available in early Vedic period (Verma 2005).[3]However, Mauryan period (C.324 BC-183BC) showed important features of criminal justice system. Arthasastra of Kautilya, written around 310 BC throws light on the state of society and the administration, system of administrating justice and also the state of crime during that period. The Arthasastra is a treatise on the criminal justice system. It reads like a manual for the police in modern times. According to Arthasastra, the smallest administrative police unit was the village. The village councils were responsible for detecting and preventing crime under the supervision of the headman (Nath1983).[4] During Ashoka's reign (304BC-232BC), the criminal justice system was tempered and moderated by the Buddhist philosophy, piety and non-violence. Megasthenes, the Greek ambassador and Fahien, the Chinese traveller wrote a detailed account of the administration during the Guptas Period (from early 4$^{th}$ century to late 6$^{th}$ century-320 to 540 CE). During Gupta period, Dandika were the highest ranked police officers who were responsible for peace and security of the city. During the medieval period, the Sultan was the centre of power and political activity. Faujdar was the head of criminal justice administration at the provincial level and Kotwal was the administrative owner of criminal justice system of the district. At the village level, Choukidar was responsible for the prevention and detection of crimes (Srivastava, 1999).[5]

The British came to India as traders in 1612 and the leading organization was the East India Company which later on got converted into full-fledged Colonial rule due to certain prevailing local conditions. Till the middle of nineteenth century, there was no satisfactory police system. Police came up as professional service in London when Peel's Metropolitan Police Act 1829 was put in place. The indigenous system of police in India of that time was very similar to that of Saxon England: both were organized on the basis of land tenure, and just as the Thane in the time of King Alfred was required to produce the offender or settle the claim, so in India the Zamindars were bound to play a similar role to that of Thane in England. Zamindar discharged this responsibility with the help of villagers, village headman and village watchman. By practice, there used to be one watchman for the village who could seek help from his male family members or from village community to perform his role. In 1793, Lord Cornwallis, the then Governor General of India, took police administration out of the hands of the Zamindars and established in its place a uniform police force (Thanedars/Daroghas) responsible to the agents of the company. Under the new scheme, the post of Darogha was created in every district. Daroghas were made responsible to the district judges and it was their responsibility to supervise the village landowners and headmen policing the villages with the help of Chowkidars.

The discussion above, establishes that throughout the journey of mankind till date in references to safety and security of humans, some features remained common to all the times irrespective of the rulers and ruled:

i) Protection of humanity from unscrupulous elements

ii) Tendency of Man to indulge in nefarious activities out of greed and lust, thus, causing crime

iii) Village remained a focal point of administration and most suited unit to exercising control both on the crime and criminals

iv) Chowkidar of the village remained an integral part of village administration irrespective of times

v) Local participation of the people to maintain order in society has been existing since time immemorial

vi) Police as a Force emerged to subserve the rulers and also to provide security and safety of the common man

vii) Police presence everywhere and all the times for everyone remained a remote possibility

viii) Therefore, the need for support mechanism to the police was required and consequently arrangement of Thikri pehra emerged on horizons of local safety and security. Unofficially, the arrangement was in existence since ancient times but it got official recognition in the British- times.[6]

Officially, in India, the mention and creation of Thikri Pehra find recognition in

Punjab Village and Small Towns Patrol Act (VIII of 1918).[7]The Act received the assent of the Lieutenant-Governor of the Punjab on the 7th June, l918, and that of the Governor-General on the 21st June, 1918, and was first published in the Punjab Gazette of the 12th July, 1918.This Act, under section 3 empowers District Magistrate to direct the villages for patrolling (Thikri Pehra). The Superintendent of Police approaches their respective District Magistrates for invoking this provision of the Act.

Thikri pehra and special police under section 17 of the Act provides that in any village in which crime is prevalent, the Superintendent of Police may approach the District Magistrate to invoke the provisions of the Village Patrol Act No. VIII of 1918. It must be borne in mind, however, that Thikri Pehra is essentially an emergency measure as opposed to an everyday routine measure. When imposed on villagers as a continuous routine it becomes irksome and is consequently perfunctorily performed. The compulsory provisions of Punjab Act VIII should only be employed as a last resort.[8]

The Police rules provide that Thikri Pehra and naka-bandi on no account be regarded as a matter of routine and should be resorted to temporarily only during epidemics of crime.[9]

**Thikri Pehra and Gram Panchayat**

It shall be the duty of the Gram Panchayat within the Gram Sabha area to perform (a) the duties of the Panchayat under the Punjab Village and Small Town Patrol Act, 1918 or

any other law for the time being in force; and (b) such duties of village headman in connection with village watchman as the State Government may prescribe by rules under section 39-A of the Punjab Laws Act, 1872 or any other law for the time being in force.[10]

**Objectives of Study**

Main Objectives of the study are:

i) to examine comprehensively the concept & uses of Thikri Pehra and

ii) to suggest measures about making the practice more effective and useful.

**Methodology**

The study is heavily based on secondary data which has been drawn from various sources like, available literature, newspapers, articles and papers written on the topic or touching the topic indirectly.

Primary data has been collected by interacting with source persons who could contribute to the study through their experiences and exposures.

*The present work is an effort to correlate the theory and experiences available. Efforts have been made to build the paper on first hand experiences of those who directly or indirectly have been associated with the practice. Those who have been interacted with, to gather primary data, include; Deputy Superintendent Police,(Mr Vinod Kumar) Haryana Police, Inspector Haryana Police (Mr Naveen Sindhu), Sardar Gurbachan Singh, Former Sarpanch, Village Karkaur, Teh and Distt: Dera Bassi, Panjab, Sardar Chajja Singh, Sarpanch, Village Kurdi, Teh and Distt: Mohali, Panjab, Prof. R.K. Sharma, Founder Coordinator, Centre for Police Administration, Punjab University, Sardar Harnek Singh Gharuan, Former Cabinet Minister, Punjab.[11]

**Thikri Pehra- Launching Pad of Community Policing**

The glimpses of Thikri pehra have been seen in the history of India since Safety & Security of human life became a necessity and crime surfaced in society to stay. Thikri pehra as a practice in the village life had a significant role to play to check the crime and meet the emergencies at local level to ward off any threat to the life of the locals. So to proclaim, Thikri pehra is an off shoot of the Community Policing, thus, establishing that Community policing concept had flourished in India much before it emerged in the West.

Considering Thikri Pehra as one of the initiatives of Community Policing, here, it would be appropriate to deal with Community policing to locate the differences and commonalities between the two.

**What is Community Policing?**

Community Policing requires Police and Citizens to join together as partners to deal with situation of law and order and safeguard and protect the society. To be more emphatic, engaging communities as partners presents the need for a fundamental shift in the overall approach of policing toward a more community-oriented model.[12]

Community Policing is generally defined as a law enforcement philosophy that allows officers to continuously operate in the same area in order to create a stronger bond with the citizens living and working in that area. This allows public safety officers to engage with local residents and prevent crime from happening instead of responding to incidents after they occur (Lortz, 2016).[13]

Community policing is a paradigm shift established at the bedrock of community partnership in creating safe and secure environment for all. One rationale for public involvement is the belief that police alone can neither create nor maintain safe communities.[14]

The very focus of the Community Policing is to minimize the crime and social disorder through the delivery of police sources that includes aspects of traditional law enforcement, as well as prevention problem solving, community engagement and partnerships. The Community Policing has the onus to take stock of all these above mentioned areas and the core elements involved in community policing included:

a) Community Partnership
b) Problem Solving
c) Organizational transformation.[15]

**How is community policing different from traditional policing?**

i. Intended to prevent crime before it happens rather than responding to crime after it occurs
ii. Focuses on creating a safe social environment rather than investigating the crime
iii. Engages residents to determine which criminal activities they are most

affected by, creating an accurate law enforcement priority list shaped by the people who live in the area rather than acting in pseudo (self-styled) manner

iv. Encourages residents to participate with law enforcement in order to keep their own community safe rather than leaving everything to law enforcement agencies (Lortz, 2016).[16]

**Policing and Community Policing: Roots**

The roots of Community Policing are rooted in the history of Professional Policing itself which began two centuries (190 years) back when modern law enforcement was started in England with the creation of London Metropolitan Police District by Sir Robert Peel under the Metropolitan Police Act, 1829. He is considered founding father of professional policing, who established a full time, centrally organised police force in the modern times replacing the previously disorganised system of perish constables and watchmen. The principles adopted by Sir Robert Peel, the first chief of the London Metropolitan Police, served as the traditional model for all British and American police forces ever since. These principles include the use of crime rates to determine the effectiveness of the police; the importance of a centrally located, publicly accessible police headquarters; and the value of proper recruitment, selection, and training.[17]

Interestingly, Robert Peel is also credited with many of the innovations in the Police involving local communities in policing to reduce the crime and criminal activities, which are practiced even today. These innovations were the beginning of Community policing in a disguised manner and the best innovation introduced was the establishment of regular patrol areas, known as "beats." The usual practice, before 1829, was that the police only responded after a crime had been reported and Patrols occurred on occasions, and any crime deterrence or apprehension of criminals in the act of committing crimes happened almost by accident which reflected how bad police response was. Robert Peel assigned his Bobbies (constables) with specific geographic zones and he held them responsible for preventing and suppressing crime within the boundaries of their zones.[18] His strategy was based on the premise that Cop will get familiar with the area and the people of the area which will help him to detect movements of strangers or unscrupulous elements to deter the crime. Peel added a second innovation to his beat concept to make it fully workable by instituting Paramilitary Command Structure. He believed that overall civilian control was essential along with military discipline to ensure that constables actually walked into their beats and enforced the law on London's high crime rate streets, something their watchmen, had failed to do.[19]These ideas of Peel about policing are sometimes considered a precursor to modern community policing.

In USA, Community policing had its origins in the 1960s as this period saw its fair share of urban riots and gang activity and often Police responded to these criminal actions with brute force which damaged the police's reputation. Many citizens did not trust the police departments in their neighbourhoods and consequently the police started to develop an increased local community presence in their efforts.

In the 1970s and 1980s, community policing became the new norm, with more police walking the beat in communities throughout the United States. More and more, the police began to engage community members, businesses, non-profits and others in partnerships to combat crime in joint problem solving efforts. Currently, community policing is present in most regions throughout the United States and failure to have such a model is rare.[20]

In 1974 the Kansas City Patrol Experiment demonstrated that increasing routine preventive patrol and police response time had a very limited impact on reducing crime levels, allaying

citizens' fear of crime, and increasing community satisfaction with police service. In 70s, an innovative project in San Diego specifically recognized this developing theme by encouraging line officers to identify and solve community problems on their beats (Boydstun and Sherry).[21]

Broken window concept of Wilson and Kelling (U.S.A) (1982) focused on the abandoned property as the hub of criminals activities. Briefly, the model focuses on the importance of disorder (e.g., broken windows) in generating and sustaining more serious crime. The police can play a key role in disrupting this process.[22]

It was the middle of the 20th century which saw the introduction of theme that Police exist to improve the quality of life of the people by making their life's safe and secure and as a result new strategies saw the light of the day to improve the police-community relationship. In fact, the philosophy governing community oriented policing is built on the premise that fear of crime in minds of peoples be minimized, ushering in Community-Police partnership to achieve the laid down goals of the Police i.e. to foster law and order in society. Therefore, community policing has emerged as a major issue in the development of public safety for many countries in the world such as England, Singapore, Canada, Israel and Scandinavian countries like Norway, Sweden, Denmark and Finland. Community policing saw a worldwide growth and almost all the countries of the world have taken to Community policing to improve effectiveness of their policing and India was no exception rather India gave the lead to the world.[23]

**Community Policing In India**

Historically, Community policing finds its traces in Ancient India. In fact, the key feature of ancient police system was its community orientation. The references to police organization and specific powers of law enforcement with preventive, investigative and prosecuting duties can be traced back to Mauryan era. During medieval India, a village chief called Mukaddam or Sarpanch used to work as a police officer and used to maintain law and order with the help of village community. At further upper levels, the Muhasil or Gumastha, representatives of Fauzdar, Khwaza and Musarif used to be part of the community policing. In between these periods, the campaign of community policing got dented by the designs of the rulers. During later era of Sultanate and Mughals, the policing became secondary as the primary concerns of the government forces turned militaristic. During British era, the law and order passed into the hands of Zamindars as per changes made by Lord Cornwallis. A uniform police force was established with Darogah in every district. The Darogahs were made responsible to district judges. Police existed to serve the cause of Colonial rulers rather than that of the locals.

After Independence in India, the law and order was made a state subject thereby shifting the onus on the State governments to maintain law and order. Situation in the country was not good as the administration was grappling with partition jerks and trying to wriggle out of slavery era. Due to inadequacy of Police strength in the states, some states tried to implement the community policing to reduce their work pressure and involve communities to check and curb crime to maintain Public Order with effectiveness. For example, West Bengal had a programme called the Village Resistance Group to deal with dacoits in rural areas. In Gujarat and Maharashtra, community policing programme called Gram Rakshak Dal was established. Similarly, in Karnataka enactment of the Karnataka Village Defense Parties Act of 1964, which became operational in 1975 aimed to establish community policing. Some other prominent community policing initiatives worth mentioning were started in various parts of the country:

Friends of Police Movement (FOP), Ramnad district, Tamil Nadu (1993)

Mohalla Committee Movement Trust Mumbai (1994)

Parivar Paramarsh Kendra, Raigarh district, Madhya Pradesh (1996)

Trichy Community Policing, Trichy district, Tamil Nadu (1999)

Samudayak Police Samiti, Himachal Pradesh (2000)

Community Liaison Groups, Uttarakhand (2007)

Janamaithri Suraksha Padhathi, Kerala (2008)

'Prayaas' Community Policing Initiative, Tripura (2011)

SaanjhKendras, Punjab (2011)

Gram/Nagar RakshaSamiti, Rajnandgaon, Chhattisgarh.(2014)

Yuvashakti Initiative, Chandigarh (2016)

Mahila Police Volunteer Initiative, Haryana (2016)

All the states have initiated multifarious community policing programmes or schemes and many of these initiatives proved their worth.

**Community Policing: Thikri Pehra and other Related Initatives**

We have discussed so far the concept of community policing with its applicability world over through many initiatives. This concept has been put into practice like Neighbourhood Watch, Cops back on the Beat, Foot patrol, Night patrol, Friendly police, Citizen-police clubs and few others such like initiatives. One of these old age initiatives is known as Thikri pehra which does not find a mention in the Community policing initiatives internationally since the term is indigenous and had its origin in undivided India. Neighbourhood watch, Night patrol and Night vigils are the concepts which can be considered nearly similar to the concept of Thikri Pehra but with a difference.

It is a fact, that though community policing has been hanging around since initiation of Peelian's principles yet the community policing, as an initiative, caught the imagination of the government's by the 1960's, in the West, and by the turn of the Century the concept got globally recognized. However, in India the concept finds its traces in the Ancient times and in the face of historical evidences, the claims of the West that community policing is their baby sounds depthless. Thikri pehra, which is the age old and best living example of Community policing in India since early times, officially too found a place in the statute books with the coming of the Punjab Village and Small Towns Patrol Act (VIII of 1918).

**Neighbourhood Watch**

The National Neighbourhood Watch program empowers citizens to become active in community efforts through participation in Neighbourhood Watch groups. Since 1972, the National Neighbourhood Watch Program (housed within the National Sheriffs' Association) in USA has worked to unite law enforcement agencies, private organizations, and individual citizens in a nation-wide effort to reduce crime and improve local communities. The UK's first Neighbourhood Watch was set up in Mollington, Cheshire in 1982 following the success of a similar scheme in Chicago in the United States. Many more schemes were launched throughout UK.[2424]https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/115729/hosb1910.pdf

Neighbourhood Watch has gradually emerged as a strong, supportive group with police and community volunteers working together in other counties like Australia and New Zealand. Since its inception Neighbourhood Watch Australasia has evolved to become a strong Australasian group ready to take the challenge of working together for the benefit of the Australasian community to reduce crime, engage with and foster safe communities. This has not been achieved by any one person alone but by a group of committed community volunteers and police staff from all States, Territories of Australia and New Zealand. By working as one, this has

allowed Neighbourhood Watch Australasia to be born as a constituted (2006), incorporated association (2006).[25]

**Night Patrol**

Night patrol (especially by soldiers or the police) is to go around an area or a building to see if there is any trouble or danger. Night Vigil is a watch or a period of watchful attention maintained at *night* or at other times, a period of wakefulness with a purpose. There is a marked difference between the two terms; night patrol and night vigil, but often these are used interchangeably. The term Patrol refers to movement with a purposeful vigil whereas vigil may be stationary at a point or at certain strategic points to be organised during night or day time. More often, Night *vigil*(in the West world holds different meaning) means a nocturnal devotional exercise or service, especially on the eve before a church festival. Thus, the term night vigil to guard and night vigil (a spiritual activity) are quite confusing. Night Vigils, in Indian context, means to guard at night any property or life or public place or place of public or private importance or to thwart any untoward incident at a place, which may be of a criminal nature or a safeguard action. As has been referred earlier, Night Vigils are commonly deployed by the residents or may be ordered by the local administration to safeguard the life and property of the residents in the wake of any natural or unnatural threat or to forbid happening of an activities which may not be of public interest.

All these above mentioned initiatives have one focus only to secure and safeguard the life and properties of locals. But one fact emerges that Thikri pehra is the arrangement which is oldest of all whereas all other initiatives of similar nature emerged much later.

**Commonalities Between the Two: Thikri pehra (TP) and Neighbourhood Watch (NW)**

i) Both work on the premise that Police alone cannot contain or curb the crime.

ii) Both are local initiatives.

iii) Both involve local communities.

iv) Both are adequately supported by police in dealing with situations.

v) Both are based on the principle of voluntary involvement of the locals.

**Differences Between the two: Thikri Pehra (TP) and Night Watch (NW)**

i) TP is generally operationalized in rural and small towns whereas NW is an initiative which is operational in Cities or larger urban settlements.

ii) TP responds to a wider range of activities both in normal times and in emergencies whereas NW tries to check the property crime in the vicinity in normal times.

iii) TP can be imposed by Deputy Commissioner (under section 3 of the Act) to perform the patrol duty whereas NW works through Neighbourhood Watch Associations.

iv) TP is an age old concept used in Indian setting since time immemorial whereas NW is a recent concept got impetus in the middle of 20th Century in the West.

v) TP is created officially and is managed by Deputy Commissioner or by an officer deputed by him for the purpose whereas NW is managed by Neighbourhood Coordinator who is appointed amongst the association members on his willingness to act and Coordinator may appoint his deputy or deputies as per the requirement.

vi) TP volunteers used traditional techniques and weapons to combat the situations whereas NW encourages the communities to install security devices such as CCTV cameras, door chains, a magic eye, and cross-linked alarms.

vii) TP volunteers enjoy the powers of a public servant while on patrol duty

NW volunteers don't have the same authority as the police and they must know their limits.

This above discussion is justified as it is going to have a bearing on the suggestions to be made in the end part of this work.

**Thikri Pehra: Uses and Usefulness**

The history has enough of evidence supporting Thikri pehra as an effective tool of maintaining law and order in society. Thikri pehra is a village defence concept wherein village folks volunteered in terms to guard their village against bad elements especially at night. The term Thikri pehra stands for patrol duty by the citizens of area/place to protect their life and property of a locality. These pehras are voluntary efforts and often operate in tandem with police. Mostly Thikri pehras are used by the communities to support the police when the latter fails to deliver due to a paucity of manpower. The purposes which these pehras serve are more than one in nature and scope. Not necessary that the Thikri pehras are organized to combat dacoits, gangs, criminals or bad elements but these are also used in times of emergencies or in the times when natural calamities have hit the area or community. These days, new dimensions are being added to the ambit of these Thikri pehras to address to the emerging challenges of maintaining Public Order. Thus, Thikri pehras have a wider role to play both in normal times and emergencies.

**Role: Normal Times**

**I. Safeguard the life**

a) Individual life
b) Life of individuals
c) Protection of a group
d) Protection of a community
e) Protection of an area

II. **Safeguard the property**

a) Buildings
b) Animals
c) Household goods
d) Crops
e) Ponds and other Water sources
f) Forests and Trees
g) Wild life
h) Railway tracks
i) Telecommunication Installations
j) Other important installations of Public Interest
h) Environment

**Role: Emergency Times**

**I. Natural Disasters**

a) Earthquakes
b) Floods
c) Land Slides
d) Catastrophes

**II. Others Disasters**

a) Accidents
b) Fires
c) Stampede
d) Riots
e) Outbreaks of epidemics.[2626]Sharma, R.K et al., Community Policing :An Indian Experiment with Thikri Pehra, Academicia, Volume 2, Issue 7, July 2012, p 5

Above discussed areas of activities fall within the ambit of Thikri pehra but some other activities can also be added depending on the need and requirements of a village or area.

**Thikri Pehra in India: Some Experiences**

To assess the role played by these Thikri pehras it would be interesting to peep into some of the case- experiences in different situations covering different parts of India with a focus on north western states:

### 1) During Floods

All eligible adults in the district Gurdaspur, (Punjab)(2000) living in rural areas were asked to organise Thikri pehra during the rainy season and were asked to patrol at night and to inform the flood control room from time to time about the flood situation in the Ravi and the Beas. Orders were passed to impose a dusk-to-dawn curfew in the affected areas but these orders were not applicable to the persons giving Thikri pehra.[27]

Villagers of some villages of district Ludhiana (Pb) (2004),panicked as the water level of the river Sutlej rose above the danger mark. Villagers of Nurpur Bet, Bagge Kalan, Bagge Khurd and Bounkar Dogran could not sleep after they heard that the water was being released from the Roparhead works. The villagers stated that the bandh was built of sand and the water was flowing close to the bandh, which could harm them if more water was released. The administration demanded a constant vigil on the site. The villagers arranged Thikri pehra along the bandh at night to save life and property.[28]

In the year 2011, July, flooding river Markanda(Haryana) created a water sheet over 1,000 acres of land in a dozen villages and two deras (small villages) of Ismailabad area of Kurukshetra, affecting around 500 families. The panic button by the state was pressed to deal with the flood waters; farmers were put on high alert and were asked to start Thikri Pehra (night patrolling) to monitor the situation. The Deputy Commissioners of Ambala, Yamunanagar and Kurukshetra took proactive steps for relief and rescue operations as these three districts were among the worst affected areas of Haryana. Responding to the threatening flood situation, the villagers of the affected areas got together in an act through Thikri pehra to keep vigil round the clock over the flooding waters to save life in danger.[29]

As water level in Ghaggarriver(Hy) (2016), started rising with monsoon rains, the district administration of Sirsa organised the meeting of Sarpanches of the villages situated along the river to discuss flood-control measures. Additional Deputy Commissioner (ADC) of Sirsa district sounded the alert for the Sarpanches of the villages, especially for the Sarpanches which were the worst-affected in the floods of 2010, to remain extra vigilant. The villagers were trained to save themselves during floods and were asked to hold 'Thikri pehra' (a rotational night vigil) to keep an eye on the river water level.[3030] Hindustan times, India, 9 July, 2016

### 2) Check Crimes: Murders, Thefts, Robberies and Such Others

During the Rajya Sabha debates in May, 1979, a significant reference was made to Thikri pehra by the then Minister of State of Home Affairs in a response to question 26 pertaining to status of Patrol vehicles in Delhi. The Minister made reference to the organizing of Thikri pehra to check the crime in venerable areas in Delhi or its surroundings. Similarly, during debates in Lok Sabha on the issue of containing crime in Delhi during the years 1984-85, one of the suggested measures by the then Minister of State Home Affairs was to organise Thikri pehra by local residents in coordination with chowkidars and police.

In the year 1998,the Punjab police decided to introduce 'thikri pehra' in all villages falling in the Faridkot and Ferozepore divisions to check the activities of a gang, whose member had killed three persons and injured more than 20 persons in four days in the region. The decision to introduce 'thikri pehra' during night was taken at a meeting of senior police officials convened by DIG, Ferozepore range.(A gang of armed robbers killed one person and injured nine others in GhalKalan village in Moga district on August 21. Another vehicle-borne gang wearing 'kalakachas' struck at Dharamkot in Ferozepore district on August 22 and killed two persons and injured 11).These two incidents had created a terror among the villagers and they had been demanding adequate security as a result the

police had launched a massive hunt to nab the criminals. The arrangements of 'thikri pehra' were made operational at the village-level to prevent any further untoward incident. Each 'thikri pehra' team was given two constables to strengthen the security. People, who were residing in the 'dhanis' or 'deras' on the outskirts of the villages, were advised to remain more vigilant. The criminals who had struck twice in the region belonged to a particular community known for its criminal tendencies and accordingly villagers were asked to keep a close watch on strangers moving in their area under suspicious circumstances.[31]

In an another incident in Zirakpur, District Mohali (Pb) (1999),the house of a Kashmiri migrant family in MS Enclave of Dhakauli village was robbed, the police remained clueless about the gang of the miscreants and their hideout. The robbers had beaten up three family members and one of their guests and looted the house on November 6 midnight. The Police urged the villagers to organise thikri pehras to help the police to nab the suspects.[32]

In yet another incident in Jalandhar district (Pb) (2000), The Armed gangs of migrant labourers in the Jalandhar district were causing fear in the region. These gangs suspected of being comprised of migrant labourers of criminal tribes like Pardis & Bawaries had been active in the villages and around the Jalandhar city for more than a year. What has caused maximum anxiety is the ruthlessness of the assailants who used iron rods, hand pump handles, and other blunt weapons to batter and maim their victims into submission. (These gangs killed three persons, including one in Phagwara town, and injured around two dozen persons in half-a-dozen robberies in Jalandhar and two persons in Kapurthala district. The meagre success of the police in nabbing these violent criminals in spite of formation of a special investigation team (SIT) and launching of night domination operations did slap a question mark over its efficiency. Following the attack on St Joseph's School, Phillaur on November 2000, in which six armed robbers looted Rs 2.5 lakh and some gold ornaments from the convent, the Jalandhar district police formed the SIT to nab the criminals). A night domination operation was initiated under which police officers were instructed to remain in the field between 10 p.m. and 4 a.m. so that movement of such gangs could be curbed. But their efforts appeared to have little result with the gangs becoming more aggressive instead and extending their reach to nearby areas like Phagwara, where an armed gang attacked five houses and killed one NRI. In Jalandhar district barring the arrest of six-members of a Muzaffarnagar (UP) Bawaria tribal gang, which the police claim was responsible for a number of robberies in the district, there was no real breakthrough. Disturbed by increasing incidents of violent robberies Sarpanches of different villages, after a meeting with the SSP decided to mount "Thikri pehra" in their villages to check the crime.[3333] The Tribune, Chandigarh, India, 11 March, 2000

Considering the past experiences of spate in robberies during the month of June (2001) in Ludhiana district(Pb) every year, people of several villages of the district organised Thikri pehras in their respective areas to prevent any strike by robbers.[34]

In the year 2003, The Deputy commissioner of Police, North-West district, Delhi Police, ordered the activation of Thikri Pehra during night times with the support of Panchayats, villagers and local leaders. This was necessitated because an increase in crime was reported from rural areas of Delhi like Narela, Bawana, Alipur and Samaepur Badli. This system of Thikri pehra was claimed to be successful in bringing down the crime rate to a large extent.[35]

'Kale Kachhewale' gang at Lalru, District Mohali (Pb), was active in the year 2005. A Robbery was committed by the gang in which three persons were killed and seven others were injured. When the robbers struck at Mastgarh village, a five-member team of the village was on 'thikri pehra' in the village, however, they

were not of any help as they could not hear shrieks of the victims.[36]

After terror struck Dina Nagar in Gurdaspur(Pb) in July- August 2015, Punjab police had asked residents of adjoining border district of Pathankot to hold "community policing" on a regular basis to prevent repeat of such incidents. Police had asked villagers to hold regular Thikri pehra which empowered the villagers to take control of the security of their areas by way of patrolling at night. [37]

### 3) Protect Religious Places and Public Property

In the year 2015, Desecration of Sacred Granth Sahib was reported in the District Ludhiana. The District administration of Ludhiana ordered that all villages falling under the district should hold night Thikri Pehras (night patrol) to stop the incidents of desecration of Sacred Granth Sahib that have taken place in different parts of the state.[38]

Similarly, Thikri pehras were to be organised by the villagers to safeguard the religious places in District Barnala.

To protect the religious places and public property in year 2017, the District Magistrate of Muktsar, ordered all the village panchayats and municipal councils in the district to organise "Thikri pehra" round the clock by forming teams of 20 persons each to protect religious places, petrol stations, schools, power stations and government buildings. Besides, the priests were asked to protect the religious places and the police appealed to the people to maintain communal harmony and peace.[39]

### 4) Women Venturing into arena of Public Security

#### Maharashtra

Lathi in hand and whistle to blow, sari-clad women from a certain localities in southern part of city Nagpur hit the streets by the night to thwart thieves. The women, calling out **jaagte raho** (Be alert) in the night, toiled in the lanes and bye-lanes of different locations of Ajni to keep thieves at bay.

Following a spate of thefts in their localities, the community patrolling by the citizens was emboldened by the stree-shakti. The women, forming a motley group of task force, patrolled the streets of places like Manewada, Ayodhya Nagar and neighboring localities roughly between 11 pm and 3 am on regular basis. Apart from calling out 'to be alert,' these women would also strike the surface of the road raising the chilling noise of the lathi they were equipped with. Years 2010-11 saw a spurt in thefts & house breaking in city. City police chief, lauding the effort of the enthusiastic group of women, welcomed the concept as a 'citizens' initiative' to tackle crime and emphasized that citizens should take advantage of an already existing scheme of the city police where community patrolling was encouraged for keeping a locality safe, secure and peaceful. There was a scheme that city police department can offer to the citizens where cops assistance would be provided to such vigilant groups in the localities.[40]

#### Haryana

The Mahila Police Volunteer initiative was launched in Haryana (2016). By launching the initiative in Karnal and Mahendragarh districts, Haryana became the first state to adopt this scheme. Originally conceived by the Union Ministry of Women & Child Development, Mahila Police Volunteer is a joint initiative with the Union Ministry of Home Affairs. Haryana inducted the first batch of 1000 Mahila Police Volunteers and these volunteers were pre trained by the State Police Authorities about their role and responsibility. It envisages creation of a link between the police authorities and the local communities in villages through police volunteers who will be women specially trained for this purpose. The scheme expected to have at least one such volunteer from every village whose primary job will be to keep an eye on situations

where women in the village are harassed or their rights and entitlements are denied or their development is prevented.[41]

### 5) Addressing Miscellaneous Issues

#### Burning of crop residues

Another function which has been recently added to the ambit of Thikri pehra is to watch burning of crop residues. In Karnal District (Hr.), the District Administration has directed the Panchayats and local bodies to organise Thikri Pehras to stop burning of crop residues, which is becoming an environmental menace.[42]

#### Fighting Drug Menace

Shaken by a spate of drug related deaths, people of Punjab, in the year 2018, took it upon themselves to catch drug peddlers and smugglers in order to stop the supply of 'chitta' to the youth. In villages across several districts, people are resorting to thikri pehra, or community policing. Even the police and government authorities have approved the idea of community patrolling. The reason is simple: the locals are aware who the addicts and the peddlers are. This community policing is gaining ground, particularly in the border districts of Tarn Taran, Amritsar, Moga, Jalandhar and Fategarh Sahib. In TaranTaran, after a video of a young boy taking drugs went viral, the thikri pehra volunteers tracked down the peddler, who was a girl in her twenties, caught her and turned her over to the police.[43]

#### Positive Channelization of Energies of Drug Addicts

Inspector General of Police, Special Task Force, Punjab Police recently in 2019 emphasized that to check drug abuse, the Drug Abuse Prevention Officer and Awareness Campaigns must encompass various activities to include the drug addicts in various positive initiatives such as Swachhta Abhiyan, Yoga, Meditation and Thikri Pehra.[44]

#### Whistle-blowers

Many would still remember the nights when policemen and volunteers on patrol duty blew the whistle. But as modern gadgets made their way into policing, whistle became a defunct tool. However, the city police decided to take a retro leap to check growing crimes like theft and loot in the city of Lucknow (UP) by sounding the whistle again in the silence of the night. DIG ordered the cops to blow a whistle during night patrolling after every 30 minutes. The community served was also involved in these efforts. For residents of Lucknow (UP), whistle blowing signalled peaceful sleep as cops & volunteers were keeping vigil, and for criminals, the whistle was a warning to keep their wicked plans at bay.[45]

#### Fighting Red Threat

In the year 2005, the residents of Vishrampur under Shivsagar police station in Rohtas district (Bihar) were spending sleepless nights while patrolling their villages following a threat from armed guerrillas of the CPI(Maoist) to Ugravad Virodhi Manch (an anti-Naxalite forum) leader. The leader of the forum received a threat to his life after he appeared in the court of Additional District and Session judge-II at Sasaram pertaining to a case against 10 dreaded Maoists. The rebels were nabbed after a fierce gun battle between police and the Maoists in 2005. The villagers led by an affluent farmer, had helped the police with the operation. (The village under the foothills of Kaimur has a population of about 2000 and the villagers did intensify night patrolling after the Maoists threatened the Manch leader when he was returning home after appearing in the court. Mostly, the youth patrolled the borders of the village in groups).[46]

### 6) Some Do for Thikri Pehra

#### Encouraging Volunteers of Thikri Pehra

To motivate the volunteers involved in Thikri pehra, the District police Rewari has launched an initiative to have Selfie with Pehraydar (volunteers) so that they feel recognised & encouraged to involve themselves in such activities to check the crime in the village.

**Coordination with Local Police**

A thikri pehra group severely beat up a uniformed policeman in Tripri township (Patiala, Punjab) following which the villagers and volunteers gheraoed the police post which led to a lathi charge. At night, the police constable was driving a motor cycle in uniform, did not stop when asked to stop by the thikri pehra group. The group followed the constable in a vehicle and he was finally gheraoed in HarijanBasti. The situation got out of hand when the police post in-charge tried to whisk him away. The mob then turned on the police check post and gheraoed it. DSP reached the scene and the police had to resort to a mild lathi charge to disperse the crowd. It was decided by the administration that thikri pehras would now be held in coordination with the local police.[47]

All the above cited select cases signify the role of Thikri Pehra in curbing the different types of crime and disorder in society thus, convincingly it could be said that Thikri Pehras performed well in difficult situations.

**Sparingly Used Practice**

Analysing the experiences sighted above and other such incidences heard or read about gives us a clear picture that Thikri pehra is often used in the situations like:

i) Spurt in thefts, robberies and murders
ii) Cattle lifting
iii) Arson and loot
iv) Vandalism
v) Curb Drug menace
vi) Desecration of religious places
vii) Fighting drug menace
viii) Protection of Property
ix) Guarding places of political rallies
x) Protecting the residents from Wild Animals
xi) Fighting Floods, Fires and other natural calamities
xii) Protecting the rights of women
xiii) Catching snatchers, miscreants and fraudulent
xiv) Check burning of Paddy straw (Amendment-2018)

Another striking feature, which has surfaced from the mentioned experiences above, is that Thikri pehra is promulgated by the Deputy Commissioner in most of the cases but there are instances when Superintendent of police asked the villages of some area to organise Thikri pehra to check some foreseen or unforeseen situations. This feature, of course, can be attributed to the provisions of the Punjab Villages and Small towns Patrol Act, 1918 which have been further enshrined in Punjab Panchayati Raj Act, 1994. However, it is an established fact that Thikri pehras are organised as and when situations go beyond control and police and other institutions fail to adequately address the situation. Thikri pehras are sparingly used by the Stakeholders only when situation demand so.

Yet another reason for this initiative to be adhoc in its nature is very much inherent in police rules…(a non-statutory arrangement) on no account be regarded as a matter of routine and should be resorted to temporarily only during epidemics of crime.[4848] Punjab Village and Small Towns Patrol Act, 1918

Thus, it is evident from the discussion so far that for some listed reasons, the use of Thikri pehra to combat crime or other life endangering situations is sparsely used though there are situations when it is used for a longer period of times or at times extending the period further depending on the gravity of situation.

**A Relook into the Existing Practice/model and Suggested Model**

Thikri pehra works on different patterns in different parts depending on the purpose and demand of the situation. Possible working patterns are:

i) Localized voluntary effort (involving local residents)

ii) Localized voluntary effort backed up by the local body (coordinated by village Chokidar)

iii) Localized voluntary effort backed up by the Police (involvement of the District Police and District Magistrate)

**Existing Model: Features**

The present arrangement or so to say Model of Thikri pehra solely draws its strength from Punjab Village and Small Towns Patrol Act, 1918 and gets further support in police rules and magisterial orders of Districts Chiefs. This Act of 1918 has been adopted by other State Administrations from time to time. This Act finds mention in Punjab Panchayati Raj Act, 1994 under the sub title 'special functions' to give legal sanctity to this initiative of Thikri pehra.

As per the Act of 1918:

Order for performance of patrol duty:

Sec 3. (1) When the Deputy Commissioner is of opinion that in any village in his district (a) 'special measures' are required to secure the public safety, and the inhabitants have not, either voluntarily, or on being required so to do by the-Deputy Commissioner, made sufficient provision for watch and ward, he may make an order in writing that that from such date as he may fix in the order that all able-bodied adult male inhabitants of the village shall be liable to patrol duty.

Further, sec 3 (2) An order under sub-section (I) shall remain in force for such period not exceeding one year as the Deputy Commissioner may fix, but it may be removed from time to time as the Deputy Commissioner may direct.

Sec (3) An Order under sub-section (I) or (2) may be cancelled at any time by the Deputy Commissioner.

Sec 4. (I) When the Deputy Commissioner has made an order under section 3 he shall, unless the village is a municipality, '[a notified area or a small town], appoint a village Panchayat for the village if not in existence.

Sec 4. (2) The village Panchayat of any village in respect of which an order under section 3 has been passed shall report forthwith-

(a) the number of able-bodied adult male inhabitants of the village;

(b) the number of persons which in their opinion will be required for patrol duty each night;

(c) the method by which in their opinion such persons shall be selected, that is, whether by rotation or by lot or otherwise.

Sec 4.(3) Upon receipt of the report of the Village Panchayat the Deputy Commissioner shall determine the number of persons required for patrol duty and the method of their selection, and shall inform the Village Panchayat of his decision.[49]

Above sighted provisions clearly spells out the **features of the model:**

i) Thikri pehra, when and where to organise, is the discretion of Deputy Commissioner and that matter he is guided by police authorities, local leaders or local residents.

ii) Through Village Panchayat or Local body, the whole operational arrangement to organize Thikri Pehra is made.

iii) Village Chowkidar as functionary of the Administration supports the entire arrangement.

iv) It is Voluntary effort of the village residents so to say, but provisions make it look otherwise… (The village Panchayat of any village in respect of which an order under section 3 has been passed shall report forthwith-

sec 4 (a) the number of able-bodied adult male inhabitants of the village)

v) Local leadership has a definite role to play but is controlled by the district administration at will.

vi) People participation is restricted and often driven by sheer enthusiasm to secure themselves in a situation rather than by involving them through a democratic process.

Analysing some of these characteristics of the model born out of the Century old Patrol Act 1918 and considering the prevailing law and order situation in the villages, towns or cities are no good at all rather worsening day by day. There is an urgent requirement on the part of concerned Administrations to address law and order both in rural and urban areas. Police alone cannot be omnipresent and omnipotent to deal with all the situations particularly in a country like ours which is grappling with a population explosion. The underlined message to the people, world over, is to 'TAKE CARE OF YOURSELF' on all fronts especially on the front of Safety and Security of Self. It is going to be a participative approach with more of onus on the Community rather than on the police to guard themselves and individually it may sound a hollow idea to defend oneself without having any legal and physical power (group support) to do so. Thus, a modified version of Thikri pehra as an initiative of community policing needs to be worked out

a) to empower the communities to defend themselves in odd situations and

b) to relieve the police from peripherals activities related to daily life of a common man to allow it to deal with serious concerns of society. (Police restricted their role in handling issues at local level)

**Suggested Model: Thikri Pehra**

During the write up of this paper, whatever gathered from shared experiences and the material & matter consulted on the topic, some suggestions have been put forward to update the existing model to make it more conducive to adaptable to and effective in serving the purpose.

**Suggestions Are:**

**A) Local Body Leadership**

Thikri Pehra as an arrangement should be placed under the leadership of a concerned local body of the area. The local leadership is most suitable and viable for the operation of Thikri Pehra as the local leadership is better placed to identify and deal with the local issues and problems.

i) Make Thikri Pehra integral part of Gram Panchayat:

Thikri pehra already constitutes one of the functions of Gram Panchayat under 1994 Act. So, no harm if it is made categorically part of Gram Panchayat/ Local body as a most active and functional unit to relieve the police from burden and utilise the energies of unemployed youth.

*(Amending the Panchayati Raj/Local body Act)*

ii) Categorisation of Volunteers:

Youth and able bodied persons should be drafted into the arrangement, considering them in two categories; unemployed youth and dedicated youth volunteering themselves for the community cause. Unemployed youth should be involved by paying an honorarium to attract them to doing the job and dedicated volunteers be socially and administratively be recognized at an appropriate forum.

*(Thikri pehra to have separate sub head in the Budget of Gram Panchayat/ Local body )*

iii) Thikri pehra be made permanent arrangement:

Thikri pehra be made permanent arrangement at local level attending to variety of functions concerning community safety & security under

two heads; normal time functions and emergency functions.

*(Amending the parent Act)*

iv) Administrative Leadership:

It should be placed under the administrative leadership of local body for day-to-day functioning.

*(Amendment of concerned local body Act)*

v) Sarpanch and village Chowkidar to be key players:

Sarpanch and village Chowkidar should be given the key role to administer the arrangement. *(Amendment of concerned local body Act)*

vi) Defined Powers and Functions of key players:

Powers and Functions of key players of Thikri pehra should be made specific to fix accountability for their actions.

*(Amendment of concerned local body Act)*

**B) Professional Leadership**

For professional leadership, Thikri pehra should be placed under District Police. The arrangement is already supervised, coordinated and managed by the district police. Though District Police Chief does not find any mention in the Parent Act, yet in practice, he/she assumes a significant role.*(See under the heading: Useful Experiences)*

i) Association of District Police:

On the request of local body, district police should be associated with all endeavours of Thikri pehra to give legal sanctity to all the actions taken by the volunteers.(Parent Act, 1918, already provide some special privileges to the volunteers-section13)

*(Suitable changes to cope with present situations may be incorporated)*

ii) Training to Volunteers:

Basic training should be provided to the Volunteers by the district police to combat the crime situations.

*(Suitable Amendment be made to Local Body Act or Parent Act)*

iii) Thikri Pehra to be a Support System of Police:

Police should be associated with serious nature crimes relegating the volunteers of Thikri pehra to a secondary position.

*(Suitable amendment to the concerned Act)*

iv) Encouragement of Local Youth by Administration:

District Administration should encourage the local youth to join as volunteers by appreciating their efforts at local and state level.

*(Suitable amendment to the concerned Act)*

v) Regular interaction between the Volunteers and Police:

Regular interaction between the volunteers and police should be made a feature to bridge the gaps between the two to ensure better and effective policing.

*(Suitable amendment in the concerned laws)*

vi) Demarcation of the Roles:

Clear cut demarcation of the roles of volunteers and police officials should be made to save an unwanted conflict between the two.

*(Suitable amendment in the concerned Act)*

**A Commentary on the Suggestions**

Placing Thikri pehra initiative under the control and leadership of Gram Panchayat is justified on the grounds that in earlier arrangement all the powers to organise Thikri pehra are vested with District Magistrate. In the beginning of the 20$^{th}$ century Deputy Commissioner was considered Mai-Baap and as such districts were large with less population and lesser problems

at the front of law and order. Crime was not common and criminals were looked down upon and as a result both crime & criminals preferred hiding. Deputy Commissioner enjoyed vast powers and centralization of powers made him all the more powerful. Therefore, at the time when officially Thikri pehra was thought of (1918) perhaps vesting powers regarding organising and arranging this initiative were rightly bestowed upon Deputy Commissioner. But situation is drastically changed as law and order maintenance is proving to be a tough challenge today in any setting: be it rural or urban. The role of Deputy Commissioner has been laden with many more functions of multi-dimensional nature thus making him a busy officer dealing with volatile Politicians, Administrators and Public and serving them to their satisfaction.

Thus, placing Thikri pehra arrangement with the Gram Panchayat will serve twin purposes: one to relieve Deputy Commissioner of a function which can be better looked after at the grass-root level and secondly realising the goal of democratic decentralization wherein elected representatives of local area will try to meet the safety and security needs of the people of a locality by assessing and reassessing the arrangement to ensure peaceful living. Police role has been highlighted as Team-building and Capacity building in context of Thikri pehra. Police can never be, in totality, taken away from the scene but shifting this arrangement of 'Policing for the Self' to the local bodies will certainly go a long way to relieve the work pressure of the police and will empower the common man to manage order in the community.

Thikri pehra, as an informal or formal practice, has proved its worth and utility over the years as an effective tool to deal with the needs for local policing. Undoubtedly, the shared experiences of Thikri pehra have adequately summed up the success of this initiative. However, if suitably amended this initiative can meet twin purpose: making the community believe that it can watch its own safety and security needs and relieving the police from attending trifle issues which can be better resolved at the local level.

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# The Role of Police in the Protection of Children from Sexual Offences (POCSO) Act: A Content Analysis

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**Abstract:**

The Protection of Children from Sexual Offences (POCSO) Act was enacted in 2012 to address the increasing rate of crimes against children across the country. Police plays one of the major roles in the implementation of the Act. This paper has made an attempt to examine whether the mandates prescribed in the POCSO Act to the police have been followed diligently. The examination has been done with the help of content analysis of news articles published nationally between 2012 and 2018 regarding child sexual abuse.

**Keywords:**

Child sexual abuse, POCSO Act, Role of police, Work done by police.

## Introduction

Child sexual abuse existing in India has been known for a long time. In 1998 a survey on child sexual abuse was conducted in India for the first time by an NGO - Recovery and Healing from Incest (RAHI). 76 per cent of the respondents reported were abused during childhood or adolescence (Dummett, 2013). A survey was conducted among school going children both boys and girls in Chennai in 2005 by Tulir CPHCSA s, the results showed that 87 per cent of them faced sexual abuse and 15 per cent of them experienced severe forms of abuse (Chandrasekhar, 2015).A study conducted on child abuse in 13 States by Ministry of Women and Child Development in 2007 revealed that 53.22 per cent of the respondents experienced sexual abuse and 21 per cent of them faced extreme forms of sexual abuse. Moreover, among the respondents facing sexual abuse 52.94 per cent were male (MWCD, 2007). Crime against children rose by 11% in India within one year from 2005 to 2006 (Anupama, 2018). The reported cases of crime against children in the nation increased by 24 per cent from 2010 (26,694) to 2011 (33,098). Percentage of the rape incident alone increased by 29.7 from 2010 (5,484) to 2011 (7,112) (Behere et al, 2013). From the evidence of various reports within the country, Child Sexual Abuse is prevalent but overlooked. The Government of India has taken significance steps to address the Child Sexual Abuse in the country by passing a special law called the POCSO Act, 2012. Under the POCSO, the Police/SJPU, Medical personnel, CWC, DCPU, Magistrate, Special Court/Judge/ Prosecutor and Support persons are bound by the Act to mandatorily do their duties in assisting the abused children and delivering the judgment as soon as possible.

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**The POCSO Act and the Role of Police:**

The principal role and duties of police need to be valued and streamlined. The first responders of crimes is the Police in any country. The police role in a crime scene and further dealing with the criminal is mostly known to the public and the police themselves. However, dealing with the victims is also the part they need to play but the public as well as some of the police personnel are not aware of it. In 2012 after the POCSO Act was passed, the duties and responsibility of Police are increasing, because the victims are children under 18 years old, which requires care and patience in order to take statement from them. Moreover, the police should follow the rule that is passed by the Act within 24 hours after the complaint is made. As per section 19 (2) of the POCSO Act, the first duty of the police is to register an FIR without delay when the complaint is made. According to the Act, as far as possible the statement of child victim should be recorded by the woman police officer, not below the rank of sub-inspector. The complaint should be entered into a book which is kept by the police unit, the complaint should be read out a loud to the complainant. As written in Section 19(5) of the Act, it is the duty of Special Juvenile Police Unit (SJPU) or police to ensure that the victims are taken for a free of charge medical check-up to the nearest hospital either government or private and that the medical examination be done in 24 hours after the complaint is made. Under section 6 of the Act, the police should report the case and produce it before Child Welfare Committee (CWC) within 24 hours from the complaint is registered. As per section 5 of the Act, if the police are convinced that the current living place of the victim is not safe and the victim needs to be moved to another place for his/her own safety, the police should record clearly the reasons in writing why the victim needs an immediate change of her place for care and protection and should produce it before CWC within 24 hours after the case is registered (Pradipkumar, 2014). The POCSO Act section 24 (3) states the victim should not be exposed to the accused at the time of recording the evidence. As per under section 23, no identity of the victim should be disclosed.

**Objective:**

To examine whether mandates prescribed in the POCSO Act to the police have been followed diligently

**Methodology:**

The present study is descriptive in nature. The secondary sources are collected for the study through print media within the period of 2012 to 2018, the data which are collected at both the survey conducted among police and an incident of child sexual abuse cases, in which the police fail to play their role as per mention in the POCSO Act. The data collected have been examined by the researchers to address the objective of the study.

**Police vis-a-vis the POCSO Act – the reality**:

A survey conducted by NGO Prerana in 2012 - 2016 covering 17 districts in Maharashtra revealed that out of 36 rural police stations, 20 police stations did not have a woman police sub-inspector (Modak, 2018). When the trained police officer of POCSO Act was not available the other police officers had no knowledge of the legal process of dealing with such cases. 64 per cent of the rural police stations did not have a separate room for the victim. Sometimes both the victim and the accused are taken together to the District Headquarters on the same vehicle. 39 per cent of the police respondents admitted to sending the victim for the medical check-up only in the cases of rape. 67 per cent of the police respondents feel the genuine cases belong to minor age, that is, below 12 years old (Saigal, 2018).

As per the Act the police must inform the cases to the concerned Child Welfare Committee within 24 hours of the complaint being made, but the former chairperson of Child Welfare Committee in Chandigarh Neil Roberts had said

that out of 120 cases of POCSO Act, only 11 cases were reported to them by police last year that was in 2014. The police only report the cases when the victim needs shelter. Further he mentioned that even though the Chandigarh police have a different desk for women and child in each police station headed by women sub-inspector, the officers also take other cases and moreover, these officers have no liaison with the CWC that makes the case harder (Duggal, 2015).

Explaining why some cases of the POCSO Act are delayed in Tamil Nadu, city public prosecutor Gowri Ashokan said "Quite often, police are unaware of the provisions of the Act and come up with sections not applicable to a case. We have to return the file and get it altered, to reflect the right sections" (Sivaraman, 2018).

Former chairperson of Child Welfare Committee, Asha Nayak said that the police in most cases of the POCSO Act skipped the process of producing the cases before Child Welfare Committee (CWC) within 24 hours where the victim statement was recorded and according to the case the victim would undergo a medical examination that made the CWC ineffective (Deccan Herald, 2013).

An advocate Manjeet Kaur Sandhu who handles many cases for children said "Many times we have witnessed that the police officials sympathise with the accused. It may be because most of the cases which are being reported in Chandigarh are not entirely correct, but as per law, even if a minor had a consensual intercourse, it is to be treated as rape, and the law officers forget that" (Duggal, 2015).

One of the deputy superintendents of police in Gujarat told the session court that he was aware of neither POCSO Act nor the provision of the Act or the expansion of the Act (India Today, 2017).

The Uttarakhand High Court gave a direct order to the Director General of Police of the State of Uttarakhand to take disciplinary action against the investigating officer regarding the manner in which he deal with a case of POCSO Act. He violates the Act by revealing the identity of the victim, when he went to the school to take statement from the victim, also to put pressure on the victim family to withdraw the proceedings (Mandhani, 2018).

In November 2018 a protest was held in front of Dharmapuri government hospital where the victim family, relatives and residents of tribal villages came together for justice. The victim family refused to take the body until the demand was met which included immediate arrest of the culprits and strict action against the policemen on duty at Kottampaati police station that day for neglecting and discouraging them from filing the case. It was reported that a case of rape under POCSO Act along with other charges was registered only when the victim died tragically after suffering from a severe pain. According to CWC chairman in Dharmapuri, the victim was brought before CWC by the police but she was too traumatised to give the details and the police informed the CWC that the girl was the victim of an attempted rape. The victim's father said "Our daughter was not taken immediately to the hospital and given appropriate treatment. This is why she is dead today. The police wouldn t take our complaint. And the culprits were able to escape. I will not accept my daughter's body until they are caught" (Kader, 2018).

In August 2015, an FIR was registered in M Kallupatti police station against five dalit children for allegedly sexually assaulting children from the upper caste in Madurai. It was reported that the children were throwing stones at each other and later attended the school, but later on the police booked the five dalit children on suspicion of sexual assault. However, when the victims were produced before CWC, no sexual assault was mentioned and the police admitted that they were forced by the community leaders to register an FIR (Mathew, 2016).

Chief of State police in Kerala, Loknath Behera expressed his concern about the low conviction

rate in the cases of POCSO Act. He said that in most cases when the police investigated, the evidence was taken orally from the relatives of the victim, which was unsatisfactory before the court and therefore it made it harder to prosecute the perpetrators thus resulting in a low conviction rate in POCSO Act. He also mentioned that being sensitive was a prerequisite for police to achieving maximum benefit (Pereira, 2017).

In April 2018, a mother in Ramanathapuram district was trying to register a complaint of sexual abuse against her daughter s mathematics teacher in a government school. But the police at Paramakudi police station allegedly prevented her from doing so. A senior police officer allegedly told the mother of the victim not to file a complaint as the matter would be taken to the Chief Education Officer and action initialed by them. Later on from the investigation ordered by the CEO, it was revealed that the teacher allegedly sexually abused at least 20 students. Child line and official from Child Protection Unit (CPU) said the police should have registered a complaint from the first complainant (The Hindu, 2018).

One of the sub-inspectors of the Changaramkulam police station in Kerala was suspended and charged against under section 19 of POCSO Act in delaying a case of sexual abuse of a minor girl in a cinema hall. The theatre owner gave the CCTV footage to the Child line, after identifying the accused the footage was handed over to the police. Nonetheless, the police did not make any move until the media and angry people demanded it (The Hindu, 2018).

A 57 year old special sub-inspector from Madhavaram Milk Colony Police Station was arrested on 3 December 2018 under POCSO Act. It was reported when the accused went on duty, he used to stop near a government high school in Villivakkam in the evening and make gesture comment on the girls while watching them. The parents filed a complaint at the Villivakkam police station, but he was later let off with warnings. He was arrested under the POCSO Act and placed under suspension from his duty, only when the parents approached a senior police officer (Times of India, 2018).

**What are the problems?**

The police personnel are the law keepers and are expected to follow it accordingly and some of them have delivered on the public's expectations. However, some police personnel are ignorant and break the law by neglecting the details of provisions of the Act. From the above cases, it clearly shows negligence is one of the major problems of them. Neglecting always comes with laziness. The Act mentions clearly that the investigation should be done within 24 hours which include escorting the victim for a medical check-up and producing the case to CWC. When Investigation officer delay a case, it could cause a tragic death for the victim if medical support is not given in a proper time or due to lack of evidence, he/she might even lose the case before the court or even the culprit might escape. The Act clearly mentions that not only rape but also related all forms of sexual assaults, victim should be sent for a medical check-up. However, some police send only the victim of rape for a medical check –up.

There are certain incidents that involve the police personnel as a culprit in child sexual abuse. It is shocking to hear when the law keeper turns out to be the lawbreaker. These police personnel not only disgrace themselves but the institution of police and opinion of society about them.

The negative attitude of police towards the victims needs to be changed. It is the duty of the police to file a complaint from the victim if there is a prima facie case. As it can be seen in the above cases, some policemen asked the victim and his/her family not to register the complaint by telling them it's shameful for the victim and family or it's a worthless case. While neglecting the victim itself is punishable but compelling and discouraging the victim and his/her family not to report or ask to withdraw the

case is outrageous. This kind of attitude by the police affects victim and his/her family, puts them in confusion as their insecurity level increases and also puts them into severe secondary form of victimization and trauma.

Sympathy for the accused should not be there when it comes to investigating a case under the POCSO Act. As it can be seen in the above cases, some police personnel had compassion for the accused when it was the case of sexual intercourse with consent. This might be the reason that in some cases the police thought that only the genuine cases belonged to the statement given by under 12 years old. However, the POCSO Act clearly states that even if the minor gave consent, it should be booked as a rape and the offender must be punished accordingly.

Lack of investigating officers who know the Act and its provisions is one of the problems, when the investigating officer is busy or out of station. It is a problem of the other police personnel to deal with such cases due to lack of the Act provisions and how to process the case. Even if the investigating officer is present to deal with the case under the Act, sometimes it gets mixed up with other cases which are not under the POCSO Act, which slows down the investigation.

In some cases the investigating officer has no liaison with CWC which makes it difficult and slows down the process of the case for CWC as well.

Based on the analysis, some policemen do not follow the mandates which are prescribed in the Act. A lack of awareness is one of the main reasons that then are failing in their duty under the POCSO Act. Negligence comes due to lack of awareness which sometimes brings both the victim and perpetrator together in the same vehicle to district headquarters. The Act's strongly against both the victim and perpetrator being together before or during the trial of the case. It might bring back the trauma of the incident to the victim. The Act's against revealing the identity of the victim but due to ignorance, some police personnel unintentionally reveal the victim s identity. It is hard enough to accept that the police are not aware of the provisions of the Act, but sad to know that the police officer is not even aware of the name of the Act itself. It is shocking to hear that the community leaders are compelling police personnel to write down illegal FIR Against children of lower class. This is one of the results that shows lack of awareness among police personnel.

**Should the department of Police be blamed?**

Though some of the police personnel fail to implement the POCSO Act, many police personnel work hard and devote themselves to the successful implementation of the Act. Because of the incidents mentioned above, it is not correct to put the whole blame on Police personnel and their department. From time to time police officers are given training programs on the POCSO Act and its provisions in every State across the country by the experts in the field. The government increases the number of women police by recruiting and initiating women police stations in some State. In some States, the police and school children are engaged in a friendly talk where the police personnel train the children to identify the good touch and bad touch and how to defend themselves and who to approach if something unusual happens to them or their friends. As it is mentioned in the above cases, some policemen have no hesitation in arresting the culprit even if the culprit is their colleague.

But some police personnel not only disgrace themselves but the institution of police and opinion of society about them.

**What can be done?**

- The training on the POCSO Act must be given to all the police personnel right from the Constable to the DGP. All police personnel must be fully aware of the Act and its provisions.
- The punishment of the Act should be

mentioned emphatically among the police personnel if they violate the Act. They should be aware that they can be punished if they ignore or neglect their duties under the POCSO Act.

- Every police station must have a separate room to deal with children and it should be operated by the women police. More than two persons need to be put on duties only for the cases under the POCSO Act. Only the persons in charge of the POCSO Act should deal with the cases under the Act.
- Especially in a case of rape, the police must know that if the registration of complaint is delayed, the medical check-up for the victim is also delayed and that might cause the evidence to disappear and proving the case may become very difficult.
- Showing sympathy for the accused should not be there, that can hurt the victim's feelings and might cause severe secondary victimization. Due to the immature mindset of the victim, they need to be treated with respect and dignity especially under the POCSO Act.
- If the police role of the POCSO Act is made pro-active, that might bring confidence to the victim and later help in prosecuting the cases.
- Police personnel play one of the most important parts in successful implementation of the POCSO Act. As a law keeper it is more easy and likely to exaggerate the few mistakes they made in the public. It is suggested that, the police personnel should be more careful and put extra efforts on the cases under the POCSO Act.

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# Disinformation: Spread, Impact and Interventions in Indian Context

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*"Falsehood flies, and truth comes limping after it, so that when men come to be undeceived, it is too late; the jest is over, and the tale hath had its effect."*

*- (Jonathan Swift, 1710)*

**Abstract:**

The spread of false and misleading content and the ways in which it spreads and influences people have increased with the rapid proliferation of online news content and social media. The increasing use and acceptance of social media platforms provide a fertile ground for the spread of false information that is dangerous for the community as a whole. The risks posed by disinformation include rumour mongering, propaganda, targeted attacks and incitement of riots and violence. The very nature of crimes instigated by disinformation point to the fact that the news has the capability to cater to the section of the population that believes them as genuine. Gartner Research predicts that by 2022, the majority of individuals in mature economies will consume more false information than accurate information. This is a very serious proposition, threatening the very fabric society in which we live. The technology which once was considered as a saviour has come back to haunt humanity. In this context, the ways and means to control the spread of disinformation and misinformation need to be discussed. Various mechanisms to identify and detect disinformation are being used, artificial intelligence and machine learning being some of them. The challenges in identifying/tracing the source, classification and control of disinformation are mentioned. We discuss how different social media platforms deal with disinformation. However, technology alone would not be sufficient to control the menace of disinformation. India poses a considerable challenge with 22 official languages. Multiple combinations of transliterations are a linguistic challenge in terms of deciphering the content. Some legislative measures have been undertaken in certain countries to control disinformation. We discuss a case study of how awareness campaigns have helped the fight against disinformation in the state of Telangana. The collaborative efforts of the government and the service providers armed with unambiguous legislation seem to be a possible solution to controlling the menace of disinformation.

**Key words:**

## 1. Introduction

The advent of Internet resulted in the proliferation of social media platforms, which were designed to bring people across the world on a common platform to share ideas. Facebook, WhatsApp and Twitter became a medium for a large section of the population to view and share news. WhatsApp has revolutionized the way people view and share the news. WhatsApp

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* Superidentent of Police, C.B.I., New Delhi.

groups have now become a popular medium for people to consume news content.

In the earlier days, the spread of news was slow and mostly by word of mouth. The invention of the printing press speeded up the process of dissemination of news. Fake news riding on the wings of Internet media has this insidious ability to distort, disrupt and destabilize society in which we live, making people believe what they already want to believe. The algorithms used by social media platforms ensured that the people see the news that they want to see, the news which confirms their biases and prejudices. Thus, the people are drawn inside an echo chamber feeding on their confirmation biases. They are hardly presented with an alternate view of the opinion shown to them resulting in a fertile ground for the dissemination and consumption of false information. A Gartner study predicts that by 2022, the majority of individuals in mature economies will consume more false information than accurate information (Panetta, 2017).

Disinformation regarding child kidnapping gangs spread through Facebook and WhatsApp have incited violence in many parts of India. People believed the information came from 'trusted sources' – the family and friends groups, as real and a few unfortunate events ended up in a mob fury, killing innocent people. While there is no question of the criminality of the people who indulged in horrific acts of violence, the role of the social media platforms in aiding the dissemination of false information and acting as the primary motivator cannot be discounted.

During the Arab Spring, the Internet and social media were hailed as the saviours of democracy and oppressed voices. The same Internet and social media now are helping disinformation to overrun the facts. Several companies have come forward with technological solutions to curbing the spread of disinformation, using techniques ranging from the use of artificial intelligence to spot fake news to identifying automated bots which spread fake news. Many countries have taken the legislative route to deal with disinformation. While some countries have criminalised disinformation, some have put the onus of taking down false and misleading content on the social media platforms, criminalising them if they fail to do so.

Disinformation is a multifaceted and evolving problem and therefore a single straightjacket one size which fits all solutions is both ineffective and impractical. Collaborative methods involving multiple stakeholders would give a much-needed fillip to the fight against disinformation. Uganda has led the way in imparting critical thinking skills to students in schools in helping them fight disinformation. People shall be equipped with the skills to understand the content on social media and to identify what is accurate and trustworthy, and what is not.

Nevertheless, these collaborative steps shall work effectively only with an active intervention from the government. The government shall ensure that the social media platforms work under a set of guidelines to ensure that the platforms are not abused to disseminate false information to deceive and incite people. This article attempts to identify the impact and challenges posed by disinformation in the Indian context and the interventions required to fight the spread of disinformation.

## 2. Defining Disinformation

Merriam Webster dictionary defines disinformation as *false information deliberately and often covertly spread in order to influence public opinion or obscure the truth*. It is thus generally used to refer to deliberate attempts to confuse or manipulate people through delivering false information to them. It includes the fabricated stories masquerading as legitimate news reports produced either for profit or political ends.

The term 'fake news' caught attention after allegations that the discourse of 2016 US presidential elections was changed by fake news. These are news stories that are probably false, have enough traction in society, and are

easily consumed by millions of people. Fake news is a serious problem for society as many governments across the world have acknowledged.

The UK Government accepted the view of the 'House of Commons Digital, Culture, Media and Sport Committee', that the term 'fake news' is misleading, and instead sought to address the terms 'disinformation' and 'misinformation'. The Committee defined disinformation as "*the deliberate creation and sharing of false or manipulated information that is intended to deceive and mislead audiences, either for causing harm or for political, personal or financial gain*". European Commission (2018) has observed that the word 'fake news' is inadequate to capture the problem of disinformation. The term disinformation includes stories which are entirely fake, fabricated news with a blend of truth in it and all forms of false, inaccurate or misleading information designed presented or promoted to intentionally cause public harm or for profit. The 'International Grand Committee' on Disinformation and 'Fake News' had accepted that "the deliberate spreading of disinformation and division is a credible threat to the continuation and growth of democracy and a civilising global dialogue" (House of Commons, 2018).

### 3. How disinformation spreads?

"*Lies are the social equivalent of toxic waste: Everyone is potentially harmed by their spread.*"

*- Sam Harris(Harris, 2013)*

Access to the news has become cheaper and easier because of the increased mobile connectivity and smartphone use. Social media with its ability to amplify a message through endorsements and forwards gives one the tool to reach a potential audience without needing substantial resources or access to expensive media technology. One can become a broadcaster at virtually no cost. This new power structure enables individuals, to distribute large volumes of disinformation or fake news. Traditional news had quality assurance, and editorial controls before publication and most of the content was created by professionals. The Internet provides a vast array of services where content can be published and spread. Unlike the traditional process, there are no editorial controls or quality-assurances. There is a paradigm shift from the 20th-century ecosystem dominated by print and broadcast media to an increasingly digital, mobile and social media dominated ecosystem. Social media not only changed the methods of news distribution but also changed the age-old beliefs of how news should look. Now, a tweet, which at most is 140 characters long, is considered a piece of news and true particularly if it comes from a person in authority. Facebook, the most popular social media platform, claims to have more than 1.56 billion daily active users as on March 2019 (Facebook, 2019). It has evolved into a platform where users produce and exchange different types of information, including news. Social media sites have a mass audience, and they facilitate speedy exchange and spread of information and along with it, disinformation.

The credibility of the information on social media platforms cannot be assessed easily due to the proliferation of sources. Further, people tend to follow like-minded people in forming an opinion. In the absence of any conflicting information to counter the falsehoods and with the presence of a consensus within the social groups, lies spread fast. Once embedded in society, such ideas harden the prejudices and in extreme cases catalyse and justify violence (Greenhill and Oppenheim, 2017). Therefore, our attitudes to information and disinformation depend less on objective evaluation, and more on the group's collective thought. Swire *et al.*, (2017) have argued that source credibility profoundly affects the social interpretation of information. Individuals' trust information comes from well-known or familiar sources and from sources that align with their worldview. Further, humans prefer to receive information that reinforces

their existing views. Users on social media tend to form groups containing like-minded people where they then polarize their opinions, resulting in an echo chamber effect. The echo chamber effect facilitates the process by which people consume and believe in disinformation.

Users on social media typically receive messages from friends, family members or other trusted networks through WhatsApp groups or other social media platforms, making them less likely to second guess the veracity of the story, especially in the Indian context, where culturally the social ties are very strong. Due to these cognitive biases inherent in human nature, fake news can often be perceived as real by consumers. Moreover, once the misperception is formed, it is tough to correct it. Disinformation travels between peer-to-peer networks where trust tends to be high and social media is designed to take advantage of this inherent bias.

UK Government Online Harms White Paper mentions that a combination of personal data collection, AI-based algorithms and false or misleading information could be used to manipulate the public with unprecedented effectiveness (DCMS,2019). European Commission (2018) has acknowledged that news is now increasingly easy to share due to the digital, end-to-end nature of the Internet and its 'platformisation' with the emergence of multi-sided business models. They have also mentioned that the social media platforms push the users into a state of intellectual isolation, wherein the individual interacts with a single news source, which only feeds them with articles based on their perception of what they will be interested in, powered by an algorithm that only feeds users based on their perception of what they will like, or is interested in. The European Commission acknowledged that that "new technologies can be used, notably through social media, to disseminate disinformation on a scale and with speed and precision of targeting that is unprecedented, creating personalised information spheres and becoming powerful echo chambers for disinformation campaigns".

## 4. Impact of disinformation in Indian context

False information has flooded social media in recent years, inciting violence across the globe – from Mexico to India. The growing use of social media and messaging applications in India has been followed by a series of serious incidents of violence incited by messages shared on WhatsApp and Facebook. A BBC article from August 2018 suggests that at least 25 people have been lynched by mobs after consuming false news spread on WhatsApp (Biswas, 2018). Five such incidents which resulted in serious law and order problems across India are discussed here, along with the disinformation that triggered the acts. Disinformation having serious consequences on the health of the people is also discussed. The disinformation messages have preyed on the universal fear of harm coming to a child. Millions of poorly educated Indians coming online for the first time were quick to believe what is on their phones. The underlying fact is that people believed the false information, spread it and acted upon it, giving scant regard to the veracity of the claims. It is pertinent to note that the concerned social media platforms did not do much to debunk the false information or to control its spread. The incidents, be it in Karbi Anglong,Athimoor, Dhule, Mendrakala or Bangalore share a pattern. The populace used social media shares as their first access point to news and blindly believed the news forwarded by their trusted friends and family circles to be true and never bothered to check the veracity of the news items. These incidents show how messages or images meant to incite violence spread through the social media to hundreds of people and can have a cascading effect.

## 5. Scale of the Problem in India

A Cisco report (Cisco, 2018) estimates that India will have 840 mn Internet users by 2022. Smartphone and Internet usage in India is set to massively swell in the next four years according to the report. Over 200 million Indians regularly

use social media (Government of India, 2019). Although Internet penetration is only 13.5%, the country still has the second-largest number of Internet users worldwide.

India will add another 300 mn users in the next three years, mostly non-English speakers and maximum of them lower down in the socioeconomic pyramid and in literacy rates. The people communicate over the social media platforms in the vernacular languages as well.

Modern day social media platforms and ICT applications are highly rich in non-textual interactive links thereby gaining massive popularity among the non-literate section too. This innovation has enticed the low-literate section with various ICT applications and social media platforms too and bridged the digital/ social divide between them and the literate section. This target group mostly settled in rural or semi-urban areas is easily carried away by their emotions and becomes party to the crowd to satisfy their anguish and hatred as mentioned in section 4 above.

In India, with the launch of 4G, social media has emerged as a favoured medium of communication for the people. WhatsApp became one of the most common ways to connect with friends, family and broader community. With over 350 million active users, WhatsApp is one of the most widely used messaging apps in India. The recent explosion of cheap data plans meant that many people got access to Internet technology whilst having minimal digital literacy to separate real stories from the false ones. The penetration of Fact Checking applications is very poor in the semi-urban and rural areas of the country making it very difficult to debunk false information.

## 6. Addressing the challenge

"*The world is a dangerous place. Not because of the people who are evil; but because of the people who don't do anything about it.*"

*Albert Einstein*

The stakes of accurately identifying and controlling the spread of disinformation are very high as disinformation often affects the core of a democratic society and the idea of free speech and information and may cause genuine voices to be unheard. The challenge would be to identify the disinformation from a stack of data, do a fact check on the same and to disseminate the fact that the information was false. The challenge is accentuated multifold because of the fact that by the time the false information is identified and debunked, it has reached millions of people.

### 6.1 Use of technology to combat disinformation

Algorithms are partly responsible for the spread of disinformation as sensational information can be curated for grabbing eyeballs by the social media platforms. However, technology also enables the fight against disinformation. Artificial Intelligence methods, capable of analysing gargantuan amounts of data and identify the connecting relationships, have the power to identify and thereby, fight disinformation. The social media platforms can use techniques to control the spread of disinformation by bots.

#### *6.1.1 Role of technology platforms*

The key to any intervention by the social media platforms involves identifying disinformation and to control its spread. The efforts include steps to identify and remove illegitimate bot accounts, taking steps to integrate credibility and trustworthiness using ranking algorithms, including suggestions for alternative credible content and steps to collaborate with independent fact-checking organizations.

##### *6.1.1.1 Facebook*

In a press release (Mosseri, 2017), Facebook has accepted that "one of the most effective approaches against fake news is removing the economic incentives for traffickers of misinformation". The steps that Facebook

promised to take include - applying machine learning to assist the response teams in detecting fraud, detection of fake accounts on Facebook, which makes spamming at scale much harder and to identify false news through community and third-party fact-checking organizations to limit its spread. Facebook Journalism Project collaborates with news organizations for helping people get better information so that they can make smart choices about what they read. They also launched the News Integrity Initiative, to increase trust in journalism and to help the public to make better judgements regarding the news.

#### *6.1.1.2 WhatsApp*

WhatsApp claims that its platform is end to end encrypted and hence the contents of the message cannot be seen by them. This end to end encryption facility, as explained above, is one of the reasons why disinformation spreads very fast. WhatsApp disinformation and rumours led to incidents of mob violence in India, as mentioned in the previous section. Consequently, WhatsApp put up a limit on the forwarding of messages marked the forwarded messages. It published advertisements in the print media warning users not to trust every news on WhatsApp, and also started a radio campaign encouraging users to verify content before forwarding it. WhatsApp has also introduced a group privacy setting and invite system to enable users to decide who can add them to groups, whereby prevents people from being added to unwanted groups. During the ongoing general elections in India, WhatsApp introduced a Checkpoint tip line to get the suspicious messages verified, in collaboration with Proto, based out of New Delhi. However, Proto in their FAQ mentions that '*the Checkpoint tip line is primarily used to gather data for research, and is not a helpline'* (Proto, 2019). WhatsApp has also committed to work with government and civil society and has mentioned various steps in their FAQ, including growing a local team, collaboration with Election Commission of India for elections, law enforcement training, trainings for political parties as part of the 'Swaniti' initiative and digital literacy training (WhatsApp, 2019b).

### *6.1.2 Limitations in use of technology to curb disinformation*

India has 22 official languages, and the majority of the users transact in the vernacular languages, in multiple permutations and combinations of transliterations. So, it becomes difficult, if not impossible to identify the false content from the original content.

Even with sophisticated feature extraction of deep learning methods, fake news detection remains to be a challenge, primarily because the content is crafted to resemble the truth in order to deceive readers; and without fact-checking or additional information, it is often hard to determine veracity by text analysis alone. AI can be beneficial in the automatic detection of content or automatically fact-checking articles. However, developments in AI also make it possible to generate fake content (text, audio and video) which is difficult to detect by humans and algorithms – known as 'deep fakes'.

A healthy blend of rational human interventions and artificial intelligence could be a better way out. Machines give us speed and scalability, while humans bring an understanding to the table and with it, the ability to consider context and nuances when evaluating the veracity of a text.

## 6.2 Legislation

Germany passed a law titled "Netzwerkdurchsetzungsgesetz" (NetzDG), which forces online platforms to remove "obviously illegal" posts within 24 hours or face fines of up to •50 million. It mandates a legal obligation for social networks to report their processes that counteract illegal content online and to establish a mechanism to ensure the compliance. Certain offences amount to the definition of unlawful content (related to fake news) according to the German Criminal Code. They include intentional defamation, treasonous forgery and forgery of data (Claussen, no date).

Anti-botnet legislation was proposed by Justice Ministers in three German states (Hessen, Saxony-Anhalt and Bavaria) to deal with automated social media accounts that spread fake news.

The law in France, allows judges to order the immediate removal of online articles that they decide constitute disinformation, during election campaigns. The law allows the French national broadcasting agency to have the power to suspend television channels controlled by or under the influence of a foreign state if they "deliberately disseminate false information likely to affect the sincerity of the ballot". Sanctions imposed in violation of the law include one year in prison and a fine of •75,000 (France, 2018).

The Italian Interior Ministry enacted the Operating Protocol for the Fight Against the Diffusion of Fake News through the Web on the Occasion of the Election Campaign for the 2018 Political Elections. Users can provide their email address, a link to the misinformation they want to report and any social networks they found it on. The requests are dealt with by the authorities at the Polizia Postale, a unit of the state police that investigates cybercrime, who fact-checks them and pursue legal action if the news is false and laws were broken (Funke, 2018) (Italy, 2018).

Singapore has proposed the Protection from Online Falsehoods and Manipulation Bill which makes spreading false statements that compromise security, public tranquillity, public safety and the country's relations with other nations, illegal. The bill proposes punishment to people who post false information with fines of up to $740,000 and jail sentences of up to 10 years. It would also allow the government to publish corrections alongside allegedly false claims (Tang, no date) (Singapore, 2019).

*6.2.1 Criticisms*

The aforesaid laws and proposed legislation have been criticized across the globe for being too harsh on freedom of press and free speech. Criminalising information per se would amount to curbing the freedom of speech and hence against the tenets of UN Charter on Human Rights and will violate the spirit of Constitution of India, in the Indian context. Filtering out opinions would impoverish our democracy. Further, Honourable Supreme Court of India had held section 66 A of Information Technology Act, 2000 which criminalised false or offensive information through communication channels as unconstitutional.

### 6.3 Collaborative Efforts

*6.3.1 Verificado*

Verificado was an initiative started in 2018 during the Mexican elections to counter false information (Verificado, 2018). It was a collaborative election reporting and fact-checking initiative and included media houses in Mexico. Verificado encouraged WhatsApp users to share information that they receive from sources and social networks. The team would manually verify the information and respond to every single user individually, confirming or correcting the information that they had sent.

*6.3.2 Digital Literacy Initiatives*

Disinformation thrives on the tendency of people to believe what is being circulated to them through social media platforms. They hardly question the veracity and reliability of the information being fed to them. Children and adults need to be equipped with the necessary information and critical analysis to understand content on social media, to work out what is accurate and trustworthy, and what is not.

Primary school children of Uganda were taught to make informed choices regarding health-related information they come across in the Internet and news. Comic stories were designed to teach Ugandan schoolchildren how to identify bogus health claims. Research conducted by (Nsangi et al., 2017) has shown that the intervention had a positive effect on the intended behaviour of the children.

Roozenbeek and van der Linden (2018) had developed a game to educate university students against disinformation. They argued that fake news game reduced the perceived reliability and persuasiveness of fake news articles. They suggest that such educational games can be a promising method to inoculate the public against fake news.

In Ukraine, the nongovernmental organization IREX trained 15,000 people on a program called Learn to Discern. The program was designed to teach citizens how to separate fact from fiction and recognize manipulation and hate speech. There was a 24% increase in participants' ability to distinguish trustworthy news from false news, a 22% increase in those who cross-check the information in the news they consume, and a 26% increase in participants' confidence in analysing news (Susman-Pena and Vogt, 2017).

*6.3.3 Telangana – Police Initiative*

Telangana Police activated proactive policing measures to prevent disinformation fuelled mob violence in Jogulamba Gadwal and Wanaparthy districts. As part of the community outreach programme, the police officers got to know about the villagers who were receiving and forwarding videos and images regarding the presence of interstate child lifting gangs in the village and certain warnings against outsiders. The police then took up the initiative to educate the villagers about disinformation in social media. The village *sarpanches* (village head) were informed to identify morphed images, and they started a door to door campaign to teach them spot fake videos. The police also roped in town criers – locally known as '*dappu artists*' and trained them to convey the messages against disinformation to the villagers.

*6.3.4 UP Police- Twitter*

Uttar Pradesh is the most populous state in India with a population of 220 million. The Uttar Pradesh Police started twitter handles in every police district to connect with the public with the dual objective of connecting with the public and propagating the police version of the incidents. The UP Police twitter handle as of today has more than 6 million followers. The police use the twitter handle in their fight against disinformation. The debunking of disinformation can be done using the very platforms through which it propagates.

## 7. A discussion of existing legal framework in India to combat disinformation

The criminal acts in this respect are governed by the Indian Penal Code and the Information Technology Act. The section 153 A of the Indian Penal code deals with communication intended to promote disharmony or to disturb public tranquillity. Though it does not criminalise disinformation per se, the law does cover communication intended to promote disharmony or to disturb public tranquillity.

The section 505 of the Indian Penal Code criminalises communication with intent to cause fear or alarm to the public or to incite or likely to incite persons to commit offences. However, if any person makes or disseminates any communication believing it to be true is exempted from punishment. As mentioned in section 2 above, most people forward or circulate disinformation believing it to be true. The section can only be invoked in a case to case basis to prosecute the persons intentionally circulating disinformation.

Section 69 of IT Act empowers the Central government or a State Government with the power to issue directions for interception or monitoring or decryption of any information through any computer resource. The intermediary is expected to provide assistance, inter-alia to decrypt the information if need be. The intermediary which fails to assist the agencies shall face punishment along with fine as mentioned in the Act.

Section 69A IT Act provides The Central Government the power to issue directions for blocking of public access of any information to

intermediaries. This essentially means that the government can issue directions to intermediaries to remove content if it has the potential to affect public order or to incite the commission of an offence. The intermediary who fails to comply with the directions shall be liable for punishment up to seven years of imprisonment and a fine.

Section 79 of IT act provides immunity for intermediaries for third party content, provided that they meet the conditions mentioned in the act. The intermediaries are thus exempted from liability for information transiently passing through their networks. However, intermediaries may be held responsible if they modify the information contained in the transmission.

The Government of India had come up with a draft the Information Technology Intermediaries Guidelines (Amendment) Rules 2018. The guidelines expect the social media platforms to inform the users to refrain from posting grossly harmful or deceiving information. Rule (5) requires the intermediaries to provide information to the government agency for matters concerning cybersecurity or investigation or prevention of offences. Further, there is an expectation from the intermediaries to enable traceability of originators of information on its platforms. The same is under consideration by Ministry of Electronics and Information Technology (MeitY).

## 8. Conclusion and way forward

Disinformation is a multifaceted and evolving problem and does not have a single root cause, and therefore a single straightjacket one size that fits all solutions is not available. Technology is a big enabler in the fight against the spread of disinformation. However, technology alone will not be sufficient for identifying the genuineness of the content at all times. The technology companies are expected to make algorithmic changes to fight the menace of disinformation. The recent incidents, however, paint a grim picture and do not show the social media platforms in an encouraging and responsible way. Bakir and McStay (2018) have explained that digital advertising enables fake news sites to make profit. The technology platforms thrive on advertising revenue. As mentioned above, even after a story is debunked, the technology platforms make no effort to inform the users that the story was false. Keeping in view of the aforesaid facts and the success of the collaborative approaches as mentioned above, formulation of guidelines backed by law to ensure the technology platforms to comply with certain minimum standards is the need of the hour. Legal provisions do exist to criminalise acts done with intent to abet or incite offences. However, as discussed, more often than not, disinformation is spread by users considering it to be genuine. Most social media platforms like WhatsApp provide end to end encryption of data and claim that it is not possible to provide traceability, impairing the attempts of law enforcement agencies to trace the actual initiator of the false content. Transparency obligations by the intermediaries may include traceability of the identity of the content initiator and the amplifiers, especially in articles containing sensitive content. However, the platforms are as of now, being non-committal on ensuring traceability. Simple transparency obligations on the side of digital platforms may be compatible with freedom of expression, but insufficient to tackle the phenomenon in the absence of additional commitments. However, rigid policing and regulation of the platforms can be ineffective and disproportionate.

No traditional form of law-making can succeed without cooperation with platforms, and thus either self- or co-regulation schemes. Companies should ensure that algorithms selecting content do not skew towards extreme and unreliable material in the pursuit of sustained user engagement.

The following recommendations could be a way ahead in fighting the spread of disinformation.

1. Guidelines by the Government to all social media platforms to conspicuously display

the debunked story as well, when it is clear that a particular article was false. For this, it would be expedient to define the ambit of disinformation very clearly and unambiguously in law.

2. The social media platforms must augment the technology and human interventions to ensure that the disinformation is identified and taken down off its platforms expeditiously. They must ensure that the algorithms should not propagate disinformation in its pursuit of engaging the users. They shall put across an option to users to enrol in a fact checking mechanism when they join any of the social media platforms.

3. Guidelines by the Government to ensure that the social media platforms invest in educating the children in schools and join the efforts of the government regarding imparting digital literacy. As mentioned in section 6.4.2 above, the children must be made aware how to navigate the cyber world.

4. Digital Literacy campaigns to be activated and to be made compulsory as part of the curriculum in schools. Adult education campaigns to teach citizens how to separate fact from fiction and recognize disinformation shall be initiated, both at the government level and also by the social media platforms.

5. Enforcement of section 69 A of Information Technology Act. However, considering the fact that law enforcement is a State Subject and hence within the purview of the individual states, the power of 69A may be delegated to states as well. Considering the size of the country and the amount of data being generated and circulated, it would be expedient to create a subcommittee at the state level for issuing takedown requests. However, an appellate mechanism to the platforms shall be provided so that they may represent themselves in case of a penal action on them.

6. Proper enforcement of section 69 of IT Act shall be done. The platforms must ideally provide traceability for investigation and prosecution in cases of serious offences. A study of the successful and unsuccessful prosecutions regarding the spread of illegal or malicious content on communication media may be done to analyse the challenges.

7. The fact-checking mechanisms must be universalised. More and more people should know about the fact-checking mechanisms. Verificado initiative taken by Mexico is an example. The social media platforms can also play a major role in reaching out to the public.

8. The best practices across the world shall be evaluated and adapted to in the Indian context on a regular basis.

9. India may consider including the menace of disinformation in its cybersecurity framework. Legislation shall be considered as one among the multipronged strategies to combat disinformation.

The aforementioned interventions shall help to make people aware of the existence of the problem of disinformation and equip them to take rational decisions regarding news articles in the internet. Further, the interventions by the government shall ensure that the social media platforms act responsibly and help government fight disinformation. The collaborative mechanisms is expected to create an ecosystem where people make informed decisions and social media platforms have more responsibility to ensure that the platforms are not used to incite violence and malice.

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# The Mindset and Tactics of Humantraffickers

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**Abstract:**

The purpose of this paper is to provide an in-depth analysis of the mindset and tactics of human traffickers. The traffickers are the key players in human trafficking cycles and they play a vital role in identifying the vulnerable victims, trap them by using false promises, exploit them and selling them as a commodity to other buyers. Despite human trafficking considered as a global crime and all the countries taking constant efforts to combat it, the knowledge on the traffickers, trafficking networks, roles of the traffickers, relationship with other criminals and to the victims, and the modus operandi are less known. To combat human trafficking, understanding the mindset of the traffickers, techniques, traps, mentality, intentions, benefits and networks are important. This paper aims to give clear pictures on human trafficking, forms, current statistics, mindset and tactics of traffickers during trafficking the vulnerable victims. The techniques used by the traffickers to scout, trap and exploit the trapped victim. This paper also discussed why it is important for law enforcement officials to understand the mindset and tactics of traffickers, the significance of being organized to combat this organized crime across the globe.

**Key Words:** Mindset, Tactics, Humantraffickers, organized crime, trafficking, exploitation, vulnerable victims

## 1. Human Trafficking

Human Trafficking is the trade of human beings for the purpose of exploitations and for financial gains. It is a grave crime and violation of basic human rights. Trafficking for humans is part of almost every country today either country of origin, transit or destinations. According to the United Nations, Human trafficking is defined as the recruitment, transportation, transfer, harbouring or receipt of persons by force, abduction, fraud or coercion for the purpose of exploitation. The victims are trafficked by the traffickers using coercion and deceit, transported to new locations and subjected to a wide range of harmful exploitation and abuse. Global statistics indicate human trafficking as the third largest organized crime in the world.

The International Labour Organisation (ILO), 2014 reports state the human traffickers earn roughly $150 billion profit every year. The statistic estimates, $ 32 billion earned through the illegal profits earned every year through trafficking. $99 billion from commercial exploitation, $32 billion from construction, manufacturing, mining, and utilities, $9 billion from agriculture, including forestry and fishing and $8 billion from employing domestic workers under forced labour. According to the United Nations (UN), 51% of the victims are women, 20% are girls. In South Asia between 2014 and 2017, there were an estimated 0.55 detected victims of trafficking per 100,000 people.

## 2. Status of Human Trafficking in India

The National Crime Records Bureau (NCRB) indicates that there were 8,132 reported cases of

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human trafficking across India in 2016. This shows 18 percent steady increase in human trafficking cases when compared to the cases registered in 2015. West Bengal reported the highest number of human trafficking case with 3,579 representing nearly 44%, followed by Rajasthan with 1,422 cases representing 17.9%, Gujarat with 548 cases, Maharastra with 517 andTamil Naduwith 434 cases. In India, the highest number of rescued victims are reported as being trafficked for the purpose of forced labour (10,509 cases), followed by sexual exploitation for prostitution (4,980 cases), and other forms of sexual exploitation (2,590 cases).India is a source, destination, and transit country for men, women, and children subjected to forced labour and sex trafficking over the past 5 years as reported in the Trafficking in Persons Report, 2018 prepared by the U.S. Department of State.

Human trafficking has flourished in the last two decades, and there is no end in sight. It is a defining problem of the twenty-first century and will reshape the world's populations and the quality of life and governance worldwide. India is a source and transit country for the sex trafficking of women and children from and for the Middle East (Consulate General of the United States, 2008). More than 2 million women and children are trapped in commercial sex work in the red-light districts in India. India is the main recipient of an estimated 150,000 women and girls trafficked into India from South Asia to feed the commercial sex industry (Silverman et al., 2007). Moreover, The Indian government estimates that the vast majority of the 500,000 children in the sex industry are girls (Centre for Development and Population Activities, 1997). In addition, Nepalese and Bangladeshi girls are trafficked into India to work in brothels and as so-called 'cage sex workers'. A little over 50% of the total commercial sex workers in India are from Nepal and Bangladesh (Shamim, 2001).

90% of India's sex trafficking is internal, with victims of trafficking mostly being used for forced labour. Trafficking from neighbouring countries accounts for the remaining 10%. Of this 10% about 2.17% is from Bangladesh and 2.6% from Nepal (UNODC, 2006).There are such long traditions of debt bondage, forced marriage, and trafficking into prostitution in Asian countries that neither the victim nor the trafficker is significantly stigmatised, helping perpetuate these practices.

## 3. Three main forms of human trafficking based on exploitation purpose

### *3.1. Bonded Labour/Forced Labour*

Bonded labour is the system of forced or partly forced labour under which a debtor enters or is presumed to have entered into an agreement with the creditor. “Labour exploitation in India and Nepal is more widespread than sexual exploitation. Children from South Asia also work in bonded labour or are trafficked as domestic servants, agricultural workers, beggars, and even in factories, often in hazardous situations.” “The term "forced labor" has generally come to replace the term "slavery," given the powerful historical and emotional connotations of the latter term. Similarly, "human trafficking" has come to replace the term "slave trade."

### *3.2. Sexual Exploitation*

Sexual exploitation means taking advantage of a person's sexuality and appeal to make personal gains or profits. It is the abuse of the vulnerable, difference in power or trust for sexual purposes. It is illegal and punishable by law as it is non-consensual and exploitative in nature. Sex trafficking is a criminal offence under Article 23 of India's Constitution, the Immoral Traffic (Prevention) Act, 1956 and the Indian Penal Code (IPC), irrespective of the victim's consent.

### *3.3. Forced removal of organ (exploitation)*

Organ exploitation is the type of trafficking in human beings which deals with the removal of the organs of a person illegally and for profit. It extends to any action that forces a person to give up his or her organs. The act concerning the regulation of organ transplantation is known as the Transplantation of Human Organs Act (THOA) and was introduced in India in the year 1994. Organ trafficking is not new to the world and India is one of the largest centers in this market. Illegal transplants of organs are on the rise, although special legislation is in place to address the threat.

**4. Mindset and Tactics of traffickers:**

The Government of India takes constant efforts to curb human trafficking in all its forms, however, the trafficking rackets and gangs have become more organized and adapt to the newer forms of human trafficking. The crime has proliferated in such a way that today almost every Indian state is affected by this social and criminal nuisance."Rapid economic development in Indian cities is not decreasing trafficking. The demand for production at low cost provides an incentive to exploit labour. For example, rapid development has occurred in the cities of Bangalore and Mumbai in India, including rapid growth in the number of highly proficient computer and technology specialists. Sex trafficking has increased in Mumbai to satisfy increased consumer demand.

The traffickers play a vital role in identifying the vulnerable victims, using false promises and deceptions to lure and trap them for exploitation. The issue of human trafficking is universally known and prohibited across the globe. Despite this, the knowledge on the traffickers, networks, roles of the traffickers in the network, relationship with other criminals and to the victims, and the modus operandi are unknown even today. The traffickers target vulnerable communities using force, fraud, deception, and coercion, to buy them for advance and sell them like a commodity to the buyers.

The first and the major step to combat human trafficking is to understand the mindset of the traffickers and the techniques used to exploit the vulnerable across the globe (Burch, 2012). Understanding the mentality and the intentions of traffickers, the state or condition of the trafficked victims, adequate preventing mechanisms and the scope of enhancements to prevent trafficking, will support the development of law enforcement and empower Government officials to combat human trafficking.

The following are the mindset and tactics of human traffickers:

*4.1. Preying on the vulnerable victims*

Human trafficking begins, when there is a high demand for supplying humans to exploit them for labour, sex, organs and various other purposes. Creating demands for human exploitation is one of the key elements which lead to hundreds and thousands of victims trafficked for exploitation (UNICEF, 2017). The factors that makes a person vulnerable to human trafficking are poverty, lawlessness, social instability, military conflict, environmental disaster, corruption, and acute bias against female gender and minority ethnicities."

The industry holders, sex establishments, pimps, organized and unorganized industry employers create demand by approaching human traffickers for the supply of human beings who can be employed by them. They are called the demand creators. Most of the time, the demand is created for cheap labour, high profit motives, illegal business, anti-Government products (products made without Government's knowledge/ approval) and to escape all Government regulations. "These criminals are recruiting, deceiving, buying, selling, transporting, segregating and coercing other people for the economic value that can be squeezed from the victims' labour. Traffickers steal the economic value of this labour from their victims." The main traffickers begin scouting, to identify the vulnerable victims and to supply them to the demand creators.

The traffickers use two models to scout the vulnerable victims.

1) Formal scouting
2) Network scouting

In the formal scouting, the traffickers formally register themselves as labour contractors, manpower agencies and Employment officers etc. Under the employment's opportunity banners, several traffickers legally register themselves, identifying vulnerable victims for trafficking. Most of the victims who are rescued from labour trafficking are the victims of the formal scouting model. Most of the victims were lured into by using employment as a bait to trap them. The mindset of the traffickers for using this model is to use the legal methods to perform illegal actions.

Another way of vulnerable victim scouting is through network scouting. The traffickers maintain a strong network to trap the vulnerable victims across various locations. Some of these

locations are within or between Districts, States and Countries. The human trafficking networks are generally composed of main traffickers, sub-traffickers, informal/influential contacts, transporters and victims. Those networks operate out of source states and destinations states. In sex trafficking, former victims are turned into traffickers to trap the new victims. When the demand for humans is created by the demand creators, the networks beginning to scout victims to meet the demands.

The formal and informal victim scouting models target economically and socially deprived communities. Thus, acquisition of trafficked slaves primarily occurs in one of five ways: deceit, sale by family, abduction, seduction or romance (with sex trafficking), or recruitment by former slaves. In sex trafficking, apart from the weaker sections, girls from economically well-off families are also trapped as victims of trafficking, as the traffickers use deceptions and relationship tricks to lure them. This is clear evidence that trafficking is well-planned and one of the most organized crimes across the globe.

### *4.2. Making false promises and meeting immediate needs*

False promises have been one of the tools used by traffickers to trap the victims. The traffickers scout the needs of the victims and develop plans to lure the victims using false promises. Generally, the traffickers use false promises like job opportunities, skill training, opportunity to earn more money, the solution to overcoming debts, support to family and life-changing opportunities, etc. The traffickers make sure all these promises are real and sell these ideas to deceive the victims.

In sex trafficking, the most predominant false promise was love relationships, utilization of skills like acting, dancing (eg: Film Industry) and job opportunities. Recent developments in technologies have made the work of traffickers easier. The traffickers can approach the victims in different regions and from different backgrounds. The victims are not aware that they are the victims of human trafficking because of the way the traffickers use false promises and affections (UNICEF, 2017). Social media has been used by the traffickers as a major tool to connect with the vulnerable victims, luring them using false promises and trapping them for exploitation.

### *4.3. Altering the victim's mentality to make him/her believe that the trafficker is their protector - Stockholm Syndrome*

The trafficker or trafficking networks begin the trafficking process by developing trust and building relationships among the victims. The time of the trafficking process will be depending on the amount of trust the traffickers create among the victims. Meeting all the current needs of the victims has been one of the strategies used by the traffickers to make the victims begin to trust them. In labour trafficking, the victims are given advance money ranging from 5000 to 1.5 lakhs as a debt. This money will meet all the immediate needs of the victims and make them think that the traffickers are protecting them, not realizing it was a trap. The traffickers take advantage of the economic needs of the victim during incidents such as sudden death, medical emergencies, birth, education, and other family events. The traffickers will provide them the money to meet their needs and traffic them.

A few incidents show that certain under-planned Government schemes unintentionally assist the traffickers who push people into trafficking. An example is the scheme of house allocation which demands that poor communities must pay the 50 percent of construction cost to increase accountability. In those situations, the economically vulnerable victims are forced to borrow money from the owners to meet their needs. They pledge their labour as a mode of repayments which results in bondage. In some cases, the victims end up serving the traffickers for generations due to non-payment of the advance money.

The strategy of supporting the victims by meeting their needs builds trust and makes the vulnerable become victims. In some cases, it has become a challenge for the rescuing authority to release the victims, because the victims are very loyal to the traffickers. In the fishing industry, the victims receive money from the traffickers/owners of the boats to meet their fuel needs and the victims end up selling their products to the owners for cheap rates.

In sex trafficking, helping the victim to meet the demands of peer pressure, such as clothing, make-up, jewelry, mobile phones, pocket money, and other family needs, was a predominant method used by the traffickers. The desires of students or vulnerable victims, to equalize their status among their peers, were used to push the victims into sex trafficking.

*4.4. Earning high profits through low investments and illegal cutting down of Wages.*

High profits are the key motive behind every successful business around the globe. "Modern-day slavery is immensely more profitable than past forms of slavery. This is the key factor driving the tremendous demand for new slaves through human trafficking networks. Whereas slaves in 1850 could be purchased for a global weighted average of between US$9,500 and US$11,000 (adjusted for inflation) and generate roughly 15 to 20 percent in annual return on investment, today's slaves sell for a global weighted average of US$420 and can generate 300 to 500 percent or more in annual return on investment, depending on the industry. In terms of risk, the laws against human trafficking and forced labor in most countries involve relatively anemic prison sentences and little or no economic penalties."

The employers, owners and the demand creators go to any extent to make high profits in the industry. Human trafficking is considered as one of the highest profit-making businesses without any high investments across the globe. A report from the International Labour Organisation (ILO) (2014) estimates that the human trafficking sector earns 150.2 million US dollars every year, as a profit for the human traffickers and most of these profits are from labour trafficking.

The prime intention, for the traffickers to get involved in this business, is to get high profits without any or with fewer investments. In the trafficking business, the profit-making begins when the victims are trafficked and employed by the traffickers without following any of the Government rules, regulation, and without any registrations. Most of the unorganized sectors are unregistered and unaccounted under the Government registrations. Most of the traffickers are effectively functioning due to the less restrictions and scrutiny by the Governments. The traffickers and other stakeholders in the trafficking network work to get high benefits without any legal investments.

In labour trafficking, the traffickers earn high profits by compromising on costs through illegal employment, paying far below the minimum wage, making the victims work for long hours, providing insufficient and inappropriate living conditions (shelter, water, medical, children education), and not providing any work safety apparatus etc. A massive number of victims are forced to perform work without any benefits, appropriate work materials, necessities such as water, food, medicine, sanitation, housing etc. The victim's right to a minimum wage under the Minimum Wage Act, 1948 is violated.

In a brick kiln, even though the victims are forced to work for more than 16-18 hours per day instead of 8 hours. They are paid far below minimum wage like Rs. 200 per week per couple instead of the minimum wage Rs. 3500/-. This gives the owner a profit of Rs.3300 every week. These exploitations ultimately reduce the production cost of the products in the industries, but the products are sold for high market values which increases the profits margin for the owners.

In sex trafficking, the traffickers are benefitted the most. They lure all the earnings of the victims. The victims are forced to meet more customers and earn more money for the benefit of the traffickers. The investment in the sex trafficking business is very less. As a current trend, most of the sexual exploitation happens online, reducing the investments and increasing the profits.

*4.5. Overworking the victims to gain profits*

Extraction of hard labour, for high profit from the trafficked victim, is one of the vital motives of the traffickers. The traffickers force the victims to perform labour beyond their capacity or ability to provide profit for the traffickers. In the process of extracting hard labour the victims of trafficking are ill-treated and their fundamental human rights are violated. They are forced to work overtime and they are physically, verbally and sexually abused. The extraction of labour may differ from industry to industry. There are different types of profits made by the victims for the traffickers. The victims are forced to make profits by product

based, time-based, customer based, and measurements based (One Ton/One Truck). The victims are forced to work for more than 16 hours a day. In the labour trafficking industries, like Rice Mills, Brick kilns and rock quarries, the victims are forced to work for more than 18 hours. The victims are compelled to make a pre-defined number of products (Example: 1000 Bricks per day) and without the products, they are not allowed to return to their homes. Even if the victims fall sick, they are not given any medical assistance. Instead, they are forced to continue to work and make the products.

In sex trafficking, the extent of hard labour and exploitation is unimaginable. The victims are forced to attend to more than 8 customers per day. During festival or holiday seasons, sex establishments attracts more men than the regular days, the victims are forced to have sex with more than 15 customers per day. Even if the girls are sick, the profit mindset of the traffickers never lets the victim go free but forces them to perform sex for profits. Recent trends show that online destinations and social media are used to find more customers for the sex trade. More customers means more profit for the traffickers. “Behind each victim of forced prostitution there are generally at least three people making money and making it all possible. They are 1) the recruiter who wins the victim's trust, 2) the middleman or trafficker who bridges the connection to 3) the commercial sex operator, who in turn provides the connection to the customer pool.”

When it comes to cross country labour trafficking, “Bajrektarevic (2000) and Schloenhardt (1999) portray the organisation of human trafficking as needing the involvement of up to 10 sets of specialists. These are 1. investors, who put forward funding for the operation; 2. organizers, who oversee the entire operation; 3. recruiters, who seek out potential migrants; 4. transporters, who assist the migrants in leaving the source country through land, sea or air; 5. corrupt public officials, who accept bribes to enable migrants to enter or exit illegally; 6. informers, who gather information on border surveillance and transit procedures; 7. guides and crew members, who are responsible for moving illegal migrants from one point to another; 8. enforcers, who are responsible for policing staff and migrants; 9. local people in transit points, who provide accommodation and other assistance; 10. and debt collectors and money launderers, who launder the proceeds of crime."

There are two major business operational models that are used to extract labour and make profits in sex trafficking. Firstly, the traffickers sell the trafficked victims permanently to the buyers and get the money. Secondly, the traffickers keep the victims in their own control and keep selling her to the customers to earn profits. In some cases, the traffickers continue to sell the girls through pimps and get their commissions regularly. In cases where the girls fall in love or get married to the trafficker, the husband is the main pimp who sells her and get the profits regularly.

*4.6. Commodifying the victims by breaking their spirit and destroying their identities, so that they succumb to and justify the inhuman treatment.*

Human trafficking is a trade of human beings. In any trade, there will be buyers, sellers, and products. In human trading the sellers are the traffickers, the buyers are owners, pimps, customers, demand creators, and the products are the victims of human trafficking. The commodification of the trafficked victim is the common act of the traffickers to break the spirit of the victims and psychologically change their mind from human to product. Generally, commodification is referred to as an action or process of transforming the goods, service, ideas, and people into an object or commodities of trade. In human trafficking, the commodification of the victims is one of the major tasks of the traffickers to use the victims for exploitation and to make regular profits through them.

The commodification of human trafficking victims begins with destroying the identity of the victims. In the labour trafficking industry, destroying the identity of the victims begins when the victims are recruited and brought to the facility to work. The enforcement of strong restriction on the movement of the victims, their employment and their contacts with people outside the worksites. The victims are compelled to perform labour for more than 18 hours, which means less time to converse with family, neighbours, having unbearable body pain,

unattended sickness, lack of food, water and medical facilities. Working for more than 18 hours a day will begin to break the spirit of the victims.

The strong restriction on going to their native villages, meeting with relatives, taking part in the family events such as birth, death, and funerals will cut out all their connections with the outsiders. The traffickers use the advance money, also known as bonded debt, received by the victims to trap them and force them to stay inside the worksites. When the victims want to return to their natives, the victims are forced to repay the debt with unbearable interest.

For victims of sex trafficking, killing the will of the victims and destruction of their identity happens through a systematic and well-documented process called seasoning. The traffickers perform physical, emotional and psychological abuses such as continuous rapes, beatings, burnings, starvation and drugs. To destroy the identity of the victims the traffickers rename the victims, confiscate document and/or destroy evidence or documents and make changes in their physical appearance, etc. These inhuman activities of the traffickers lead to a broken spirit, loss of confidence, loss of identity, loss of hope in life, complete dependence and hatred towards life. The traffickers use these conditions to commodify and sell the victims like products for profits.

The enforcement of restrictions, hard labour, continuous supervision of the victims and destruction of their identity constitute the process of making them permanent victims. This will make the victims rationalize their condition at the worksite. The controversial behaviors and acts of the traffickers will be justified, acceptable and made consciously tolerable to the victims. The traffickers make the victims believe that they cannot repay their advance money or bonded debt through their earnings and there is no way out other than working for the traffickers forever. The traffickers use the social conditions, shaming cultures and destruction of family respect to make the sex trafficking victims to believe there is no option for them to lead a respectful life.

*4.7. Creating permanent and generational victims for future benefits*

One of the aims of the traffickers in the process of profit-making is to make the victims serve them permanently. In order to make them their permanent victims, the traffickers perform certain short-term and long-term acts.

One of the common tricks used by the traffickers in labour trafficking is trapping the victims by giving them a huge advance and forcing them to repay it through their labour. The victims start working, thinking that they will repay the advance money in a few months and that they can return home. The victims will repay the debt with the wages that they earn. However, fewer wages paid by the traffickers, manipulation of accounts against the bonded debts, taking advantage of the victim's illiteracy and receiving signatures on the empty sheets will never let the victims repay the advance. This will make them permanent victims of trafficking for the traffickers. Generational bondage was common in labour trafficking. Parents receive an advance and work throughout their life to repay it. When they get old, their children are forced to work to repay their parents' advance. The children get married and their children are forced to work for the traffickers. This makes them generationally bonded.

The traffickers intentionally restrict the children of the labour trafficking victims from getting educated. Even when education is provided for free, the children are restricted from going to school. They are compelled to support their parents with their work in the worksites. If the children begin to work along with their parents without education, they will become the future victims of the labor traffickers. Some traffickers restrict the victims from enrolling in Government entitlements, schemes and benefits. This will make the victims more dependent on the traffickers to meet their daily needs. Without Government entitlements, the victims cannot receive any Government benefits. This gives traffickers the opportunity to permanently employ the victims of labour trafficking.

In some cases, the traffickers or owners force the victims to register the worksite's address as their permanent address or location to receive their Government entitlements or benefits. The illiteracy and ignorance of the victims will disable them from understanding that they need to be there in the worksite to receive their benefits.

Using their ignorance, the traffickers make them permanent victims.

*4.8. Violently suppressing any rebellious act of the victim and retracing and re-trafficking escapees to maintain control over and to ensure the success of the trafficking operation.*

The traffickers control the life of victims and prevent them from enjoying the constitutional rights and benefits. The traffickers use violence, threats of violence, coercion, abduction, fraud, deception, abuse of power and position to traffic the victims and control their life in trafficking. Predominantly, the traffickers use physical, verbal and sexual abuse to control the victims.

When labour trafficking victims demand a higher wage and/or basic facilities and/or if they refuse to work and/or stand for their rights, they are physically abused and forced to work in the worksites without their will. The victims in sex trafficking are beaten up when they refuse to take more customers and/or when they refuse to continue to work under the traffickers. In some cases, the traffickers file false complaints against the victims and use the police to track the victims or file such complaints against the victims to escape from the future complaints from the victim's side.

Most of the victims who are trapped in trafficking come from economically and socially deprived communities such as the scheduled castes and scheduled tribes. The caste-based occupation practices and social deprivation allows the traffickers to force the victims to work for them. The caste based verbal abuse by the traffickers is common in the worksites where the victims are from a lower caste. The majority of the victims of trafficking have tried to escape from the worksites or establishments to lead a happy and free life. However, the trafficker's search for them, find them, physically abuse them, track them back to the worksites and force them to work. When the victims are traced, the traffickers intentionally abuse the victims in front of their household, relatives and community members to shame the victims and embarrass them. This is done to ensure that they won't return to their community in the future. When they return to the worksite, the victims are abused in front of the other victims to make the other victims believe that there is no way out and even if they escape from the worksite, they will be tracked back.

In sex trafficking, "deception is such a major part of forced prostitution that many lose sight of the violent force that always lies at the critical core of forced prostitution… All of the work on the deceptive scheme is completely wasted if the perpetrator cannot compel compliance with violence – and so violence becomes the final, defining feature of the transaction. The perpetrators of forced prostitution know that there will always be the coercive moment at the end of all their schemes of deception; therefore, they are looking for soft targets. They are prowling for people who are likely to offer less resistance at the moment of violence. But more importantly, the perpetrators are targeting people who will have fewer resources coming to their defence. Perpetrators engaged in forced prostitution are, to be blunt, selfish, cowards – and they have zero interest in a fair fight. They want to exert as little effort as possible and take as few risks as possible – and therefore they do not want to take on any additional people coming to the defence of their victims."

"For the average person, there are, in theory, four lines of defence against violence and abuse- the family, the community, private security, and the government… For a person living in poverty in the developing world, however, while the protections of the family and community may be quite strong, the third and fourth lines of defence are almost non-existent… Therefore, the perpetrator of forced prostitution knows that he must simply get past the first two lines of defence (the family and the community) – and then he is home free. The sex trafficker knows that if he can simply separate the victim from the potential defence of the family and the community, there will be no one else coming to the victim's aid."[23]

## 5. Conclusion

Exploitation is at the heart of human trafficking. Therefore, all the tactics used by traffickers to recruit and benefit from their victims are based on it. The tactics of traffickers such as preying on the vulnerable, making false promises to them and meeting their immediate needs, making them believe that the trafficker is their protector,

earning high profits through illegal cost-cutting and overworking the victims, commodifying the victims by destroying their spirit and identity, using violence to suppress rebellious acts, and lastly, re-trafficking escapees show a complex and systematic approach towards trafficking. Understanding this approach is necessary to fight trafficking at its various stages. A counter-approach targeting the many aspects of trafficking needs to be designed by the various governments facing the issue across the world. It is only then that this organized crime will meet its doom.


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# Forensic Investigation of Arson: A Review

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**Abstract:**

Arson is defined as a fire that is lit intentionally with criminal intent. As compared to conventional crime scenes, arson sites are more difficult to process. In many cases, a building may have completely gutted and the crime scene evidence may have charred. A vital aspect of forensic arson investigation is to establish the point of origin of fire. Equally important is to identify the accelerant used by arsonists to set the scene afire. This communication highlights the complications encountered in the management of arson sites and the difficulties experienced in processing the evidence collected from there.

**Keywords:**

Arson; Arsonist; Chromatogram; Crime scene; Documentation; Fire tetrahedron

## Introduction

Fires are classified into three broad types: Natural, accidental and deliberate. Examples under natural category include forest and lighting fires. Electrical short circuits and oil ring blasts are categorized as accidental fires. Deliberate fires are sub-divided into two classes: those which are lit without any intention of committing a crime and those which are set off to commit a crime [1]. The burning of paddy straw and weeds in the fields of Punjab and Haryana – commonly referred to as *parali* – is, no doubt, a criminal act as it violates the environmental laws, yet the farmers resort to it because of lack of alternative means of waste disposal and not with intent to harm anyone. The fire which is lit either to commit a crime or to destroy evidence of crime is termed arson [2].

Forensic investigation of arson revolves around ascertaining the flow of fire at the scene. Once the direction of flow is known, it is possible to trace back to the point of origin of fire. It is at the point of origin that a host of physical and impression evidence will be found – and these shed light on the cause of fire. These also assist in identification of the arsonist [3].

## Fire Tetrahedron

Fires are a consequence of a chemical reaction between a fuel and air. The fuel may be a solid, for example coal; a liquid, for example, kerosene oil; or a gas, for example, methane. However, merely mixing fuel with air will not start the fire. There must be a heat source to initiate combustion. Moreover, the fire proves hazardous only if the combustion reaction is self-

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sustaining, that is, it continues till the fuel is exhausted. It is, therefore, pertinent that to set an infrastructure on fire, the following four requirements must be met.

- A fuel
- A continuous supply of air
- A source of heat
- A chain reaction between fuel and air

These four requirements are symbolically represented by way of a three dimensional structure called a fire tetrahedron [4]. A fire tetrahedron is shown in Fig. 1.

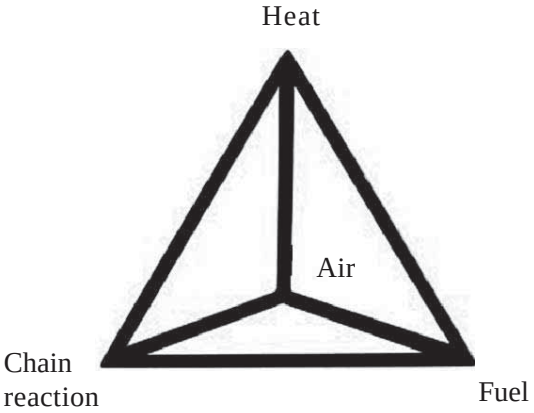


**Fig. 1: Fire tetrahedron**

If even a single edge of fire tetrahedron is missing, the fire will be doused. For example, when water is sprayed on fire, the amount of heat being generated is substantially reduced. Moreover, the steam, so generated, engulfs the fire and cuts off the supply of air. In either case, the fire is extinguished. Likewise, carbon dioxide, released from a fire extinguisher forms a vortex around the fire, as a result of which the air supply is blocked and the fire dies down.

**Managing the Arson Crime Scene**

Crime scene management is a mentally challenging and physically tiring task. In cases involving arson, the difficulties are compounded exponentially. Some of the crime scene evidence may get burnt. The fire personnel, who reach the site ahead of the forensic scientists, spray gallons of water to douse the fire and in this process yet another set of evidence may get washed away. The building may have partially collapsed and some of the evidence may have got buried beneath the debris. The arson scene is usually dark since, as a safety measure, electricity is switched off. Toxic fumes of partially burnt hydrocarbons pose an occupational hazard to the investigators. Embers smouldering under the debris are yet another hazard [5].

Despite all these hardships, the first responders to arson sites have a host of duties to perform. Before entering into the actual scene, they must take note of conditions around the site. The structure ought to be assessed for safety and it should be explored whether there is a possibility of the fire spreading to adjacent infrastructures. It must be examined whether the doors and windows were open, closed or broken. If, on arrival, the investigators observe that all the doors and windows were closed, they must exercise extra caution while entering the premises. In a closed space, fire quickly consumes the entire air content. When the fire fighters or investigators break in, a large quantity of air rushes in, resulting in a phenomenon called *backdraft* or *flashover* [6]. Under the conditions of flashover, just any ignitable item in the enclosed space catches fire and most often an explosion occurs. Once inside the arson scene, the first responders should traverse from areas of lesser damage to those of greater damage, all along marking the evidence.

The area of most damage is the point of origin of fire. It is called *fire centre* or *fire seat* [7]. From the fire seat, the fire flows outwards in a 3-dimensional pattern. Subsequently, it may change its direction and move either towards the fuel or towards a well ventilated area. Irregular burn patterns emerge around the fire seat (Fig. 2A). If the fire seat is near a wall or a corner, the smoke and soot accumulate in a V-shaped pattern [8], as shown in Fig. 2B.

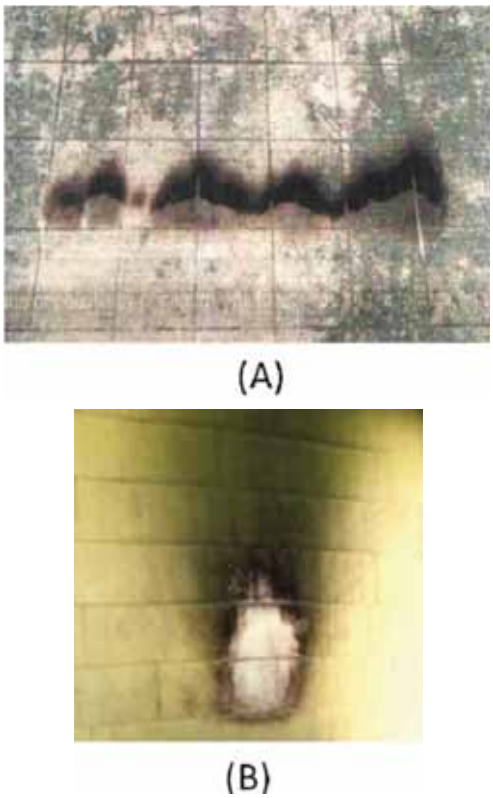


**Fig. 2: Burn patterns on (A) floor and (B) wall**

The area where the fire starts generally burns for a longer duration and therefore suffers worst damage [9]. Depth of charring [10] and spalling of plaster [11] will be greater near the point of origin. Glass and metal objects closer to the point of origin distort more than those that are placed a few feet away. The electricity wires either melt or develop beadings under the influence of heat [12].

## Documentation of Arson Crime Scene

The documentation of an arson site begins while the fire is still burning and continues even after it has been doused. The flame height is assessed by way of videography, but color photography is the main mechanism for documenting the arson site [6]. The photography should begin at the exterior of the infrastructure and encompass all sides, as well as adjoining buildings. From there, the recoding should proceed to the interior and include the fire suppression efforts as well. Once the fire is extinguished, the photo log should be initiated from the area of least damage and culminate at the fire seat [13]. An arson scene is usually dark and therefore a flood light or a detachable flash ought to be used in concert with the camera. The burn patterns on floors and walls should be captured both by mid-range and close-up photography.

## Collection of Evidence at Arson Crime Scene

A good number of evidence found at arson sites are the same as at conventional crime scenes. These include trace evidence, for example, hair, fibre; impression evidence, for example, fingerprints, burn patterns; and physical evidence, for example, blood, soil. These are collected by standard procedures [14]. However, such evidence is generally found near the entrance or exit of the scene, and quite remote from the fire seat. In the vicinity of the fire seat, igniters, such as candles, match boxes, lighters or Molotov cocktails are normally found. These are packed in metal containers.

At or near the point of origin of fire, special attention ought to be given to soot, ash, rags, carpets and upholstery. These materials are porous in nature and the accelerants like petrol, diesel and kerosene oil, which are commonly used to set the property on fire [15], are most likely found absorbed therein [16]. These pieces of evidence are collected in air-tight metal containers. Polythene bags are not suitable since most accelerants degrade the polymeric materials. Paper bags too cannot be used since with passage of time, the accelerants may be lost from such containers due to evaporation [17, 18].

Apart from the reference samples, control samples too should be collected. For example, if an accelerant-soaked carpet piece is the reference evidence, an unburnt portion of the same carpet serves as the control sample. The accelerants are usually low boiling liquids and therefore their vapors are dispersed in the space above the debris within the metallic evidence

container. This portion of the container is called *head space* and is symbolically shown in Fig. 3. The container is heated to about 60°C, so as to transform more of the absorbed accelerant into vapors. The latter are collected with the aid of a gas-tight syringe from the head space [19].

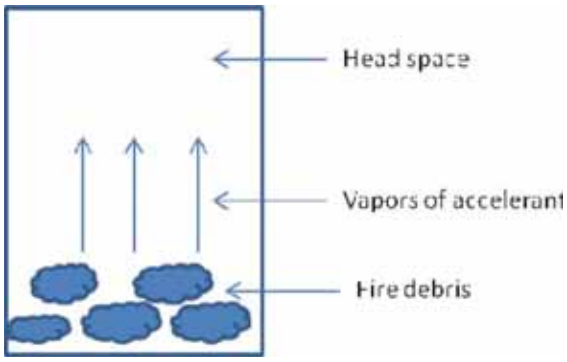


**Fig. 3: Head space method for identification of accelerant**

The next pertinent step is the chemical identification of the accelerant [20, 21]. Since most of the accelerants are a mixture of several volatile compounds, gas chromatographic technique is the preferred method of analysis [22]. The accelerant is passed through a gas chromatograph in concert with an inert gas. The components of the accelerants pass through the chromatograph at varying speeds to yield a set of peaks called *chromatogram* [23]. A representative chromatogram is shown in Fig. 4.

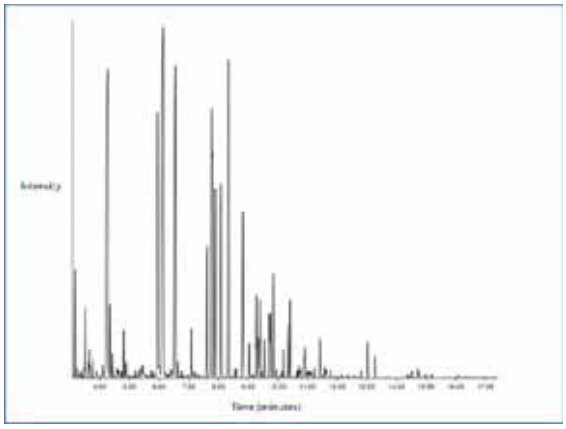

**Fig. 4: A chromatogram**

Each peak in the chromatogram is indicative of a specific component of the accelerant. The ordering of the peaks represents the rate at which the corresponding component oozes out of the chromatograph. The height or intensity of the peak represents the concentration of the corresponding component in the accelerant. The gas chromatograms of the commonly available accelerants are then run on the same instrument and under similar conditions. By carrying out a peak-by-peak comparison of the gas chromatogram of the sample collected from the arson site with that of the neat sample, the identity of the accelerant may be established [24]. Better comparison results if gas chromatography is used in concert with mass spectrometry [25].

**Identification of Arsonist**

Another aspect of fire investigation is to establish the identity of the perpetrator. In conventional crime cases, fingerprints offer the most infallible means of identification [26]. However, conditions at arson sites are very hostile. Only some evidence survives arson and this too is first exposed to high temperatures and then to a large amount of water which is randomly sprayed to douse the fire. For this reason, highly specialized techniques of fingerprint detection have to be resorted to [27].

The small particle reagent is considered to be a standard formulation for developing latent fingerprints on submerged evidence [28]. It has been established that the method is also suitable for detecting fingermarks on articles removed from simulated arson sites [29]. The method is cost-effective and simple to operate. It does not involve any toxic ingredient. Moreover, it can be extended to lifting finger impressions on blood-laden articles collected from arson sites [30].

**Conclusion**

The forensic investigation of arson cases is accomplished in the following four steps.

1. To ascertain *how the fire started*. Normally a suspect sets the scene of crime afire by using an accelerant. In India, the easily available accelerants are petrol, diesel and kerosene oil. By the time the fire is doused, a part of these accelerants gets absorbed in fabrics items, as well as in debris. These are identified with the aid of gas chromatography, or better by gas chromatography-mass spectrometry technique.

2. To determine *where the fire started*. The accelerants leave a burn pattern at the point of origin of fire. The shape of the pattern depends on the characteristics of the accelerant used for setting the scene afire and on the type of flooring. In India, most of the premises have either cemented or tiled or marble floors. The type of burn pattern which appears on each of these floors is quite unique to the accelerant used to start the fire.

3. To elucidate the *effect of fire on crime scene evidence*. This information is obtained by examining the degree of spolling of wall plaster and the extent of distortion and/or damage that articles of metal and glass suffer within and outside the burn patterns.

4. To establish *who started the fire*. In routine crime cases, the identity of the perpetrator is best established by developing his fingerprints on evidence removed from the scene. In arson cases, the evidence is first subjected to high temperatures and then sprayed with water by the fire-fighters. Yet the fluorescent small particle reagent proves effective for detecting latent impressions on items collected as evidence from arson sites.

The complexities and difficulties associated with forensic investigation of arson scenes may be negated if the aforementioned four steps are carried out scientifically and methodically.

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# Analysis of fake bullion using X-ray fluorescence spectrometer, Density determination method and their linkage with bullion stamp in the forensic context

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**Parshuram Singh**[2]

## Abstract

It is very challenging to figure out the genuineness of gold items. Numbers of methods are used for gold fraud like gold plating, items made of lead, copper or silver covered with the gold sheet. Large numbers of such type of cases related to gold fraud are registered in various police stations in India. These suspicious gold cases are sent to the Forensic Science Laboratory to determine their genuineness. One of the cases related to fake bullions in which several 20 gm and 100 gm bullions were deposited as exhibits. These exhibits were examined under X-ray fluorescence spectrometer for elemental analysis & Density determination in respect of estimation of purity of gold. The impressions on bullions were also compared with the impression on suspect bullion stamps as well as original bullion stamps. It was observed that the suspicious gold bullions were found fake and impressions on these bullions were made by the suspect bullion stamp. This work may help in the examination of such types of cases and also making investigating agencies aware of such type of fraud.

## Keywords

Gold, Bullion, x-ray Fluorescence Spectrometer, Density, Bullion stamp, Impression

## 1. Introduction

Gold is yellowish, shining, soft, ductile metal. It is a precious metal which is extracted from the quarry through the number of processes (1). Gold is considered as the symbol of prosperity over the centuries. It uses for making coins, bullion, jewellery and wealth storage. The gold in bullion shape is widely used for the storage of wealth (2). This valuable metal always remains at a high price in the market everywhere all over the world (3). Hence, the trade of fake gold coins, bullion and jewellery also occur for earning money illegally.

Different methods are used for making counterfeit gold jewellery and other items. The low-cost metals like silver, copper alloy covered with a pure gold sheet as an upper surface of item and Gilding of silver and other base metal i.e. coating the object with a gold-rich surface layer is a well- known technique (4). Fire Assay (Cupellation), Touchstone, Density, Electronic Gold Pen, X-ray Fluorescence Spectrometry (XRF), Atomic Absorption Spectroscopy (AAS) and Inductively Coupled Plasma Spectrometry (ICP) are used for assaying of gold jewellery (5).

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In renowned jewellery shops and gold loan provider firms use X-ray fluorescence-based instrument to ascertain the purity of gold ornaments and bullions. These instruments have a limited penetrating power. The penetration of the beam in the metallic sample depends on the matrix, but it scarcely exceeds some tens of microns (6), due to which exact composition of inner material cannot be determined and gives an elemental profile of the upper surface. Hence X-ray fluorescence- based instrument in such type of cases where low-cost material filled in gold items cannot give a valid result, here density determination method is a complementary technique. Analysis can be done with both X-ray Fluorescence Spectrometry and density determination method.

In the case of gold bullion, some impressions are made by the manufacturer company. These impressions have characteristics microscopic features which come from the tools/ bullion stamp used for making them. The comparison based on microscopic features is the core of the tool mark identification (7).

In a cheating case police seized seventeen 20 gm golden color metallic bullions/biscuits and four 100 gm golden color metallic bullions/biscuits having a company impression on both sides. These bullions are claimed to be 99.99% pure gold. Sets of bullion stamps which were suspected of being used for making impressions on these bullions were also recovered. These all bullion stamps sets seemed duplicate. Original bullion stamp sets which are used for making impressions on the genuine gold bullions were also procured from concerned company. All the exhibits were sent to a forensic science laboratory in sealed condition for examination to know the genuineness of these bullions and also to link the bullion stamp by which these bullions were made.

This paper is a report on limitations of X-ray Fluorescence Spectrometry for detection of fraud in bullions made up of low-cost material cover with the sheet of pure gold and importance of relative density an ancient technique as a complementary method to detect these types of fraud without destroying the article. It also deals with the linking of bullion stamp used for manufacturing these articles on the basis of characteristics marks left on the articles by the bullion stamps.

## 2. Sampling of Exhibits

The seventeen golden colour metallic bullions of 20 gm and the four golden colour metallic bullions of 100 gm having impressions on both sides were marked as Exhibit-1 to Exhibit-17 and Exhibit-18 to Exhibit-21 respectively.

The suspect bullion stamp of 20 gm bullion having impression of the company name, the suspect bullion stamp of 20 gm bullion having impression of SHUBH, the suspect bullion stamp of 100 gm bullion having impression of the company name, the suspect bullion stamp of 100 gm bullion having impression of SHUBH were marked as Exhibit-D1, Exhibit-D2, Exhibit-D3 and Exhibit-D4 respectively.

The original bullion stamp of 20 gm bullion having impression of the company name and the original bullion stamp of 20 gm bullion having impression of SHUBH, were marked as Exhibit-S1, Exhibit-S2, Exhibit-S3 and Exhibit-S4 respectively.

## 3. Material and Method /Experimental technique.

### *3.1 Equipment and Software*

Magnifying Glass, Scale, Pliers, cutting tools and other measuring tools VISPEC with Foster + Freeman Document Imagine Suite version 1.1.92 software Digital Microscope B006 HD with Gaosuo software Sartorius Electronic balance BP221S & Density determination kit YDK01 X-ray fluorescence spectrometer Shimadzu EDX-7000 with PCEDX-Navi software

### *3.2 Comparative Examination of Exhibits*

3.2.1 Comparative examination among Exhibit-1 to Exhibit-17 and among Exhibit -18 to Exhibit – 21 were carried out on the basis of the

impression present on the bullions and specific tool marks left by the bullion stamp on them under magnification and by using other measuring tools to figure out the similarity between the Exhibits.

3.2.2 Using VISPEC the image of the golden color bullions and bullion stamps were prepared for the detail examination and comparison. The horizontal flipped /mirror image of the suspect bullion stamp and original bullion stamps were prepared by using Gaosuo software for comparison with images of golden color bullions. The images of the golden bullions were compared with their respective images of suspect bullion stamps and original bullion stamps under magnification, by using Gaosuo software and other measuring tools

### *3.3 Density determination of the golden colour bullions*

The density of the golden colour bullions was determined by the Archimedes principle. As per this principle, the density of an object is given as

Relative Density of object = (Weight of the object in Air) / (Loss of weight of the object in water)

The weight of the bullion in air = W1

The weight of the bullion in water = $W_2$

Then Relative density of metallic bullion = $(W_1)/(W_1-W_2)$ ———————— (1)

W1 and W2 of golden colour bullions were determined by using the electronic balance with density determination kit The Relative density of each bullions calculated using the above formula is given in the Table -1. The relative density of the sample of the upper thin sheet was also determined using the above method after removing from bullions

### *3.4 Elemental Analysis by X-ray Fluorescence Spectrometer*

**S**uspected golden color bullions Exhibit-1 to Exhibit-21 were placed one by one in the sample chamber of the X-ray fluorescence spectrometer (SHIMADZU EDX-7000) on the stage and analyzed. Report of the elemental profile of bullions as it was Exhibit-1 to Exhibit-21 generate through PCEDX-Navi software shown in Table-2. Considering the results of the density of these bullions, elemental analysis of inner materials was also carried out after removing the upper thin sheet. The bullions were placed in the sample chamber such that the inner surface is exposed with X-rays. The results of the elemental analysis are tabulated below in Table -3

## 4. Results and Discussion

Exhibit-1 to Exhibit-17 i.e. 20 gm gold color bullions were found similar to each other from both sides in respect of overall shape, size, font design of the letters and other embossed features. The shape of the last letter‘t’(Fig. 1) and shape of first ‘P’ in text embossed ‘PAPPACHAN’(Fig. -2) have some unique characteristics which are observed in all the 20 gm bullions.

Similarly, Exhibit-18 to Exhibit-21 i.e. 100 gm gold color bullions were also found similar to each other from both sides in respect of shape, size and individual characteristics.

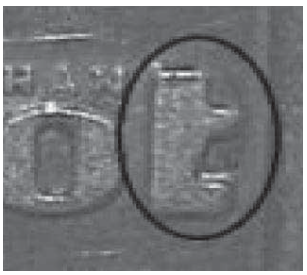

**Fig. 1: The shape of stem of letter‘t’**

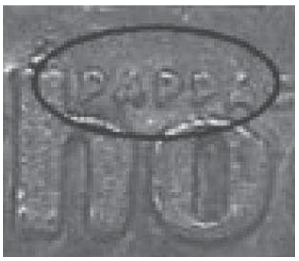

**Fig. 2: The shape of bulb of letter ‘p’**

On comparison of golden bullions representative sample Exhibit-1 to Exhibit-17 from both sides with the original bullion stamps, the impressions on Exhibits were found different in respect of thickness of font of letters(a & b), Size of symbol '' (c & d), Shape of hook of letter't' (e & f ), in respect of diameter of circle(g & h), Length of the line just below to the circle(I & j), Presence / absence of serifs in Font of word 'SHUBH' (k & l ) and Font size of word 'SHUBH' (m & n) in Fig. 3.

Similarly on the comparison of golden bullion representative sample Exhibit-18 to Exhibit-21 from both sides with the original bullion stamps, the impressions on Exhibits were found different in respect of thickness of font of letters, Size of symbol '', Shape of hook of letter't' , in respect of diameter of circle, Length of the line engraved just below to the circle, Presence / absence of serifs in Font of word 'SHUBH' from the side 'SHUBH' and Font size of word 'SHUBH'.

On comparison of golden bullion representative sample Exhibit-1 to Exhibit-17 from both sides with the suspect bullion stamps marked Exhibit D1 to D4, the impressions on Exhibits were

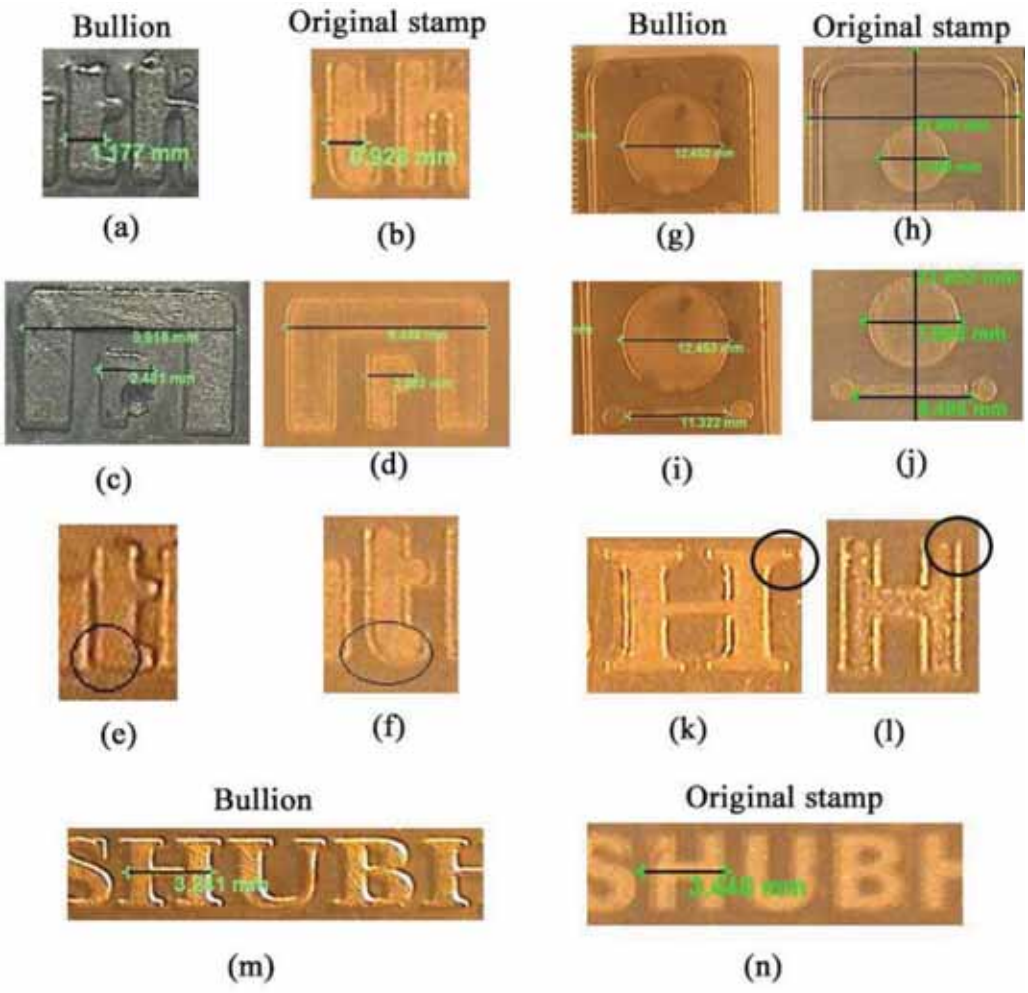


**Fig. 3: Difference between characteristics of the impression on golden bullions and characteristics of original stamps**

found similar in respect of from both sides with the suspect bullion stamps. The impressions on Exhibits were found different in respect of thickness of font of letters(a & b), Size of symbol '' (b & c), Shape of hook of letter't' (e & f ), in respect of diameter of circle(g & h), Length of the line engraved just below to the circle(I & j), Presence / absence of serifs in Font of word 'SHUBH' from the side 'SHUBH' (k & l ) and Font size of word 'SHUBH' (m & n) in Fig. 4.

Similarly on the comparison of golden bullion representative sample Exhibit-18 to Exhibit-21 from both sides with the suspected bullion stamps, the impressions on Exhibits were found similar in respect of thickness of font of letters, Size of symbol '' and Shape of hook of letter 't' , in respect of diameter of circle Length of the line just below to the circle Font size of engraved letter and Presence / absence of serifs in Font of word 'SHUBH' from the side 'SHUBH'.

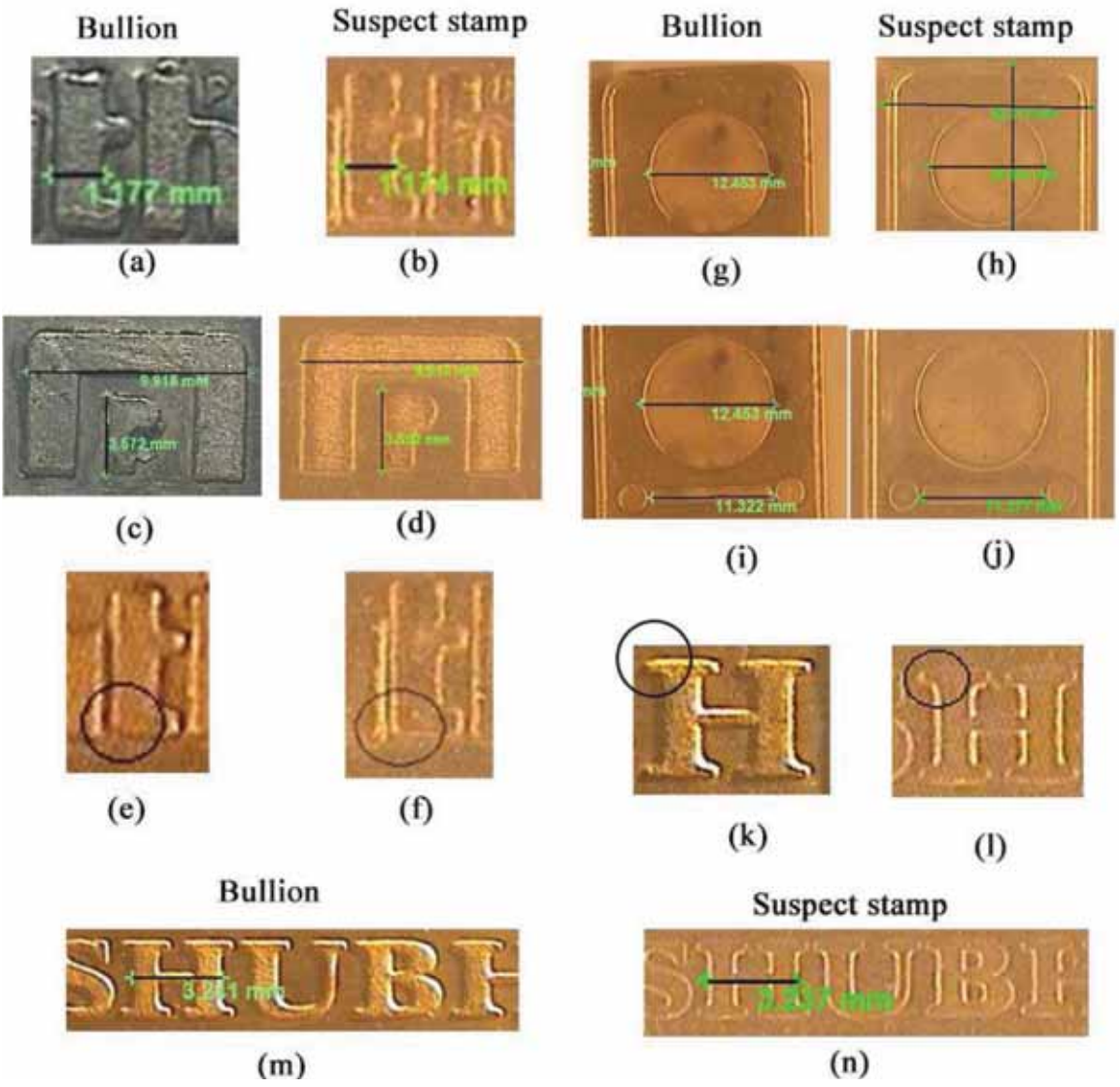


**Fig. 4: Similarity, between characteristics of the impression on golden bullions and characteristics of suspected stamps**

On comparison it was found that the original bullion stamps were not used for making the impressions on these golden colour metallic bullions. Individual characteristics of the impressions on suspect bullion stamps Exhibit-D1and Exhibit-D2 were found similar to the individual characteristics and other features of Exhibit-1 to Exhibit-17. Individual characteristics of the impression on suspect bullion stamps Exhibit-D3 and Exhibit-D4 were found similar to the individual characteristics and other features of Exhibit-18 to Exhibit-21 Hence the impressions made on all the 20 gm and 100 gm bullions were found to be made by suspect bullion stamps.

The result of density determination is shown in the Table 1. The relative densities of all the 20gm bullions were found around 12 and all the 100 gm bullions were around 14. The values of density of both types of bullions were very less than that of pure gold i.e. 19.3. The result of relative density created suspicion on the genuineness of the bullions.

XRF Spectrometer result showed more than 99% of gold and less than 1% of silver except for exhibit-2 and exhibit-10 in which quantity of gold is about 98% and silver is around 1% which is shown in Table-2. This result showed that all the bullions were genuine

**Table 1: The relative density of golden bullions by the density determination method**

| Exhibit | Density | Exhibit | Density | Exhibit | Density | Exhibit | Density |
|---|---|---|---|---|---|---|---|
| EX-1 | 12.0 | EX-7 | 11.7 | EX-13 | 12.0 | EX-19 | 14.6 |
| EX-2 | 11.6 | EX-8 | 12.0 | EX-14 | 11.9 | EX-20 | 14.5 |
| EX-3 | 11.8 | EX-9 | 11.7 | EX-15 | 12.0 | EX-21 | 14.0 |
| EX-4 | 12.0 | EX-10 | 11.7 | EX-16 | 12.0 | | |
| EX-5 | 11.8 | EX-11 | 12.0 | EX-17 | 11.9 | | |
| EX-6 | 11.9 | EX-12 | 12.0 | EX-18 | 14.6 | | |

**Table 2: Elemental profile of the outer surface of golden bullions**

| Exhibits | Outer surface (%) | Exhibits | Outer surface (%) | Exhibits | Outer surface (%) |
|---|---|---|---|---|---|
| Exhibit-1 | Au-99.8, Ag-0.2 | Exhibit-8 | Au-99.3,Ag-0.71 | Exhibit-15 | Au-99.9,Ag-0.1 |
| Exhibit-2 | Au-98.2,Ag-1.0 | Exhibit-9 | Au-99.8,Ag-0.2 | Exhibit-16 | Au-99.8,Ag-0.2 |
| Exhibit-3 | Au-99.5,Ag-0.5 | Exhibit-10 | Au-98.5,Ag-0.4 | Exhibit-17 | Au-99.6,Ag-0.3 |
| Exhibit-4 | Au-99.4,Ag-0.5 | Exhibit-11 | Au-99.3,Ag-0.2 | Exhibit-18 | Au-99.8,Ag-0.2 |
| Exhibit-5 | Au-99.2,Ag-0.7 | Exhibit-12 | Au-99.8,Ag-0.2 | Exhibit-19 | Au-99.8,Ag-0.1 |
| Exhibit-6 | Au-99.4,Ag-0.5 | Exhibit-13 | Au-99.3,Ag-0.7 | Exhibit-20 | Au-99.8,Ag-0.1 |
| Exhibit-7 | Au-99.7,Ag-0.3 | Exhibit-14 | Au-99.8,Ag-0.2 | Exhibit-21 | Au-99.8,Ag-0.8 |

Results of both methods are contradictory. Keeping in view of results of both methods the bullions were cut from the side and it was observed that some grayish-white material was inside of it (Fig. 5). The thickness of the upper sheet was found to be 0.17mm in case of 20 gm bullions and 0.31 mm in case of 100gm bullions.

**Fig. 5: The inner portion of golden bullions after removing the gold sheet**

The relative density of the upper thin sheet of the representative sample was also determined using equation (1) and it was found to be 19. XRF Spectrometer result of the inner portion of bullions showed silver as maximum constituent except for Exhibit-18 which had tungsten as a major constituent as shown in Table-3. This result showed that all the bullions were made up of the silver block except Exhibit-18 which was of tungsten alloy having a thin sheet of pure gold

## 5. conclusion

The Golden colour metallic bullions marked Exhibit-1 to Exhibit-21 were examined by density determination method & using X-ray fluorescence spectrometer and it is found that the bullions were made up of the silver rectangular block except for Exhibit-18 (made up of tungsten rectangular block). These blocks

**Table 3 : Elemental profile of the inner portion of golden bullions after removing thin sheet of gold**

| Exhibits | Inner material (%) | Exhibits | Inner material (%) |
|---|---|---|---|
| Exhibit-1 | Ag-95.7,K-2.7,Cu-0.7 | Exhibit-12 | Ag-96.3,K-1.3 |
| Exhibit-2 | Ag-85.1,Au-7.5,K-2.8,Ca-1.3 | Exhibit-13 | Ag-87.7,Au-4.8,Cu-3.6,Zn-1.7 |
| Exhibit-3 | Ag-95.7,K-2.3,Ca-0.4 | Exhibit-14 | Ag-95.2,K-1.6,Al-0.9 |
| Exhibit-4 | Ag-84.5,Au-7.8,K-2.1, Si-2.0 | Exhibit-15 | Ag-92.3,K-2.9,Si-2.5 |
| Exhibit-5 | Ag-92.7,Si-2.6,K-1.5 | Exhibit-16 | Ag-95.9,Au-1.3,K-1.0 |
| Exhibit-6 | Ag-96.3,K-1.9,Nd-0.4 | Exhibit-17 | Ag-91.8,K-3.7,Si-2.9 |
| Exhibit-7 | Ag-87.4,Au-3.7,K-3.6, Zn-2.1 | Exhibit-18 | W-79.9,Co-12.6,Lu-2.6 |
| Exhibit-8 | Ag-95.1,K-1.6 | Exhibit-19 | Ag-95.0,K-2.5,Co-0.7 |
| Exhibit-9 | Ag-95.3,K-2.0 | Exhibit-20 | Ag-96.8,K-1.9 |
| Exhibit-10 | Ag-92.8,Au-2.3 | Exhibit-21 | Ag-95.6,K-1.7,Ca-1.1 |
| Exhibit-11 | Ag-90.4,Al-3.6,Au-2.6 | | |

## 5. conclusion

The Golden colour metallic bullions marked Exhibit-1 to Exhibit-21 were examined by density determination method & using X-ray fluorescence spectrometer and it was found that the bullions were made up of the silver rectangular block except for Exhibit-18 (made up of tungsten rectangular block). These blocks were covered with the thin sheet of the pure gold surrounding, purity of sheets were confirmed by density and XRF spectrometer analysis both. On examination, these bullions were found fake. The density of the tungsten was 19.25 gm/cm$^3$ which was closer to the density of the gold i.e. 19.3 gm/cm$^3$. Tungsten alloy is cheaper than silver and it can be used as filling material in place of silver in this type of fake gold bullion in the future.

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# Credible Forensic Medical Expert Opinion for Investigators and Judiciary

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**Abstract:**

When forensic doctor determines that a suspicious death is a suicide, homicide or an accident, the decision virtually becomes incontestable by the investigating police officer and it becomes an issue whether the Medical Opinion was created with necessary checks and balances on the other probabilities of the case? It is suggested that the opinion of Forensic Medical expert is conventional, mutable and shifting from one expert to another. The determination of suicide, accident or homicide is mandatorily required, which is the Gold Standard for conducting death investigations. Forensic investigations serve many audiences, but the court is by far the most critical. The likely questions on direct and cross-examination determine how forensic doctors gather and handle evidence and what conclusions they reach. A criminal case might be won or lost over doubt cast on the chain of custody. Medically trained forensic doctors, therefore, learn to practice their profession in legally appropriate ways and opinion must be based on medical justifications with credible references.

**Key words:**

Forensic doctor, professional credibility, expert opinion.

Sudden unnatural death of human being raises suspicion regarding the manner of death, not only among the family members of the person but in society also. In many cases of sudden and suspicious deaths there has been unrest at national and international level to know about the cause and manner of death.[1] The questions are being raised about the credibility of investigating agency, Government, Forensic Laboratory as well as doctor who conducted postmortem examination.[2] In these instances, correct analysis and interpretation of forensic evidences are required to correlate with the circumstantial and investigative findings. The Postmortem report and its opinion must be with professional credibility. The Forensic Medical expert opinion is credible when the description of body trauma as evidence and an alleged mechanism of death as the way the deceased died, is corroborated with the crime. The analysis of a crime scene and subsequent collection and evaluation of evidence (including physical, circumstantial, photographic) requires skill, knowledge and ability to combine the two to come to a definite conclusion. Forensic doctor makes an expert opinion based on all these findings and establishes credibility of his opinion with references. The credibility of Forensic doctor opinion hinges on five principles: (1) Who the medical experts are and what are their

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experience and credibility? (2) What is the basis of expert opinion? (3) Is it a Speaking Opinion with justification? (4) How they eliminated other close options? (5)What are the credible references? The authors illustrate three such cases in which the opinion given was based on these basic principles in making a credible Forensic Medicine expert opinion for investigators and judiciary.

**Case Report 1[3]:**

**A. Brief history:** In July, 2013 the dead body of a 26 year old female, was recovered in a ground with multiple gunshot wounds and a revolver was found lying near the body. Police seized the said revolver having six empty cartridges, blood soaked soil and grass containing blood stains from the scene of crime. The revolver was later found to be the licensed weapon of the husband of deceased. The family members of deceased suspected that she was killed by her husband, due to dowry demands and lodged a FIR u/s 302/34 IPC against him.

**Image 1: Body of deceased at Scene of Incidence**

**B. Case findings:** The post-mortem examination findings were:

1. Grazed abrasion of size 3.5 cm by 1.5 cm on left side lower lateral abdominal wall with tapering round the edge posterior, blackening present on the wound with bright red clotted blood.

**Image 2: Injury No. 1**

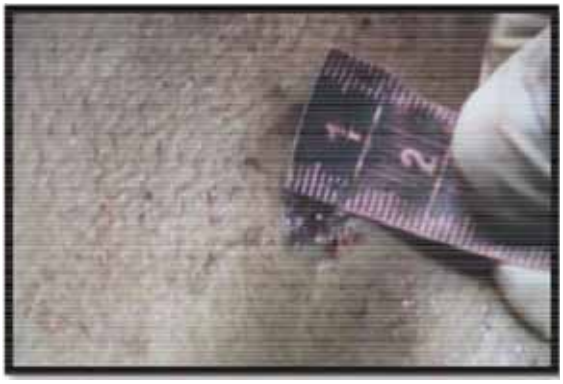

**Image 3: Injury No. 2**

2. Lacerated wound 9 mm by 9 mm on left side chest, with 1 mm of abrasion collar seen surrounding the wound circularly, wound seen continuous inside with blackening seen in the initial track up to lung tissue, lacerating the posterior thoracic wall correspondingly and exiting through the exit wound 1.5 cm by 1.5 cm, 17 cm below and medial to left shoulder tip with bright red clotted blood.

3. Lacerated wound 9 mm by 9 mm, 4 cm below chin, inverted margins, 1 mm of abrasion collar seen surrounding the wound and exiting through the exit wound 1.5 cm by 1.5 cm, 12 cm posterior and below to left ear lobule with bright red clotted blood.

4. Lacerated wound 3 cm by 1 cm, right parietal region scalp, with bright red clotted blood.

**Image 4: Injury No. 3**

**Image 5: Injury No. 4**

The cause of death was opined as shock and haemorrhage following antemortem multiple firearm injury, external injuries no. 2 and 3 described above and its consequences were sufficient to cause death in normal course of life. The viscera and vaginal swab of the deceased were sent to the State Forensic Science Laboratory. Viscera report did not reveal any common poison. Semen was not detected in vaginal swab. The laboratory examination of clothes/articles revealed no struggle mark or drag mark. FSL Ballistic expert opinion of examination of the fired bullets recovered from the scene of occurrence revealed that all bullets were fired from the said revolver. Gunshot discharge residues/nitrite was not detected from the swabs.

C. **Investigation by CBI—**Stage I: After the dissatisfaction by the parents of deceased into the progress of investigation by State police, State Government transferred the case to CBI after 3 weeks. The CBI constituted a Medical Board of three Professors of New Delhi to give opinion. The Board concluded that 'the possibility of the injuries being homicidal cannot be ruled out and the possibility of them being self-inflicted is remote.'

D. **Investigation by CBI—**Stage II: Thereafter, investigation continued for more than two and half years and no breakthrough/evidences have been found that it is a case of murder. Finally CBI requested Department of Forensic Medicine, AIIMS for expert opinion. A Medical Board was formed in February 2016 and the observation and opinion were:

1. The body was found in the secluded place with no scuffle injuries present over the body.

2. The deceased was not intoxicated as viscera report is negative for poisons.

3. The Injury No. 1 shows superficial grazing firearm injury showing blackening, indicating that the shot was of close / contact range. It is located in the accessible and approachable part of the body. The injury is suggestive of hesitation shot as seen in suicidal cases.

4. The injury No. 2 and 3 are fatal injuries produced by firearm and show blackening in the entry wound, suggestive of close contact firearm injury. The injury no. 3 present underneath the chin is a close contact wound and is located in the accessible and approachable part of the body and it is one of the preferred sites for the suicidal wound.

5. Injury No. 4 present on the top of the head could be produced by grazing of bullet,

anterior to posterior and could be self-inflicted.

6. It is not necessary in all cases to have presence of the Gun Shot Residue (GSR) in the hands of a deceased of suicide/self-firing. It depends upon the type of firearm. In a study, it showed that in about 50% cases hand washing was positive for GSR while the value was down to 32% in automatic pistol [4].

7. Injury No. 3 is due to firearm missile injury associated with cranio-cerebral damage which led to concealed bleeding and clotting in the brain resulting in haemorrhagic shock and coma. So, there will not be much appreciable/visible bleeding, as it causes instantaneous death. This is a usual surgical feature in a case of fatal firearm missile injury to the brain.

8. The cause of death in this case was due to haemorrhagic shock due to firearm injury no. 2 and 3. Injury 1, 2, 3 & 4 could be suicidal/self-inflicted in nature.

*Final Opinion: The cause of death was haemorrhagic shock due to firearm projectile injuries and it is suggestive of suicidal in nature.*

**Current status of the case:** CBI concurred with the AIIMS Medical Board opinion, that it is a case of suicide without any other possibility, which is speaking in nature with justification and references, totally corroborative with their investigation and charge sheet of abetment of suicide has been submitted and the same is under evaluation of Honorable Court.

**Case Report 2[5]:**

A. Brief history: In March, 2009, a dead body of a 26 years female was recovered in a secluded place near a railway track. She was identified by her father and a case was registered U/s 174 IPC, on the complaint of father of deceased. The neck of deceased was found encircled in three rounds by thread (Naada) of the Chudhidaar which she was wearing. One end of the thread was tied to the finger of the right hand and the other end of thread was found in the left hand in loosened grip (separated from finger). No deep wounds were present on her body. The two hands of deceased and the two fists were fully tightened and she was holding hairs in her both wrists.

**(a)**

**(b)**

**Image 6 (a & b): Body of deceased at Scene of Incidence**

B. **Case findings:** The post-mortem examination findings were: The face and sclera were congested, tongue bitten, blood stained fluid present at nose and mouth while the nail beds were blue in colour. Ligature material is Chudhidaar string; which is in two rows around the neck. Hair strands are entangled in between the ligature material and the ligature mark. There is a horizontal ligature mark in front of neck below the thyroid cartilage, which runs on both sides of neck and back of neck. It measures 31 cm by 1 cm and is situated 6 cm below right ear lobule and 6 cm below left ear lobule and 9 cm below mandible. The ligature mark completely encircles the neck and is in the form of a deep groove and the skin underneath is hard and parchmentised. On dissection, there is extravasation of blood in the tissues of neck all around. The hyoid bone and thyroid cartilage are intact. Other injuries:

1. In right little finger and right ring finger imprint abrasion of size 3 cm by 1 cm and 2 cm by 1 cm and left thumb 2 cm by 1 cm respectively are present.

2. Crescentic shaped nail marks present on right angle of jaw, lower border of right lower jaw and left side of neck ranging from 1.5 cm by 0.1 cm to 2 cm by 0.1 cm.

The findings are suggestive of ligature strangulation and self strangulation is ruled out as at a stage of cerebral anoxia, ligature is loosened and death does not occur. The viscera and vaginal swab of the deceased were also preserved and sent to the State Forensic Science Laboratory. Viscera report did not reveal any common poison. Semen could not be detected on vaginal swab and sexual assault was ruled out.

C. **Investigation by CBI—**Stage I: Initial investigation was done by local Police. After the dissatisfaction by the parents of deceased into the progress of investigation even after 4 years, they filed writ petition to the Honorable High court. Court transferred the case to CBI almost seven months after the incident. Even after detailed investigation, CBI could not trace any culprit and the confusion was whether it was homicidal or suicidal strangulation.

D. **Investigation by CBI—**Stage II: For more than two and half years, there was no breakthrough in the investigation by CBI. Finally CBI requested Department of Forensic Medicine, AIIMS to give expert opinion and the observation and Opinion were:

1. Strangulation may be homicidal, accidental or suicidal, particularly ligature strangulation. Distinction between homicidal and suicidal strangulation by ligature is often impossible on the basis of anatomical findings alone, although fractures of the larynx in suicidal strangulation are distinctly unusual. The type of noose, knot, number of turns around neck and circumstance under which the body is found, may suggest manner of death[6].

2. Postmortem report as well as Forensic Science Laboratory rules out any sexual assault. Also, there are no signs of struggle or any defense injury on body, which is seen in cases of ligature strangulation.

3. The ligature material was tied in right hand finger and another end was in left hand. In cases of strangulation by assailant, the thyro-hyoid complex is likely to be broken due to greater force applied by assailant to ensure death. However, no injury in thyro-hyoid complex complex suggests light compression force in neck, which could be possible by self-inflicted ligature force.

4. The ligature material, a cotton thread with metallic safety pin attached to one end was also examined. The use of this ligature

material and the body being found in accessible, non-remote place again suggests self-infliction, thus ruling out homicidal angle.

**(a)**

**(b)**

**Image 7 (a & b): Ligature material tied in right hand and in situ over neck**

5. The opinion of autopsy surgeon mentions that "Self-strangulation is ruled out as at a stage of cerebral anoxia, ligature is loosened and death does not occur." It is thought that no one can die from compression of neck by one's own hand because loss of consciousness would cause relaxation of the constricting fingers. When a ligature is involved the matter is different, and if the ligature is found in situ, suicide is unusual but a distinct possibility.

*Final Opinion: The cause of death in this case is Asphyxia as a result of ligature strangulation. It is a case of self achieved strangulation, which is suicidal in manner.*

Current Status of the case: CBI concurred with the AIIMS Medical Board opinion, that it is a case of suicide without any other possibility, which is speaking in nature with justification and references, totally corroborative with their investigation and CBI submitted Closure report to Honorable Court.

**Case Report 3[7]:**

A. Brief history: In June 2009, police received alleged history of suicide by a 22 year old female. Injury was found on left side of face, blue mark of ligature around neck. No written scripture was found at the spot. The father of deceased alleged that his daughter has been murdered and registered a case u/s 306 IPC.

B. Case findings: Photograph of deceased at scene of crime revealed presence of faintly visible reddish purple colored broad ligature mark running slightly obliquely on left postero-lateral aspect of neck with discontinuity below the left mandible. The photos showed an injury with bleeding clot on left cheek and an ovoid shaped injury on lower border of left mandible.

**(a)**

**(b)**

**Fig 8 : Body of deceased at Scene of Incidence**

Postmortem examination findings were: Ligature mark present yellowish brown in colour, inverted V shaped on left side and it encircles the entire neck except on the left side below left ear. Ligature mark of width 2.5—4 cm located above the level of thyroid cartilage, between the larynx and chin. Internal neck structures and all internal organs all are normal. Non-pregnant uterus, no external injury was observed. Cause of death was opined as 'asphyxia due to antemortem hanging'. The viscera of the deceased were sent to State Forensic Science Laboratory. Viscera report did not reveal any common poison. The laboratory examination of clothes/articles revealed that no struggle mark or drag mark could be detected.

Initial investigation was done by local Police. A month later, investigation was transferred to Chief Investigating Authority of the state, who submitted the documents to a Medical Board for an expert opinion. Board 1 comprising of six doctors perused all the relevant documents and opined in October 2009 that "From the available record it is not possible to give the exact cause of death due to want of complete record and partial findings; however there is nothing to suggest about the possibility of strangulation in absence of struggle marks, poisoning, and any other factor contributing to the cause of death."

C. Investigation by CBI—Stage I: In November 2009, Honorable Court rejected opinion submitted by Medical Board and in response to a petition filed by mother of deceased transferred the investigation to CBI. A second Board was formed, comprising of three doctors of Department of Forensic Medicine & Toxicology, AIIMS, New Delhi, who perused all the relevant documents and opined in January 2010 that "The cause of death in this case is asphyxia due to antemortem hanging by ligature." However, High Court rejected this opinion and ordered to form a new Board. Medical Board 3 was formed, who perused all the relevant documents and in February 2010 opined that "The possibility of death of deceased as a result of asphyxia due to hanging cannot be ruled out. There is nothing on the record to suggest that death could have been occurred due to strangulation."

D. Investigation by CBI—Stage II: High Court again rejected this opinion. CBI Investigation continued for more than twenty months and no breakthrough was found as to the manner of death. Finally, CBI requested Dr. Sudhir K Gupta, AIIMS to give an expert opinion to guide in the process of investigation. He visited the scene of crime along with CFSL experts and made salient observations.

**Fig. 9: Ligature material at Scene of Incidence**

He gave expert opinion based on the following:

1. The faint ligature mark as mentioned in postmortem report could be possible by the examined dupatta at the scene of crime.
2. The body of deceased was in compatible position with self suspension.
3. Forensic Science Laboratory is negative for common poisons.
4. Ligature mark encircles on the entire neck except on the left side below left ear and is located above the level of thyroid cartilage, between the larynx and the chin. Width of groove of ligature mark was compatible with ligature material.
5. All internal organs were normal.
6. It is a case of partial hanging.
7. No injuries present on the body of victim in the form of resistance.
8. It was therefore concluded that in the given circumstances the cause of death as antemortem hanging and homicidal hanging by use of force/overpower/poisoning was ruled out.

*Final Opinion in March 2016: The cause of death was due to combined effect of asphyxia and ischaemia as a result of antemortem partial hanging by alleged ligature. Partial hangings are generally suicidal in nature and in this case it is a suicidal death.*

Current Status of the Case: CBI concurred that it is a case of suicide without any other possibility, which is speaking in nature with justification and references, totally corroborative with their investigation and a Case of abetment of suicide is currently under trial.

**Discussion:**

It can be seen that in all the three cases the postmortem findings remained the same. But based on the same findings, different opinions have been given at different stage. It can surely create a confusion and lack of trust in the eyes of the Judiciary and the investigators. Forming a Medicolegal opinion requires experience, scientific knowledge, and credential of the medical person who is giving the opinion. The opinion should be justified by medical knowledge and should be given hypothetically. In criminal cases medical conclusions are based on a reasonable degree of certainty and it is beyond any reasonable doubt expected from a doctor as witness/expert witness in the Court of law. The autopsy surgeon opinion is based on highest level of probability. Same postmortem findings may be present in different circumstances. So opinion in such complicated cases should be made after thoroughly perusing the minute details of the case like crime scene findings, analysis of trace evidences and investigative findings.

In Case No. 1, too much significance was given to the non detection of Gunshot residues from the hands of deceased. Non detection does not mean that the Gunshot residues were not present instead it implies that the Laboratory in which they were tested could not detect their presence. Moreover there are several fallacies in the detection of gunshot residues and there are various reasons which affect their detection[7].

In Case No. 2, the autopsy surgeon did not considered the variations which might be found in ligature strangulation cases, nor did he consider the manner in which the ligature material was present over the neck and tied to the fingers of the deceased[8]. As per Taylor[9], Self strangulation involving a ligature is possible in four ways, as follows:

i. When the neck is constricted by multiple turns which are sufficient to maintain constriction without a knot or fewer turns secured either by a half or double knot at a point accessible to the person's own hands.
ii. More frequently a rod of some sort is either inserted under a knot or included in it, the neck being compressed by twisting in the fashion of a tourniquet. This, in our experience is the commonest method used.

iii. A running noose with a weight attached to the free end

iv. A running noose with the free end attached to the hand, the weight of the hand and forearm affecting compression.

It was also found during the investigation that the deceased had psychiatric problems and was on medication also. The parents later accepted the fact that she committed suicide and the case was closed.

In Case No. 3, it was a typical case of hanging, but different Medical Boards were unable to scientifically lead the investigation and address the concerns of the parents regarding few of the autopsy findings. The final opinion was based on the following facts:

1. Medicolegal interpretation of injury in neck described as ligature mark: The geometry of ligature mark is important in interpreting fatal events. In strangulation, unlike hanging, the mark tends to encircle the neck horizontally and at a lower level. In homicide, where a single turn is used, there is often a cross over point where the two ends of ligature mark overlap. The imprint of ligature material in the neck will appear in both cases of antemortem or postmortem hanging or strangulation. The ligature mark will be most likely separated or even if overlapping each other it will be only partially in whole circumference of neck in case of antemortem strangulation by ligature and subsequent postmortem suspension of the body to mimic antemortem hanging as cause of death.
2. In autopsy examination and postmortem report, there are no findings suggestive of signs of active struggle/resistance offered by deceased. Homicidal hanging is a much more violent form of asphyxia death and is not feasible without complete physical overpower/gagging of mouth/tying of limbs and struggle leaving significant injuries in the body of normal victim.
3. Medicolegal interpretation of oval shape injury in neck and another injury in face: Both injuries are antemortem in nature. The colour of oval shape injury on neck is either due to contusion an injury appreciated by coloration or its redness is due to inflammatory changes as seen in burn injury. The photographs showed acne vulgaris on face with slight bleeding on left side of check. The acne doesn't bleed during the process of hanging even oozing of blood is unlikely to be seen. It is clarified that both the injury on face and oval shape injury in neck are simple in nature and have no physical bearing into the cause of death.

**Conclusion:**

The opinion of a Forensic doctors should be Gold Standard and based on scientific findings. Every Medicolegal case is a signature in itself. The Medical literature is enhanced regularly by the way of case report and research articles. A forensic expert should be updated about the latest developments in the field. He should not form his opinion in haste particularly about the manner of death. The postmortem findings are a fact which cannot be changed and should be recorded in an objective manner. In Forensic Medicine, there is no absolute diagnostic opinion like mathematical calculation, but could be arrived to the nearest possible option based on a reasonable degree of certainty and it should be beyond any reasonable doubt and without any other close options. Circumstantial and direct evidences are key factors in making a medical opinion. An expert medical opinion is based on the facts and findings as they are available at the time of making medicolegal opinion and the same may be revised in cases of the facts which form the basis for the opinion get changed.

**Conflict of Interest:**

All the cases are being reported only for academic purpose after filing of the chargesheet/closure report and have no significance on the legal course of case.

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# Forensic Investigation of Suspicious Letters/Parcels: An Overview

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**Abstract:**

Important and well known persons, such as politicians and celebrities, keep receiving letters, petitions, representations, fan mails, etc. There are occasions when they also receive letters/ written communications, which are abusive or suspicious in nature. Some letters/parcels may carry actual threat in the shape of an Improvised Explosive Device or other dangerous/hazardous substance, including poisons. Most of such abnormal communications are either anonymous or pseudonymous. A S Osborn in his monumental book Questioned Documents (1929) wrote an exclusive chapter on "Anonymous Letters" in which he mentioned "the anonymous letter writer has appropriately been called an assassin of character and these strange missives are often properly described as poison pen letters". The chapter describes various analytical methodsbased on language, phraseology and handwriting characteristics for the identification of the anonymous letter writer. However, this paperemphasizes the various forensic aspects of detectionas well as handling of suspicious communicationsso that the inconspicuous identifying traces of the originator remainintact and facilitate the investigation.

**Keywords:**

Postal marks, indentation, obliterations, header information, X-BIS, CBRN, TTI

## Introduction

It is essential that all abnormal communications are thoroughly investigated so as to establish their origin. It has been observed that suspicious communications are often ignored or handled in a casual fashion under the impression that some mad person or nuisance-monger might have originated them. Even if it is so, the point of origin of such communications should be ascertained and established. This is because writers of such communications can be potentially dangerous and they may attempt to actuate the threats held out by them in their communications. After their identification, appropriate legal action should be taken against them besides putting them under appropriate watch/surveillance. Apart from letters holding out a threat to particular individuals, some letters speak of carrying out terrorist or subversive actions, such as bomb blasts at the railway stations, airports, market places, iconic buildings, etc. Such letters can either be suspicious or informative in nature. Although such letters mostly turn out to be hoaxes, they cannot be ignored. There have been instances, when actual actions have been carried out by originators of suspicious communications. Besides, such communications may convey genuine information/leads from individuals who may not like to be identified.

**Author's Intro:**

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**Actions to be taken:**

Receipt ofsuspicious communications warrants two parallel actions:

(i) Putting in place requisite defensive/ preventive measures matching the threat held out, and

(ii) Initiating investigations to trace/ identify the author/originator of the communication, and ascertaining the veracity of the threat held out therein.

**How to identify Suspicious Communications:**

Suspicious communications, having the denominators as mentioned below, should be dealt with very carefully at every stage of their handling. This with a view not only to preserving the investigation leads that the letter/parcel may bear, but also to preventing any dangerous outcome due to its mishandling. Handlers should develop an eye for identifying/segregating such letters/parcels at the point of their receipt itself.

Common features of suspicious /anonymous letters are as under:

(i) No return address

(ii) Disguised hand writing or typed address/text

(iii) Misspelt common words

(iv) Restrictive markings, such as "Confidential", "Personal" or "To be opened by addressee only", etc.

(v) Incomplete or incorrect address

(vi) Exactly the same address/details as available on the websites of the addressee

(vii) City in the postmark does not match to the return address

(viii) Excessive or foreign postage

Parcel/letter bombs or letters containing dangerous substances, including poisons, may also have the above mentioned features, besides the following additional distinctive ones:

(i) Oily stains, discolouration or odour

(ii) Protruding wires or aluminium foil

(iii) Excessive weight and/or feel of a powdery or foreign substance

**Handling of suspicious communications:**

Appropriate authority should be informed immediately about receipt of any suspicious letter/parcel, and the same should be handed over to them for requisite investigations/ enquiries. The following actions are also advised:

(i) Letters/parcels should not be delivered to the addressees directly, especially when they happen to be threatened persons. They should be received/handled at a separate place, and their genuineness should be established before delivering them to the addressee.

(ii) If the letter/parcel is received through a courier, addresses of the sender and the recipient should be carefully checked. The person delivering the mail should be allowed entry only after checking his/her credentials and putting him/her through the required physical frisking and baggage checks.

(iii) The section, where letter/parcel is received in any institution/installation, should be equipped with suitable gadgets to detect letter/parcel bombs, such as Explosive Detectors, HHMD/letter guards, X-ray Baggage Inspection System (X-BIS) / parcel viewers, equipment for detecting Chemical, Biological, Radiological & Nuclear (CBRN) materials and, if possible, a sniffer dog.

(iv) Outer cover/envelope and any other attachment of the suspicious communication should be preserved in as original shape as is possible, to help with the investigations.

(vi) Whoever handles the letters/parcels should wear cotton (not rubber) gloves to preserve potential finger print evidence.

(vii) Similarly, plastic covers should not be used for keeping the letter/document. They should be photocopied and placed in a large paper envelope so as to preserve potential finger print evidence on the documents.

(viii) Staples, fasteners, tags or pins should not be removed from the letters/parcels or documents. These may have evidential value.

(ix) It is essential that exhibits are not altered in any way. Never write, annotate or highlight on the original exhibits.

(x) Similarly, the questioned envelope should not be written over. This may put impressions on the letter or documents within.

(xi) The original letter, envelope and other related documents should be sent for examination by a qualified Forensic Document Examiner (FDE).

(xii) While making the cover for despatching the questioned documents, the details of the addressee on the cover should be written before putting the documents inside it to avoid any impressions on the originals.

**When Bomb/IEDs is detected in suspicious Parcel/Letter**

Before bomb disposal squad team renders safe procedure/ disposal action of letter bomb/parcel IED, following things should be taken care of for forensic investigation purposes:

(i) Use a good resolution camera to take colour images of the envelope/parcel from all the sides for examination of the writings available on it.

(ii) If the letter/parcel has been received by post, colour images of the post/cancellation marks of the stamps placed by the Postal authorities should be taken separately for analysis.

(iii) Images of contents inside the letter/parcel should be viewed, and saved with Real Time Viewing System (RTVS).

(iv) Forensic experts should be called for collection of sample/residual of explosives after bomb disposal squad team renders safe procedure/disposal action.

(v) The disposal process of letter bomb/parcel IED should be filmed/recorded.

Forensic Investigation of suspicious communications:

**Library of Suspicious Documents**

All such letters are to be sent to the designated laboratory maintainingthe Library of Suspicious Documents, for examination by the FDE and comparison of the writings and other key factors available in the suspicious communications with the record. This process will help to identify habitual writers/senders.

**Point of origin**

In the investigation of suspicious communications, the point of origin of the message is a vital evidence. The communication may come through post, fax or e-mail. Their points of origin may be ascertained in the following ways:

**(i) Received by post**

If a letter is received by post, examination and analysis of the postal marks on the envelope would provide the leads about the point of origin of the letter. Forensic techniques/skills may be required for deciphering the postal seals. It is, therefore, essential that the outer covers/ envelopes, in which the suspicious communications are received, should be preserved and sent along with the contents of the envelope to the forensic laboratory for examination.

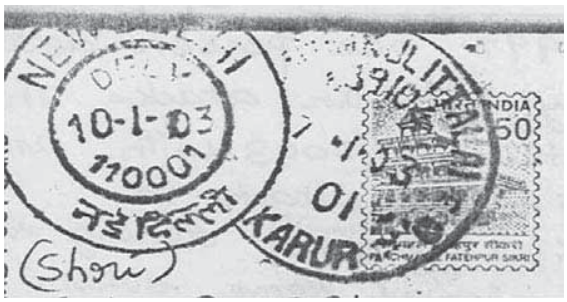



**Fig 1: Identification of Point of Origin of a suspicious communication**

### (ii) Received through fax

If the message is received through facsimile, the originating telephone number is shown in the Transmit Terminal Identifier (TTI) available on the top of the message received. It has been observed that suspicious messages are often received without or with wrong sender details or phone number of the originating machine. In cases, where discrepancies are found between phone number of TTI and the number reflecting in the caller ID of the fax machine, the number appearing in caller ID along with date and time may be noted for investigation purposes.

### (iii) Received through e-mail

Nowadays, it is common to send obscene/ suspicious /hate e-mails. E-mail is the electronic equivalent of a written communication and may include attachments or enclosures. Like paper or postal mail, e-mails also leave behind a trail.

As the message travels through the communications network, an abbreviated record of the e-mail's journey is recorded in an area of the message called the "Header Information". As the message is routed through one or more mail servers, each server adds its own information to the message header. Thus, the header information is like the postal mark of all the handling post offices involved in sending a postal mail.The investigator may be able analyse the header information to determine the sender of the message with the help of internet/mail service provider.

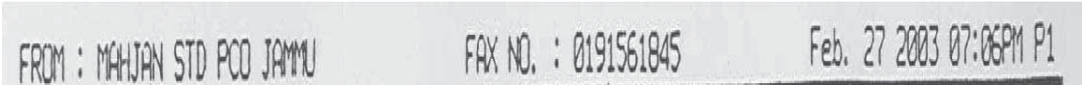



**Fig 2: Transmit Terminal Identifier**

```
X-Message-Info: JGTYoYF78jEv6iDU7aTDV/xX2xdjzKcH
Received: from web11603.mail.yahoo.com ([216.136.172.55]) by mc4-
f4 with Microsoft SMTPSVC(5.0.2195.5600);
          Mon, 8 Sep 2003 18:53:07 -0700
Message-ID: 20030909015303.27404.qmail@web11603.mail.yahoo.com
Received: from [165.247.94.223] by web11603.mail.yahoo.com via
HTTP; Mon, 08 Sep 2003 18:53:03 PDT
Date: Mon, 8 Sep 2003 18:53:03 -0700 (PDT)
From: John Sender <sendersname2003@yahoo.com>
Subject: The Plan!
To: RecipientName_1@hotmail.com
MIME-Version: 1.0
Content-Type: multipart/mixed; boundary="0-2041413029-
1063072383=:26811"
Return-Path: sendersname2003@yahoo.com
X-OriginalArrivalTime: 09 Sep 2003 01:53:07.0873 (UTC)
FILETIME=[1DBDB910:01C37675]

--0-2041413029-1063072383=:26811
Content-Type: multipart/alternative; boundary="0-871459572-
1063072383=:26811"

--0-871459572-1063072383=:26811
Content-Type: text/plain; charset=us-ascii

Received the package. Meet me at the boat dock.
See attached map and account numbers
```

Fig 3: A typical Header Information

**Hidden information:**

Forensic investigation of anonymous communications often turns out to be very complex due to limited material for examination. It becomes a challenge for forensic document examiners to extract evidence and help in narrowing down to the suspect. Therefore, careful identification of traces/footprints left behind by the sender of communication becomes critical. In the laboratory, the questioned documents will be subjected to various tests for detection of indentation, obliteration and hidden writings. The hidden information extracted from the letter may provide lead to identify the originator.

*(i) Indentation*

Electro-Static Detection Apparatus (ESDA) can help in identifying the originator of threat letters by discovering indented impressions on the letter formed from writings on a previous page of the writing pad or on a separate piece of paper.

*(ii) Obliteration*

Threat letters sometimes contain obliterated writings. Forensic methods are used to decipher obliterated writings on threat letters without destroying their evidence value. The deciphered information may lead to the originator.

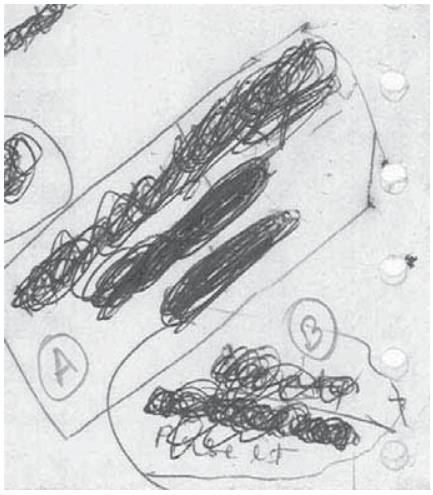


**Fig 4:Obliterated writings on a threat letter**

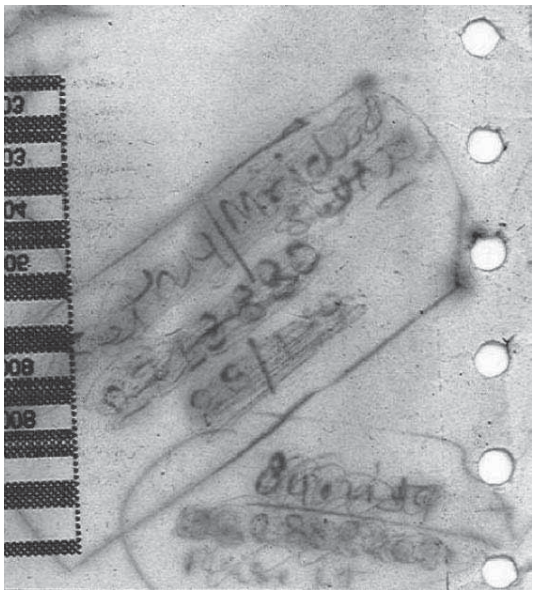


**Fig 5:Deciphered name and phone number**

*(iii) Address slip pasted on the envelope:*

It has been observed that used papers are sometimes used again for writing/printing on its blank flip-side. Such a paper can be used for typing address by an anonymous writer. In such cases, the matter written on the flip side of the address slip, which is pasted on the envelope, may provide vital evidence for identifying the origin and originator of the anonymous communication.

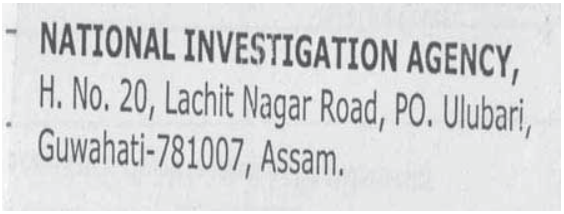
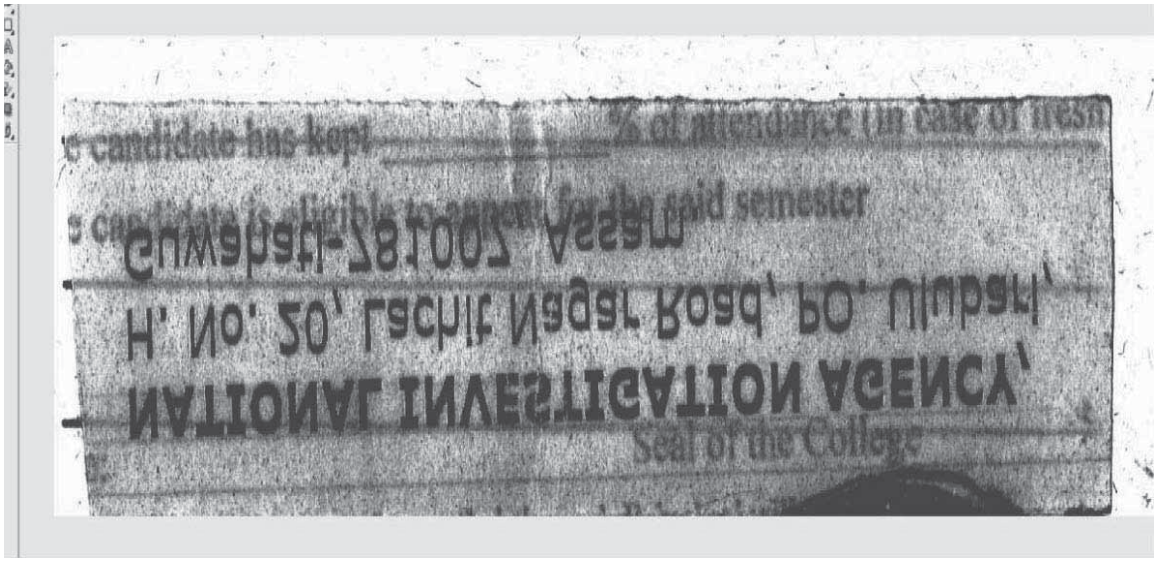



**Fig 6:Hidden evidence on the flip side of the address slip of an anonymous communication**

**Forensic Stylistic Analysis:**

Forensic Stylistic Analysis is another tool to identify the originator of suspicious/anonymous communications by analysing the "style" of the writings. Forensic Stylistic Analysis inter alia



*"candidate has kept _____% of attendance (in case of fresh) candidate is eligible to appear for the said semester Seal of the college"*

**Fig 7: Deciphered hidden information**

focuses on the two principles of inherent variability in language: no two writers of a language write in exactly the same way, and no individual writer writes the same way all the time. Such analysis may reveal about the author's sex, age, region, religion, profession, his/her motive and state of mind. Findings of Forensic Stylistics are only indicative and its skilled application may deliver preliminary leads in investigations.

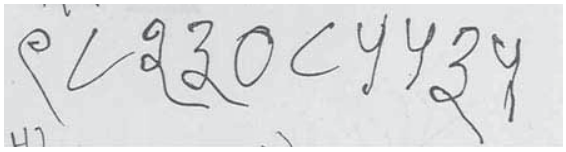


**Fig 8: Formation of numbers 9, 8 and 5 suggest the anonymous writer could be a Marathi**

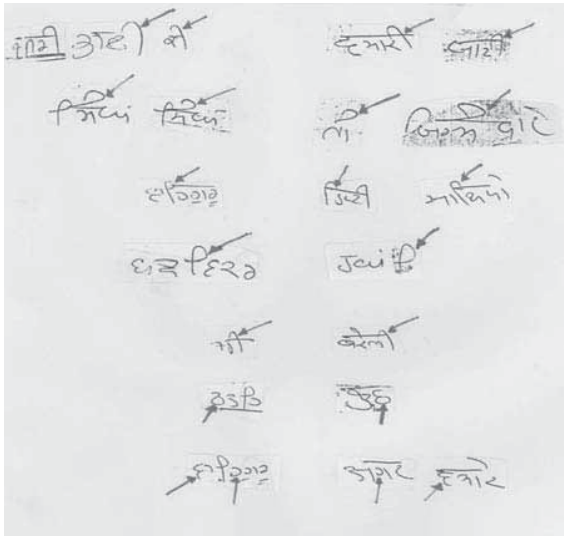


**Fig 9: Influence of Punjabi (Primary language) writings on Hindi/English (Secondary language) writings suggesting the anonymous writer could be a Punjabi**

## Conclusion

Forensic procedure in the investigation of suspicious letters/parcels should be followed for better results. The officers who arehandling the secretariat of the threatened persons should be skilled enough to handle such letters/parcels and able to preserve the evidence therein. He/she should follow the proper procedure; so that the forensic examinerswouldbe able to make a

proper examination and able to reveal hidden or inconspicuous evidence therein, resulting in facilitationsto the investigating officer in identifying the originator/sender of such communications.The library of suspicious documents also plays a very important role in identifying the habitual offender, so it should be properly maintained.

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# Methods of Crime Prevention: A Case Study of Panchkula City, Haryana

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**Abstract:**

The crimes are inherent part of every human society, which is essentially due to the conflict of interest, rapid industrialization, urbanization, poverty, aspiration for good life, political, social and economic changes, etc. Crime prevention is an act/action, undertaken by the Police to reduce or minimize the incident of crime and to make it citizen-friendly and stress-free living. The legal provisions, preventive patrols, Policy presence in the form of beat, patrolling, gust, nakabandi, record keeping, intelligence and surveillance - are the few methods, which are generally exercised by the Police agencies for the crime prevention.

**Keywords:**

Prevention, Surveillance, Industrialization, urbanization, multi-dimensional phenomena, cognizable offence, unlawful assembly, seizure.

Crime is an inherent element of every society. The incompatible interests of different social groups in society give rise to conflicts that eventually result in incidents of crime. The nature and scope of crime has changed over the period of time due to new advancements in society such as industrialization, urbanization, development of technology and so on. In other words, crime is a by-product of various socio-economic factors, which change due to social, political and economic transformations in society. It is therefore, essential to adopt appropriate measures of crime prevention to create a secure social environment. Crime prevention is one of the main objectives of police since effective crime prevention would anticipate future threats and would prevent incidents of crime in society.

The present paper focuses on concept and methods of crime prevention in India. The paper studies the methods of crime prevention adopted by police in current times with special reference to Panchkula police.

Crime prevention refers to an act/ actions undertaken to reduce the incident of crime. The main focus of crime prevention is maintenance of law and order, keeping the environment safe and decreasing the risks of crime. Crime prevention, primarily, identifies the existing crime risk and takes corrective actions to eliminate or reduce that risk. Thus, in view of the golden rule “prevention is better than cure”, crime prevention has therefore become one of the most essential function of police force. Crime

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prevention, mainly, refers to pro-active policing to ensure preservation of public order. However, in reality the function of crime prevention does not get the due attention. The incidents of crime occurring in particular area could be easily stated in figures. On the contrary, there has been absence of effective methods for quantifying the number of incidents that has been prevented by police. Hence, prevention of crime remains un-noticed and un- appreciated.[1]

During the Maurya rule, the principle role of police was the preservation of morals of the population and securing the lives of common masses. However, during the British rule, the police were custodians of law and order and they focused mainly on the stringent implementation of laws. They did not act as preventers or detectors of crime. The violation of laws against the person or property received the lowest priority. On the other hand, violation against the imperial rule was considered as the grave offence. Even after independence, functions of crime prevention constitute a small fraction of functions performed by the police. Ironically, the function of crime prevention was normally related to the job of protection of VIPs. Hence, the concept of crime prevention in a broader context needs to be redefined.[2]

Crime prevention, at present, refers to activities and actions which aim to reduce the incidents of crime. It is a tedious task because continuous efforts with constant vigilance are required to prevent occurrence of crime; expanding the scope of crime prevention. It might include police making arrest to omit likely commission of crime, keep vigil over the area, a court disposal to secure correctional facilities and so on. In other words, crime prevention refers to those efforts that are undertaken to prevent crime or prevention of criminals from committing crime, before its occurrence. Hence, in both cases, crime prevention aims to deter the occurrence of a criminal act in future.

According to **National Crime Prevention Institute,** "The Crime Prevention is: the anticipation, recognition and appraisal of a crime risk and the initiation of some action to remove or reduce it"[3]. Further, National Crime Prevention Council defined, "Crime prevention as a pattern of attitudes and behaviors directed at reducing the threat of crime and enhancing the sense of safety and security, to positively influence the quality of life in our society and to develop environments where crime cannot flourish".[4]

Furthermore, according to Brantingham and Faust, "the crime prevention strategy involves three areas of action i.e. primary, secondary and tertiary preventive measures for ensuring crime-free environment, reducing high-risk potential and halting the possibility of future crimes respectively"[5]. Thus, it is evident that crime prevention generally, includes those activities aiming to reduce the threats and incidents of crime.

Crime prevention is, thus, a multi-dimensional phenomenon. It is undertaken to attain multiple goals such as examination of crime trends, analysis and identification of positive alternatives suitable to community and neighborhood condition and so on. Thus, it is not possible to define crime prevention in a unanimous manner.

The present paper focused on some of the methods of crime prevention as recommended by Bureau of Police Research and Development to study the crime prevention techniques adopted by Panchkula police, Haryana. Further, secondary data has been collected from various sources like books, journals published, National Crime Record Bureau, Police Stations, Police Head Quarters and libraries. Formal interviews of higher police officials of Panchkula police have been conducted to reinforce the existing facts.

## Methods of Crime Prevention in India: With Special Reference to Panchkula Police

In India, The Unlawful Activities (Prevention) Amendment Act was passed in 1967 to undertake the prevention of unlawful activities

in an effective manner. It aims to confer requisite powers for forbidding the activities that threaten the integrity and sovereignty of India. The Unlawful Activities (Prevention) Bill was passed by both the Houses of Parliament and received the assent of the President on 30th December, 1967. The Act has been amended from time to time and the last amendment was made in 2008.[6] Further, special provisions have been provided in the Chapter VIII of the Code of Criminal Procedure with regard to prevention of crime through execution of a bond from criminal to ensure that the criminals would not indulge in the criminal activity again. Also, Chapter XI of the Criminal Procedure Code provides for certain preventive measures that could be adopted by police such as making arrests.[7]

In India, policing is a state subject. Every state government has been authorized to organize and delineate the functions of police organization in the state. Consequently, there has been absence of uniform methods of crime prevention that have been adopted all over the country. The state police organizations have restored to different techniques of crime prevention. Every state, therefore, has adopted different methods of crime prevention to curb crime depending on the geographical location and setting of a particular state. Nevertheless, the Bureau of Police Research and Development has identified the following most commonly used methods for crime prevention by police in India.

i. Legal Provisions
ii. Beats, Patrols, Gust and Nakanbandi
iii. Police Records
iv. Surveillance

### 1. Legal Provisions:

The Indian Penal Code (IPC), The Code of Criminal Procedure (CrPC), and other special and minor acts laid down legal provisions that authorize the police to undertake prevention of crime and maintenance of law and order. The details of some of the legal provisions are as follows[8]:

#### a) Unlawful Assemblies

Section 129 of CrPC authorizes any Station House Officer (SHO), Sub Inspector or anyone above the rank of sub inspector, to order unlawful assembly of people (five or more persons) to scatter under Section 144 of CrPC. In case, it does not disperse, police can use force according to the situation and can also make arrests. There are both preventive and punitive methods used by police under this provision. Panchkula police also use this method in the city whenever required. This is evident that, at the time of hearing of Gurmeet Ram Rahim Singh at CBI court, the Haryana Police took steps to remove Dera Sacha Sauda followers camping in Panchkula around the CBI court complex. The Director General of Police Haryana, issued instructions to police officers to make announcements to vacate the sites where the followers have gathered in strength under Section 144 or else they would be removed forcibly and face arrests[9].

#### b) Prevention of Cognizable Offences

Every police officer is authorized to arrest any person as a preventive measure to prevent cognizable offence under Section 151 of CrPC. According to this Section, an arrested person could not be kept in custody for more than 24 hours, except any specific offence is identified in the meantime. A police officer under Section 41 CrPC has been authorized to make an arrest without warrant. Numerous preventive arrests have been made in Panhckula city, Table 1.

**Table 1: Comparative Preventive Arrests Chart upto December 2014**

| Sections | Persons Arrested | | |
|---|---|---|---|
| Year | 2012 | 2013 | 2014 |
| 151 Cr. P. C | 14 | 35 | 75 |
| Total Preventive Arrests | 14 | 35 | 75 |

Source: Police Headquarters Panchkula

Table 1 highlights the number of preventive arrests made in three years in Panchkula city. It is evident that number of arrests has increased continuously from the year 2012 to 2014. Thus, police believes in prevention of occurrence of crime. During the hearing of Gurmeet Ram Rahim Singh at CBI court, Haryana police made 1,000 arrests so far in different cases related to Panchkula violence on August 25, in which many of arrests have been made under section 511 of IPC for attempting to commit an offence[10].

**c) Preventive Action by Seizure:**

Under section 95 of CrPC, police officer has been authorized to seize publications such as newspapers, books or documents, that have been forbidden under notification of the government under section 124 A, or 153A, or 292, or 293, or 295A of IPC which banned the publication of such thing. In Panchkula, police officers did not seize any newspapers, books, documents etc. in the year from 2012 to 2014.

**(d) Bonds for Keeping Good Behavior:**

The police is authorized to execute the bonds for maintenance of good behaviour by the criminals under various sections of Criminal Procedure Code. The suspicious person can also be asked for a bond by police officer in accordance with Section 109 of Criminal Procedure Code. Similarly, police officer in Panchkula also execute a bond from such person, who are believed to indulge in criminal activities under provisions of Criminal Procedure Code. The Panchkula police also ask habitual offenders to execute the bond as per Section 110 of Criminal Procedure Code during festivals or events to ensure the safe environment. Through these methods such persons are bound by the limits of law and therefore good behavior is guaranteed[11].

Table 2 highlights the preventive actions taken by police for crime prevention in Panchkula city by executing bonds. It is evident from the table that the number of bonds executed for good behaviour has increased in 2014 in comparison to the previous years. However, no bond has been executed by police officer under Section 109 and 110 from suspicious person and habitual offenders.

**2. Beat, Patrols, Gust, Nakabandi etc.**

Police beats, patrols, gust, nakabandi and ambush have been the methods adopted by police to prevent crime. The Panchkula police also have adopted these methods for crime prevention in the city.

**a) Beat System:**

Beat service is an easy way to provide police services to the community and to perform any

**Table 2: Comparative Preventive Actions Chart upto December 2014**

| Sections | Person release on inter bond | | | Person con./ bounded by court | | |
|---|---|---|---|---|---|---|
| | 2012 | 2013 | 2014 | 2012 | 2013 | 2014 |
| 107/ 151 Cr. P. C | 14 | 35 | 75 | - | - | - |
| 109 Cr. P. C | - | - | - | - | - | - |
| 110 Cr. P. C | - | - | - | - | - | - |
| Total Preventive Actions | 14 | 35 | 75 | - | - | - |

Source: Police Headquarter Panchkula

function by the police officer in the best manner. The main objective of beat has been to undertake policing in small geographical areas and existing households in an area by designated police personnel; promote awareness among people and develop understanding of policing needs of community; gather records and information on crime, criminals, strangers, organized criminal gangs, anti-national and anti-social elements; maintain effective surveillance on history sheeted persons and ex-convicts. Beat boxes have been placed in every area, which are easily accessible to the people of that area. Either two or three constables or one constable and one head constable has been appointed in every beat box. Consequently, the beat box staff is familiar with the people residing in that area and is aware about the problems of that area. Thus, a police officer could work to prevent the commission of crime taking place in that area[12].

The Panchkula police also have deployed beat staff under every police station, to decrease the incidence of crime, gather information pertaining to crime and secure co-operation of people. The beat boxes are placed in an area easily accessible to the people like markets, center of sectors and so on. Table 3 shows the organization of beat system in Panchkula city:

**Table 3: Beat Staff**

| Sr. No. | Unit | Number of Persons |
|---|---|---|
| 1 | Beat, Sec-5 | 3 |
| 2 | Beat, Sec-2 | 2 |
| 3 | Beat, Sec-7 | 3 |
| 4 | Beat, Sec-10 | 3 |
| 5 | Beat, Sec-21 | 2 |
| 6 | Beat, Sec-14 | 2 |
| 7 | Beat, Sec-15 | 2 |
| 8 | Beat, Sec-16 | 4 |
| 9 | Beat, Sec-20 | 4 |
| 10 | Beat, Sec-19 | 2 |
| 11 | Beat, Mansa Devi Complex | 3 |
| 12 | Beat, ChandiMandir | 7 |

**Source:** Police Headquarter Panchkula

According to Table no. 3, the beat system of the city is divided into twelve units and every unit has more than two members. The beat box staffs situated at Sector 5, Sector 7 and Sector 10 has three police personnel each. Two police personnel each assigned to beat box of Sector 2, Sector 21, Sector 14 and Sector 15. Four police personnel are appointed at beat boxes of Sector 16 and 20. Mansa Devi Complex beat box has three police personnel and two police personnel appointed at Sector 19. Seven police personnel have been assigned to the beat box of ChandiMandir. Thus, an articulated beat system has been adopted in the city.

**b) Patrolling:**

Patrolling is a routine work of police station in area under its jurisdiction. Its main aim is to ensure safety and decrease the risk of crime. It is done on a regular basis and constant vigilance is kept over an area 24 hours a day with a high incidence of crime. Patrolling is of four types i.e. car patrol, bike patrol, horse patrol and foot patrol. An urban area under the jurisdiction of police station is divided into various beats and sectors. The police parties regularly patrol certain strategic locations such as markets, schools, hotels, petrol stations and residential areas for establishing public peace and order. The officer-in-charge is required to maintain a separate beat note book and should make entries of time of visit[13].

In Panchkula, police conducts three types of patrolling i.e. car patrol, bike patrol, and foot patrol. The car patrolling and bike patrolling have been mainly undertaken by the Panchkula police. The list of patrolling vehicles has been described below:

**Table 4: Patrolling Vehicles for Police Stations in Panchkula City**

| Unit | PCR's | Rider's |
|---|---|---|
| Police Station, Sec-5 | 9 | 4 |
| Police Station, Mansa Devi Complex | 1 | 1 |
| Police Station, Sec-14 | 2 | 1 |
| Police Station, Sec-20 | 2 | 2 |
| Police Station, ChandiMandir | 2 | 2 |

**Source:** Police Headquarter Panchkula

Table shows that all the five police stations in the city have their own patrolling vehicles. Police station, Sector 5 has the largest area under its jurisdiction in comparison to other police stations and VIP area is also under the jurisdiction of this police station. Thus, a total of 9 PCR's and 4 riders are available at Sector-5 police station. Further, the Mansa Devi Complex police station has small area under its jurisdiction and 1 PCR & a rider is available. Police station at Sector 14 has 2 PCR's and only 1 rider. 2 PCR's and 2 riders are available at both the police stations situated in Sector 20 and ChandiMandir.

**c) Nakabandi**:

It means prohibition of every movement in and out of the city.[1] There is no definitive information as to when Nakabandi was used for the first time by police; whereas media reported about adoption of nakabandi as a crime prevention method by police in early 1980s. Initially, nakabandi, as a crime prevention measure, was used immediately after a high profile crime. Nevertheless, now it's being used as a preventive measure before any anticipated public disorder or big event.

A Police team for nakabandi consists of minimum of 13 personnel i.e. one Inspector, one or two Sub-Inspectors, two Head Constables and eight Constables. They are divided into four parties. First party administers the physical layout of an operation. Two barricades in a zig-zag pattern are set where armed personnel on a designated main road or intersection are appointed. In second party 5 officers are there, who check the stopped vehicle in the checking zone, an area besides the road. The third party sets up two police check-posts behind the checking party on both the sides of a road. The fourth party comprises a mobile vehicle behind the blockade in order to nab those who do not stop for checking. During Nakabandi, it is not essential to stop and search every vehicle; officers behind the barricades identify the vehicles that should be stopped for checking. Thus, to ensure that other vehicles could pass easily[15].

Panchkula city is located on a strategic location, where it is connected with the states of Punjab, Himachal Pradesh and U.T. Chandigarh. So, it is necessary to secure inner as well as outer part of the city through police posts and nakabandis. It has therefore, been observed that proper barricading has been done and police check posts have been made at the entrance and exit of the city like the entrance in Panchkula from dividing road of Sector 17/18 and Sector 18/Indira Colony, Industrial Area phase 2, Industrial Area phase 1, Majri Chowk, Mansa Devi Complex and on National Highway 5 from Zirakpur. During formal interviews, senior police official stated that regular nakabandis have been done in the inner part of the cities like near markets, colleges, schools to stop the youngsters from breaking traffic rules and prevent crimes like snatching, robbery etc. Usually nakabandis

have been done by the police personnel on the order of Station House Officer (SHO) in the assigned area under the jurisdiction of the police station.

### 3. Police Records

Police records have been crucial to ensuring performance of duties with regard to prevention of crime and preservation of public peace in an area. These records saved in a broad database enable the police to easily track the movement and activities of criminals and avoid future causalities by making preventive arrests. In current times, new technology has made record keeping more systematic and meticulous and data could be retrieved from desired records in a speedy and fast manner[16].

As per police officials, 25 registers have been maintained to keep records of police duties, crimes committed by criminals and so on in every police station. Out of 25 registers, majority registers contain important information regarding the crime and criminals. FIR Register maintains records of first information reports filled in the area of jurisdiction of police station. Daily diary records, all diary reports related to any offence (cognizable or non-cognizable), accused person, time of arrival of police duty officers, nature of their duty, officer returning from any investigation and properties related to cases that have dispatched or deposited in Malkhana every day. Absconder Register contains the names of all absconders in cases registered in home police station and other police stations (in case of absconder being resident of the city). Register of Correspondence contains a brief abstract of all the reports and orders received at police station, replies to these orders and receipt & return of summons or warrants. Village Crime Register is one of the important registers from the crime and criminals records point of view. It contains the information about the beat and a separate register shall be maintained for registering the crime committed in the area of beat. It also contains the name of the persons who have been arrested or bears a strong suspicion of involvement in cognizable offence. In-charge officer of police station maintains Confidential Register, which always remains in his/her custody. It contains the names of influential individuals of the area, notes of operating gang in area, criminals who committed crime in the area, disputed lands and respectable inhabitants of an area.

Conviction Register consists of permanent record of the crime and criminals and of previous convictions. Entries have been made in this register of history sheeted person by the orders of officer In-charge either personally or under his/her supervision. Surveillance Register contains the names of all proclaimed offenders, convicted persons, habitual offenders, persons convicted twice, persons under security and convict released before expiry of their sentence. Bad character roll is also a part of surveillance register. History sheet and personal files shall be entered in a serial number in the Index Register. These serial numbers are permanent and shall not be changed or transferred. Information sheet dispatched contain the name of persons, who are believed to have committed offence whether they have been arrested or not and persons genuinely believed to be under suspicion. Register of License carried the information regarding the person possessing license of arms, explosive, excise, poison and guest house in the area of jurisdiction.

The police officials in Panchkula city affirmed that the above-mentioned registers have been maintained by police to maintain their records. These records have been used by police to prevent the occurrence of crime. History sheet of criminals and bad character roll has been prepared at the police station, to be used by police whenever required. Haryana police also established a network with the other states for the exchange of information regarding the history sheeted person and bad characters, which helps police personnel in maintaining law and order situation at the time of VIP visits and national festivals by doing preventive arrests of the bad characters.

**2. Surveillance:**

Surveillance is a covert observation of persons, places and things to obtain some information regarding the activities of the suspect. It helps in preventing the person from committing any offence by keeping a check on him. The nature and degree of surveillance is determined according to the circumstances and persons on whom surveillance is carried. It could be of some hours or days or weeks depending upon the situation.

Surveillance of bad characters is also a necessary part of police work for preventing crime. The names of the bad characters have been recorded in the surveillance register in police station. If a bad character has gone to another state, it is the duty of SHO of the concerned station to pass on the 'bad character roll' to the officer of the concerned police station, whose area he has moved. Entries should be made in concerned records after receiving any reply. If bad character goes out of view, it is necessary to pass on information to the police station of an area in which he has been seen and to other neighboring police stations of the area. Panchkula police also undertake surveillance of bad characters and prepare a bad character roll in surveillance register.

In case an SHO observes any suspicious conduct or demeanor by any stranger within the jurisdiction of police station, he shall forward a roll to the police station in which stranger claims to reside. The receipt of such roll shall be immediately acknowledged and responded.[17]

Shadowing is an act of following a person without getting noticed. It is also one form of surveillance, which is undertaken by police to keep check on convicts, collect evidence and arrest other convicts. A police officer needs to be attentive and alert since following someone without being noticed is a dangerous task. A police officer always keeps records of a convict at the time of shadowing in his diary, such as where the convict has stopped, to whom he met and so on. Panchkula police also use this method for preventing and investigation of crime.

**Conclusion**

Crime prevention is always essential to regulating the incidents of crime and for maintaining public order in society. It is a very crucial and tedious part of police functioning since it requires continuous efforts to stop the occurrence of crime. The relative meaning of crime prevention has changed diametrically. Earlier, crime prevention has been related mainly to protection of emperors and VIP's. In present times, crime preventive methods aim to inculcate a sense of security in people and create a crime free environment.

In India, the Unlawful Activities (Prevention) Amendments Act, aimed at effective prevention of unlawful activities. The Chapter VIII of Criminal Procedure Code provides for prevention of crime through execution of bonds and arrest of person before committing the crime. The crime preventive methods defined by the Bureau of Police Research and Development include legal provisions such as executing a bond, preventive detention, unlawful assembly, patrol, beats, nakabandi, police records and surveillance which have been adopted by police in Panchkula.

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# Rememberance of Recent Vs. Remote Memory of an Event: A Key to Investigation of Cold Cases

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**Abstract:**

As time passes, the chances of solving a case reduce. Also, the memory of eye-witness, victim and the suspect gets susceptible. In order to get rid of such issues in solving cold and complex cases related to remote and recent memory, this study can play a vital role as a key to investigation of cold cases. Brain Electrical Oscillation Signature Profiling System (BEOS), a forensic psychological technique enables the investigators to ascertain the involvement of an individual in a crime on the basis of Experiential Knowledge (EK) signatures elicited from the individual's memory. A factor that might impact the effectiveness of BEOS profiling is the amount of time passed between the occurrence of the said crime and the conduction of testing on the individual. The effectiveness of BEOS is suggested due to the comparative permanence of memory, but it hasn't been studied until now. A quasi-experimental research design was followed. The number of EKs elicited in recent memory and remote memory was studied and statistically analyzed.

**Keywords:**

Brain Electrical Oscillation Signature Profiling System (BEOS), Recent and Remote memory.

## Introduction

In most cases, a crime is reported within a short span of time after its occurrence. But it has also been seen that some crimes may be reported quite late, such as rape cases. In some situations, a case is reported, and is under investigation, but due to various reasons the entire investigation takes a long time. When cases are brought to Forensic Laboratories for testing, usually a considerable amount of time has already been spent by the investigative agencies for the investigation. If a fresh avenue of investigation opens up due to new information obtained by the police, it may lead the police to new suspects. There is no estimation as to how long an investigation can go on for. When the police have to prove the involvement of an individual in a crime in the absence of any physical evidence, they may get court orders to conduct various forensic psychological tests on the suspect. Investigative agencies turn towards forensic laboratories to conduct these tests on the suspect in order to gain new leads in investigation or to ascertain the role of the suspect in the said crime, or to determine the extent of his/her role. A factor that might play a role in the effectiveness of psychological testing of suspects is the time interval between the occurrence of the crime and the testing of the suspect.

In cases where BEOS profiling is deemed necessary, it has been observed that there might not be any fresh leads available, and any possible

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leads may only be obtained from the suspect that is presented for testing. BEOS profiling is often done in cases of serious crimes such as rape, murder, kidnapping and sexual harassment of a child (POCSO cases). The memory of the suspect too undergoes the normal phenomenon of forgetting as time goes by. When the Investigative officer/Lawyer has to prove the involvement of an individual in a crime in the absence of any physical evidence, they may get court orders to conduct various forensic psychological tests including BEOS profiling. Investigative agencies turn towards forensic laboratories to conduct these tests on the suspect in order to gain new leads in investigation or to ascertain the role of a suspect in the crime. A factor that is effective in psychological testing of suspects is the time interval between the occurrence of the crime and the testing of the suspect. In cases where BEOS profiling is deemed necessary, it has been observed that there might not be any fresh leads available, and any possible leads may only be obtained from the suspect that is presented for testing. Therefore, the need to study whether the effect of time has the ability to affect the results produced by BEOS was felt. As can be seen in the results table, the number of EKs obtained in the recent memories was 82, while the number of EKs obtained in the remote memory was 79. The statistical computation of this data was done and the paired *t* test was applied. The *t* score was calculated to be .181 and with *df*= 9, the significance at á level 0.05 was found to be *p* = .861. This allows us to safely reject the hypothesis, thus establishing that there is no significant difference between the number of EKs in recent and remote memory.

The findings of this study are supported by a study by Frank land, et al. (2006) which suggests that as memories mature, their stability increases. This may be a satisfactory explanation as to how a relatively equal number of Experiential Knowledge signatures were produced in Recent and Remote memory. Study by Mc Gaugh (2000) also suggests that with passage of time, a memory can become resistant to disruption through the consolidation process. During the conduction of the research, it was observed that the subjects produced elaborate verbal accounts of the recent memory, while for the remote memory, further interviewing had to be done. The subjects were better able to verbalize the narrations of recent memory, while for remote memory narrations they required comparatively more time for recollection of details. Even so, the brain remembered both the memories equally well and this has been reflected in the number of Experiential Knowledge signatures elicited.

There are multitudes of studies that argue about the strength of memories over time. Some researchers support the consolidation of memory theory (Mc Gaugh, 2000) which states that memories tend to become immune to disruptions due to time and effect of consolidation process, while some discuss the changing and evolving form of memories due to passage of time (Lacy and Stark, 2013).

Recent and remote memories both are integral to long term memory. Many researchers have used this temporal basis to understand the retrieval of memory. Most studies have established their own time frames for what they will consider as recent memory (which is closer to the subject in time) and remote memory (which is farther away in time). D'Argembau& Linden (2004) have used the phrase "Temporal Distance" as a way to establish time duration between the present and the time of occurrence of the memory event(D'Argembau& Linden, 2004). The average of such temporal distance is a few months for a recent memory and eight to ten years for a remote memory (Bonnichi et al. 2012, D'Argembau& Linden, 2004, Rekkas& Constable, 2006, etc.). For the purpose of this study, memories approximately eighteen months old will be considered as recent memory, and memories older than six years will be considered as remote memory.

In a forensic psychological perspective, it is seen that when some cases have to be tested, there

is no limit on how old the case is. Nevertheless, proper testing of all subjects involved in the case, as directed by the court has to be conducted. In these cases, there is a possibility that the subject may not entirely recollect the details of the incident or may claim to know certain details, which may be a confabulated memory or may even be fabrications. The effect of passage of time on memory can be tested with Brain Electrical Oscillation Signature Profiling System, or BEOS. True remembrance as well as experiential knowledge can be ascertained by the use of BEOS.

**Brain Electrical Oscillation Signature Profiling System**

BEOS is a technique that detects Experiential Knowledge (EK) in an individual. EK can be obtained only when an individual participates in an activity or witnesses an activity (Mukundan, et al.; Mukundan, 2007; Mukundan, 2008; Kacker, 2018). This system is manufactured and developed by Axxonet systems, and its formal name is Neuro Signature System. The forensic application of this system is the detection of EK in an individual who is suspected of being a participant in a crime. The subject is presented with auditory stimuli called 'probes' which are regarding the actions of the subject. The subject is not supposed to verbally or physically respond to the stimuli, but instead, the response of the subject to these probes is recorded by NSS through gel electrodes that are placed on the scalp of the subject. The NSS analyses the electrical activity obtained through EEG and generates a graph that provides details about the EK of the subject. BEOS profiling is used to aid the investigations, and to find nature and extent of involvement of an individual (suspect or accused) in the crime under investigation (Mukundan, et al.; Mukundan, 2007;Mukundan, 2008, TIIFAC-DFS Project report, 2008).

Legal status of forensic psychological investigative techniques in India

In the landmark case of Selvi & orsvs. State of Karnataka, 2010, it was ruled that every test must be conducted only after obtaining an informed consent. It also ruled that no individual will be forced to give self-incriminating information to the investigators. All citizens have a right against self-incrimination, as given in Article 20(3) of constitution, which says that the accused shall not be forced to be a witness against himself or herself. With some techniques such as Narco analysis test, the question of maltreatment of individuals undergoing investigation was also considered. According to the Article 21 (Right to life & personal liberty) of the constitution, its provisions include a right against degrading, cruel and/or inhuman treatment (Math, 2011).

**BEOS compliant with law**

BEOS is not in conflict with any of the points stated above, as:

a. For the conduction of BEOS, a court order with the expressed consent of the potential subject is necessary.

b. The informed consent of subject is obtained twice. Once in court, when the subject is informed about the BEOS procedure in brief, and once more when the subject is brought to the forensic laboratory for the test. In the forensic laboratory, the procedure of the test is explained in detail. The subject is also made aware about their right to refuse consent for the test. All the concerns of the subject are addressed, and then an informed consent is taken just prior to the test conduction.

c. With regards to Article 20(3) (Right against self-incrimination) of the constitution, BEOS is not in conflict with the provisions of this article, as the subject is not required to respond to any questions in any way. The subject is not supposed to respond with "Yes", "No", or give any replies to the stimulus presented by the BEOS system. The system records

brainwave activity and detects Experiential Knowledge from the interpretation of said brainwave activity. The effective conduction of the test is reliant upon the attentiveness of the subject to the presented stimuli. Here too, the subject has free will to be inattentive and thus obstruct the test. Thus, the subject is not compelled to answer any questions.

d. With regards to Article 21 (Right to life& personal liberty) of the constitution, the BEOS procedure is a non-invasive technique which does not involve injecting any medicine into the subject. It is a cruelty-free procedure, where it is made sure that the subject is comfortably seated in a chair and is relaxed before beginning the test. The comfort and relaxation of the subject are of utmost importance for the proper conduction of BEOS.

**Use of BEOS in investigations**

BEOS is a non-invasive technique with a wide scope of application. According to a study by Puranik et al, (2009) for the cases in which the result was found to be Positive, the experts who tested the subject were called to give expert witness testimony in court, and the result was treated as corroborative or supportive evidence for the case. While BEOS is a new investigative technique, its results have been accepted by the court as it is a scientific procedure that uses scientific tools (Puranik, 2009).

Importance of Memory in Forensic Investigations

Lacy and Stark (2013) stated that memory distortions tend to occur due to passage of time. One possible reason for this is that with time, some memories may change form from episodic memories being very specific and highly detailed to semantic memory, being more generalized and with loss of details. This effect is not limited to general everyday memories, but it may extend to strong memories too. The time duration between witnessing a crime and testifying regarding it has also been studied, and studies suggest that while giving testimonies in court, the individual may not even be able to distinguish between true and false memories. The theme of eyewitness testimony has also been vastly studied for this exact purpose: to study the effect of time and memory on testimonies in court (Loftus, 1979, 2019; Lipton, 1977; Buckhout, 1974; Bekerian& Bowers, 1983). With such a background, the relevance of BEOS testing is even more evident, as some scientific evidence can be submitted in court regarding the testimonies of the suspects, who are just as susceptible to the fallibility of details in memory as the witnesses. There are instances in which cases are furnished before the court after a great delay. These cases are therefore, sent to forensic laboratory for testing too, after a great amount of time has passed. The efficiency of BEOS has been suggested in such cases, and has been assumed, owing to the very nature of permanence of memory, but it had not been tested and studied until now.

**Methodology**

The objective of the present study is to measure and compare the number of Experiential Knowledge of subjects in two phases: 1. Recent memory and 2. Remote memory. Subjects for the study were collected through purposive sampling from GFSU, Gandhinagar. Age group of subjects was between 20 to 29 years ($n$ = 10, 6 females and 4 males). The subjects were given a brief idea about the study and an informed written consent was obtained. Individuals above 18 years old, Individuals willing to provide detailed experiences of one recent memory and one remote memory and Individuals who consented to undergo BEOS recording were included while individuals who could not narrate detailed memories were excluded. All the subjects were well-educated individuals with good communication skills. All the subjects were

post-graduate students. They were very co-operative. Each subject was told to produce two written accounts of memories. Both the memories had to be of a similar nature, i.e. having similar emotions, or having similar general themes. One memory was a recent memory, which must have taken place no more than one and a half year ago. The second memory had to be a remote memory which was at least six to seven years old. The subjects were instructed to be honest, and to include as many details as possible into their narrations. A quasi-experimental research design was adopted.

**Tools and Instruments**

For this study, BEOS profiling system developed by Prof. C. R. Mukundan was used. BEOS has two systems, Neuro Signature System (NSS) and Visual Auditory Stimulus Package (VASP). The VASP system is one in which the probes are designed, uploaded and recorded. The probes which are in auditory or visual format are presented through NSS, which also records the electrical activity of the subject's brain. To prepare the subject for recording, the EEG head cap, reference ear electrodes, EEG gel, blunt needles, gel syringes, and body harness for cap support are used.

**Procedure**

In order to fulfill the requirements of this study, two phases of memories were decided upon. These phases are realistic time frames in which an investigator is seen to get cases for testing. The first one was recent memory phase. It represents the cases in which the time of occurrence of crime is not too long before the time of BEOS testing. The second phase was the remote memory, which represented cases in which the crime occurred a long time ago. The subjects were presenteded with probes made from the memory narrations provided by them, and BEOS recordings were completed. Each subject was presented with 70 probes in the recent memory set, and 70 in the remote memory set. This was done to provide the subjects with equal number of opportunities to produce EK in each set for each individual. The procedure plan of the study was as follows: a) Phase 1 – Data Collection, b) Phase 2 – Designing and Audio recording of probes, c) Phase 3 – BEOS recording, and d) Phase 4 – Data Analysis.

**Results and Discussion**

As observed in table in the Recent memory phase, the number of EKs obtained was 82, and in the Remote memory phase, the number of EKs obtained was 79.

As the two phases were administered on the same individuals, the paired *t* test was found to be appropriate. The paired test was computed on the sample to test the hypothesis using SPSS v 2.0. Statistical Package for Social Sciences, or SPSS is a software commonly used to undertake statistical analysis of research data. The EK signature number in the remote memory and the EK signature number in recent memory were tabulated and used for analysis in the paired *t* test.

The practical application of this study has already been observed in the case of Kamal Singla, Ganesh Kumar vs Delhi, in the murder case of Ravi Kumar. The suspects could not be ascertained as culprits committing the murder in 2011, but after undergoing BEOS test at Directorate of Forensic Science, Gandhinagar in 2019, their guilt was established due to their own memories of committing the crime (Shastri, 2019).

**Conclusion**

Brain Electrical Oscillations Signature (BEOS) profiling as a technique which is effective in detection of Experiential Knowledge in memories that are several years old. This has the forensic application that no matter how old a case is, if a proper BEOS procedure is followed, even old/cold cases can help investigators get new information from the subject or investigators may ascertain the extent of the role of the individual in the said crime with the help of forensic psychologists without

**Table 1: Summary table of signatures in Recent and Remote memory**

| | RESULTS TABLE | |
|---|---|---|
| | **Recent memory** | **Remote Memory** |
| | Experiential Knowledge (EK) | Experiential Knowledge (EK) |
| **Subject 1** | 5 | 3 |
| **Subject 2** | 16 | 8 |
| **Subject 3** | 9 | 5 |
| **Subject 4** | 6 | 5 |
| **Subject 5** | 10 | 6 |
| **Subject 6** | 12 | 11 |
| **Subject 7** | 5 | 16 |
| **Subject 8** | 6 | 7 |
| **Subject 9** | 6 | 11 |
| **Subject 10** | 7 | 7 |
| **Total** | **82** | **79** |

The Recent memory has M = 8.20, SD = 3.584 and SDE = 1.133, whereas the remote memory has M = 7.90, SD = 3.814, SDE = 1.206. At *á* level of 0.05 the hypothesis will be rejected ($t$ = .181 and $p$ = .861 with $df$ = 9).

using third degree and without manipulation of the facts, which usually happens in most of the cases. In cases of domestic violence, child sexual abuse, juvenile crimes, and events like #Me too movements can be benefited using such scientific forensic psychological techniques.

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# Forensic Hurdles in Investigating & Prosecuting Cyber-crime - An Overview

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**Abstract:**

Technology in equal measures has facilitated and impeded the investigation of crimes, particularly crimes that pertain to information & communications technologies. The advancement brought about by information technology while on the one hand has brought ease in the life of the people, but on the other hand has also led to the development of crimes that were unheard of earlier. Further the ICT has also resulted in the increased complexity of crimes which challenge the traditional methods of crime investigation and prosecution. Information and communication technologies have enabled enormous data/information to be searched and analyzed quickly and also have such information transmitted anywhere in the world even to outer space to space crafts in a relatively very short time. The information and communications are not only advancing the knowledge of doer but the wrongdoer is also getting huge advantages out of that. A gigantic amount of information creates considerable problems for investigating agencies that sometimes they have to examine gigabytes of data and break encryption codes for getting the required information. Many investigations and prosecutions fail because of the trans-jurisdictional nature of the crime and the inability of investigating and prosecuting agencies in criminal justice systems to understand the peculiarity of technology-aided crime. The technicality of crime hinders not only the investigation but also thereby prosecution. On the other hand, the trans-jurisdictional nature of crime and laws creates a barrier to investigating & prosecuting agency to completing their task. Consequent upon this situation, the researcher analyses the existing legal approaches and policies on the issues pertaining to cyber-crime investigation and challenges in prosecution while focusing on the importance of cyber forensics. The researcher also tries to find impediments to the investigation of cyber-crime; legal and technical obstructions of prosecutions together with digital forensic investigation. The paper moves with the supposition of cooperation and coordination amongst nations to the investigation, prosecution of cyber-crime involving cross-border issue.

**Keywords:**

Cyber-crime, Electronic Gadgets, Cyber Forensic, Cyber-crime Investigation and Prosecution and Information Technology.

## 1.1. Introduction

The advancements in technology has affected and transformed every aspect of our lives. While on the one hand, computers and the associated information and communication technologies have made our lives easier and have improved our standard of living, they have also, on the other hand introduced a new avenue for criminal activities. The transformation that tech gadgets

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and the internet has brought in our lives has exposed our life to the danger of commission of cyber-crime. This expansion in the internet activities has led to the radical increase in the commission of crimes in the online environment. The internet users are evolving new techniques and searching novel means and methods for the commission of crime. With these rapid developments it is inevitable that the products of technology which we can call 'information' will gradually make their way in a dominant manner into the court rooms[3]. Courts have started to appreciate the digital data and evidence and it is increasingly likely that in the near future, the digital evidence would be the primary and the dominant form of evidence to be adduced in the courts. Data connector[4] provides statistics on cyber-crime which shows that the incidents of cyber-crime are very huge, are of wide variety and its number will rise exponentially[5]. The 'Open Government Data (OGD)'platform of India also contains information on cyber-crime committed in India. The information is divided into the cyber-crime cases registered under IT Act and Indian Penal Code. The data reveals that State of Maharashtra has the highest number in cyber-crime commission[6].

Expansion in online activities, increased use of computers and digital systems in day to day life and increase in cyber-crimes have thrown up huge challenges before the investigative agencies for apprehending criminals and have led to increased importance being provided to the field of cyber forensics. For conducting a forensic investigation of cyber-crime and extensive forensic analysis of evidence collected, there is a need for trained experts who know well the search and seizure devices and their appropriate use in the preservation of evidence. Forensic analyses of shreds of evidence that are collected suffer from many limitations, beginning with what to collect, how to collect, where to collect, etc. Thus, the basic aim of any forensic investigation is to provide answers to the questions who, what, where, when and why, and, the ability to deconstruct and reconstruct the sequence of events[7]. Whilst, scientific analysis of evidence is not new and even practiced before the advent of computers, yet the advancement of technology for computation and communication such as mobiles has made scientific analysis and the services of well-trained individuals absolutely necessary. In investigating any case, groups of investigators with differing specializations are required[8]. The idea is to provide more clarity and understanding to the forensic analysis. 'Danilo Bruschi' and others are of the opinion that cyber-crime investigation is a discipline in itself and thus investigators should be trained in such a discipline[9]. 'Ashley Brinson' with others on such a point emphasizes in his paper the necessity of the discipline of cyber forensics.[10]The rapid growth in technology has made it imperative that the tools of forensic analysis grow in tandem with the growth in technology as forensic examination of the purported evidence needs well equipped hands. Danlami Gabi and others say for better defense against cyber-crimes and cyber-attacks, it is necessary to understand the nature and mechanism of cyber-crime[11] and thus for which the discipline of cyber forensics would be immensely helpful.

Understanding of methodology adopted by the cyber-criminal is of vital importance along with the understanding of the existing laws, for without a clear understanding of the legality or otherwise of any cyber-event, it is impossible to provide the judge with the suitability of a cyber-event or a virtual document as evidence in a court of law. A challenge that investigating and prosecuting authorities are facing in regard to the laws that shape digital transactions, is the absence of a clear and precise definition of various online crimes/cyber offences. In the absence of a definition or description or categorization of crime/offence, it is difficult to secure conviction even if the perpetrator has been apprehended. In such cases where conviction is not obtained, the offenders are emboldened to repeat the offence. Several

countries[12] took lead in drafting their cyber laws to cover certain identified criminal activity under the head of cyber-crime/cyber offences, while other countries drafted their laws in the light of the experiences gained by the countries that had drafted their laws earlier. These second group of countries amended[13] their laws to incorporate certain newly defined criminal acts as well in their statutes. The process of amendment of criminal statutes suffers from the lacunae that the acts have to be strictly defined for the purpose of incorporation in the statute. With cyber-crimes having a cross border component, it is not enough to merely have a national definition of a cyber-offense. The commission of the crime can be in any state with its results being felt in another state, which makes it necessary to strictly define cyber offences. An accepted definition of any crime in cyberspace is of vital importance when the cyber acts have the potential to have an impact across borders. In the absence of cooperation in creation of a definition, an absence or non-acceptance of any definition may make investigation a tedious task for the country where any such offence is committed or the results of the offense are felt.

In India, an Act with the objective of legalizing the electronic communication or providing an alternative to the paper-based transaction was enacted in 2000 as the Information Technology Act, 2000 with certain provisions defining some acts as cyber offences[14]. The Act was further amended in the year 2008, which incorporated several provisions and new definitions of various crimes such as cyber terrorism, child pornography, etc. The Act made the amendments in other pre-existing criminal and procedural laws. It amended the Indian Penal Code, 1860, and incorporated at various places several words like 'electronic', etc. to make it compatible with the Information Technology Act. The Act amended the Indian Evidence Act 1872 and included provisions for the admissibility of digital evidence in court. Two other Acts were also amended, namely the Reserve Bank of India Act, 1934 and the Bankers' Books Evidence Act, 1891. These laws were regulating the Indian banking industry; therefore, amendments were made to these Acts so as to grant permission to organize the online banking and associated activities. The main reason for amending the criminal procedure and the law of evidence was to bring them in conformity with the requirements of society and for evaluating the digital evidence.

The basic purpose of any investigation is to find out if any crime has been committed or if any criminal activity has been perpetrated against someone or something. Criminal investigation has two objectives or reasons - the first one is to find out who has committed the crime and second with what intention it has been committed. Both factors are important for the successful prosecution of the offender in the courts. Investigating a cyber-crime has the same set of objectives as investigation of a normal crime that is collection of evidence, analyzing and evaluating their linkage and deduction finally. The traditional model of collecting evidence in criminal cases includes the collection of evidence[15] that has 'substance, shape, and form' perceivable by the people. In such a case the evidence so collected can be seen[16], can be touched[17], can be smelt,[18] etc. Most importantly retrieval of these pieces of evidence is not difficult, for example, fingerprints can last for a year[19] or even more than that if their are kept in proper environment and conditions. Technological advancements in the field of information technology has resulted in increased ease of computation and communication but when it comes to the collection of evidence relating to the commission of the cyber-crime, the procedure of collection and retrieval of evidence is convoluted and faces numerous challenges owing to its nature being very different from the physical and observable data. Retrieval of evidence from computer or electronic devices depends on the digital memory on which the documents are stored. Sometimes pieces of evidence are not easily retrievable, as it lasts only for a short period of time because

of the volatile nature of memory (storage). This memory element is very vital in cyber-crime investigation. There are mainly three ways of data storage in computers i.e. magnetic,[20] semiconductor[21] & optical,[22] however, 'optical jukebox storage'[23] 'magneto-optical disk storage,'[24] and 'ultra-density optical disk storage'[25] is also used. The data collected for computer forensic is either 'persistent data' that is present even when the device is turned off or 'volatile data[26]' that vanishes when devices are off and is not retrievable. When the data is volatile in nature –that is easily changed or eliminated and therefore ephemeral - presents enormous challenges to investigators and prosecutors. For forensic analysis, it is essential to collect volatile data before the shutting down of the computer or electronic device/es. The data stored in these devices may have tremendous evidentiary value that may be used in investigation of offence and prosecution of the offender. The people with dishonest intentions can get the benefits of this by easily changing the nature of the sensitive information and pose the biggest hurdle to cyber-crime investigation and prosecution. Therefore for preserving volatile data, the device should be either identified or located at the earliest and then examined. This is the chief ingredient of cyber forensics.

### 1.2 Cyber/ Digital Forensics & Digital Evidence

Danlami Gabi and others in their research paper very interestingly opined that cyber forensic presumes the existence of cyber-crime[27]. Cyber forensic is like traditional forensics - it is all about gathering the cyber evidence, analyzing them and finally proving the crime that has been committed. As per Markus K. Rogers the law enforcement community brought the term cyber forensic in existence in earlier 1980s[28]. The endeavor of collection of cyber evidence is not as straightforward or understandable as traditional forensic examination.[29] This begs the question as to ho cyber forensics different from traditional forensics? The term cyber[30] is used for a place where things are kept and stored in some virtual medium in a visually unperceivable form like data/ images/ videos/audio etc. Forensics[31] is basically an act of collection, analysis and examination of the evidence of a past event so as to present a chain of causal linkage with the crime committed and the evidence produced in the court. Since cyber forensic entails recovering evidence from the digital medium, so, essentially cyber forensic[32] is a process of examination of cyberspace and tech/electronic devices including computers, computer system, computer network, hardware/ software for gathering and collecting evidence from the crime scene. The process involves certain steps indispensable for "preservation, identification, extraction, and documentation of digital evidence stored in a hard disc of a computer system"[33]. There is another term 'Network forensics' which deals with the study of the behaviour of cyber criminals and consists of collecting the sequence of actions of such cyber criminals for it is required to understand what is the motive with which cyber criminals act and what would be their actions. Study of such behavioural patterns could provide the authorities with the devices to prevent the cyber-attacks.[34] All these information are vital for judicial process. As pointed out by 'Michael Losavio'[35] digital forensics is there to assist the judicial process, but both follow different methods for achieving the desired result, however with the objective of proving the offence and put the offender behind bars. Thus deep understanding of technology paired with due care and attention to the legal rules in the collection and uses of digital evidence are a must, pointed out by Daniel J. Ryan and others[36].

What constitutes evidence as digital evidence? Digital evidence is not similar to traditional evidence such as murder weapons, fingerprint, handwriting, medical report, etc. The Indian Evidence Act, 1872 defines evidence as oral and documentary evidence[37]. According to Section 3(a) of the Indian Evidence Act, 1872 evidence includes electronic records. It is necessary here

to appreciate what is digital evidence. Digital evidence are where information is stored on some media in binary form"[38]which makes it unavailable in physical form. The definition provided in 'Eoghan Case[39]emphasises that the data collected from computer or electronic medium should be capable of refuting the story of crime, therefore if data so collected has such attributes, it is electronic/digital evidence. The definition includes all types of data, present on electronic devices that can be used for proving or disproving a crime. The data that is being evaluated, can be of any type such as the metadata associated with a file, the file itself or the data associated with the use of the computer hardware. The digital evidence can be used to track the location of the person/offender/ accused and to prove his intention to commit crime etc. The data in cyber forensic needs to be obtained from any electronic devices that may include hard disk, compact disk, pen drive, personal digital assistant (PDA) mobile phones, laptops, computer system, computer network, etc.

*1.2.1. Digital Evidence, its Collection and Admissibility in the Court-*

The challenges that are present with investigation in cyber-crimes don't end there but manifest themselves at the level of trials when evidence has to be presented at the courts. The laws relating to the admission of digital evidence in the courts are as yet in their infancy as the courts in India at the district level lack the essential infrastructure in terms of human and physical resources for appreciating the digital evidence. There are four major tasks for working with digital evidence that includes identifying devices and evidence, collection of evidence, analysis of collected evidence and rebuilding or repeating a situation to verify the same results every time. The collection of evidence in cyber forensics as a whole is a combination of different deeds which comprise and involve password cracking for getting relevant information from the masked information and concealed important files; retrieving the deleted data and files from a computer or computer system; observing suspicious activities conducted on the computer or computer system and if any digital evidence is obtained then preserving the same and finally finding the timeline of acts committed. Searching the database and tracking of the IP address is a prime part of cyber forensics. The evidence gathered is used not only for reaching the offender and prosecuting him in court, but also to stop a continued operation of cyber-crime. Hence investigating officer carries a responsibility for collecting and producing evidence in the form as is acceptable in the court. This requires skillful, trained & experienced personnel who take due care and caution when scanning the suspicious computers and electronic devices for data collection keeping in mind that it is common for criminals to set up viruses, logic bombs, booby traps which are designed to be triggered to destroy the vital forensic evidence when such computer is being scanned for evidence. An example of this being a code that is self-executing and comes into operation to destroy the computer memory when it detects and attempts to scan the computer memory for files. Trained investigators in such cases can pre-empt such attempts of destruction of evidence caused by malicious code and retrieve the requisite data and thereby prevent cyber-criminals from going scot free. The updated and upgraded devices raise not only the standard of cyber investigation but also affect the evidence substantiation. Advanced cyber forensic tools and techniques can be a solution to the investigator and prosecutor by providing accuracy in findings so that the necessary and vital links in the commission of crime can be established. Digital evidence can be used to prove any crime committed in real world such as pornography, child pornography, cyberbullying, stalking, harassment, spoofing or credit card fraud, online trafficking etc. Cyber forensic has importance not because it helps only to find out the cybercriminal or wrongdoer but also because as claimed by Gabi[40] (2014), cyber forensic readiness may reduce the investment of time and cost in responding to an incident of

cyber-attack. The further results will be the preservation of evidence with a quick response. Unlike other forensic analysis, cyber forensic requires skills more than mere problem solving skills. Understanding of computer software or hardware or computer networking is not just enough, Jonathan McClain and other[41] say the person should be well versed in knowing the tactics and techniques employed by cyber criminals. This understanding may help not just in knowing the origin and path taken by the intruder but to find their reasons of attacks in some cases together with their prey and target in the future as well. As a whole this may help in taking steps ahead of crime. Finally, the whole collection and analysis of forensic evidence may be used to know and prove a story of constructing a cyber-crime incident[42]. There are several models of forensic investigation proposed by various people containing different stages in different models as mentioned by them owing to the complexity that forensic investigation carries[43]. Rabail Shafique Satti and Fakeeha Jafari,[44] in their detailed analysis of these models suggests that there is a need for a model which has greater flexibility but also sufficient reliability so that the results are easily reproducible but model is also flexible enough to adapt to novel cyber incidents. The rules of cyber forensic are not confined to finding the appropriate evidence but pose a responsibility to make them admissible in the courtrooms. One observation says that judicial officers must take relevance and authenticity of the evidence as two significant considerations. As per U.S. courts the integrity and authenticity of evidence are the precondition for admissibility. Garfickel is of the opinion that the period between 1999-2007 was the golden age of digital forensics[45] what he implies from the golden age was that the digital forensics developed to its prime in this period. It is worth mentioning the leading authority on 'scientific evidence admission' in Daubert v. Merrell Dow Pharmaceuticals Inc., 509 U.S. 579, 595 (1993). The case provides a five-pronged standard on admissibility of scientific evidence in federal court. The test includes the principle of testing; peer review, error rate, standards and, acceptance.[46] The decision was further followed in the case of "The Kumho Tire"[47]. However, the court in the case "extended the Daubert standard to apply to experts with technical or specialized knowledge, and not simply those called to testify regarding their scientific knowledge"[48]. The admissibility rule requires that "evidence to be admissible in court, must be relevant, material and competent, and its probative value must outweigh any prejudicial effect"[49]. Initially for scientific evidence the court relied on the 'Frye test'[50]. The test makes "scientific evidence admissible only if scientific evidences are based on the scientific community established principles"[51]. However, the test supplanted the rule[52]. The applicability of scientific evidence theories on cyber forensic doesn't appear appropriate. As pointed out by Daniel J. Ryan & Shpantzer for admissibility of digital forensic evidence it must be relevant and must be "derived by the scientific method" and "supported by appropriate validation."[53] The digital evidence may face the issues of fabrication such as in the case of emails[54], the tools to fabricate digital evidence are also evolving. This imposes a liability on authorities to reduce intended or unintended uncertainty while promoting fairness by applying truth-finding processes in ensuring justice.[55]

**Trends for cyber-crime and challenges**

The most recent and common trends in cyber-crimes include pornography, identity theft, spamming, phishing, cybers talking, and cyber fraud,[56] etc. In these crimes, the investigation is not easy and caution must be exercised while examining the suspicious devices/ tech gadgets particularly devices at the public platform such as a computer used at the cyber cafe. Therefore, the investigating methodologies adopted by the police to investigate these crimes should be fool-proof to enable a proper prosecution of the offender. The existing Indian system of policing and the criminal investigation sometimes fails due to extreme reliance of investigating

authorities on old ways to gather information and lack of training of advanced criminal investigation techniques. The trend to commit crime beyond geographical border is increasing. The traditional techniques to investigate crime are available in large numbers and at the level of reliability in terms of applicability in cyber-crime investigation yet they are considered strongly[57]. Cyber-crime is continuously advancing itself with innovation in committing crime, but, the tools and techniques that we have today for investigation may not be able to progress in the future and the 'Golden Age of Digital Forensics' will end soon[58]. Garfinke, in his research paper mentioned the areas of crisis, which includes the advancement in the storage device, the embedded flash storage, device interface, pervasive encryption, cloud computing, new malwares and legal challenges etc.[59]. The state is dreadful, therefore, there is a need to develop specific tactical capabilities.[60] A focus on digital forensics research is the need of the hour[61].

**Cyber-crime Investigation in India**

The generic uniqueness of cyber-crimes is that it usually transgresses geographical boundaries which complicate the investigation procedure. Handling cyber-crime requires several things which include a comprehensive legal skeleton, advanced forensics with strong technical infrastructure, trained police personnel and prosecutors who have a complete understanding of everything from laws to forensics. Dennis[62] in his research paper discusses the 'Integrated Digital Investigation Process' model where he states the five phases of investigation which include readiness, deployment, physical crime scene investigation, digital crime scene investigation and presentation[63].The cyber-crime as mentioned under Information Technology Act shall be investigated by the police officer not below the rank of Inspector[64]. The applicable procedure in cyber-crime investigation is as mentioned in the Criminal Procedure Code, 1973. Therefore, for investigating cyber-crime, Information Technology Act, 2000 should be read with the Criminal Procedure Code, 1973. Information Technology Amendment Act, 2008 specifies that the offenses which have not less than three year's punishment are cognizable and bailable[65]. A potential investigation in cyber-crime starts with the identification of suspects of the committed offence. The investigator should question who the potential suspects of cyber-crime are; what cyber-crimes were committed; when the cyber-crime was committed; where these crimes are limited to country's jurisdiction; what evidence there to collect; where the physical and digital evidence might be located; what types of physical and digital evidence were involved with the crime; which evidence needs to be photographed / preserved immediately and how that can be preserved and maintained for the court proceeding.

The investigation of crimes whether committed by using computers as means or computers as a target is extremely complex. Extracting evidence in both cases is not an easy task and poses tremendous challenges to the investigators. A pestering issue in cyber-crime investigation is hurdles that are produced in such investigation when crimes have a trans-border nature. The dissolution of geographical bounder in cyberspace has made it very challenging to collect evidence if offences are committed outside the country irrespective of extra-territorial application of laws. In a hypothetical situation, a person while sitting in "A" country can steal a computer resource or can commit any crime in "B" country using a computer situated in "C" Country. These situations intensify the investigation problems, which are less technical and more jurisdictional, in some categories of crimes. The process and law of cyber-crime investigation vary across the nations. In India, the procedure starts with Police action after an FIR is filed at the nearest police station. After reporting to the Police the next step is the categorization of matter into either criminal/civil or in some cases both criminal and civil. Power to investigate any crime is given

under various provisions of Cr.P.C. starting from section 156, 155, 91, 160, 165, 93, 47, 78 along with section 80 of Information Technology Act. It is interesting to mention that Section 80 of Information Technology Act supersedes Code of Criminal Procedure.[66] The Information Technology Act provides the power for a Police Officer not below the rank of inspector to investigate[67] while power to enter, search and arrest at any public place for any 'Police Officer' is subject to the condition that he should not be below the rank of Dy SP[68] etc.[69]. Police start collecting evidence after receiving the complaint. The evidence helps them to decide which court has jurisdiction[70] over the case. After collecting suitable evidence Police file a case under section 177[71]/ 178[72] / 179[73] of the Code of Criminal Procedure. Section177 says that ordinary place of inquiry and trial is the place of commission of crime. Section 178 of Cr.P.C. specifies different possibilities with regard to the place of commission of crime and gives jurisdiction for any of the court in whose jurisdiction it is committed. Section-179 of Cr.P.C. provides jurisdiction to any court either in whose jurisdiction it has been committed or any such consequence has ensued[74].

Information Technology Act, 2000 under Section 1 (2), extends to the entire country, which also includes Jammu and Kashmir. In order to include Jammu and Kashmir, the Act uses Article 253 of the constitution. If cross border issues are involved in the commission of crime, it does not take citizenship into account and provides extra-territorial jurisdiction for the investigation of cyber-crime. Section 1 (2) and Section 75 of the Information Technology Act when read together specifie that the Act is applicable to any offence or contravention committed outside India as well. The provision is extra-territorial in nature and makes it punishable even to a person not having Indian nationality if he commits an offence or contravention as specified under Information Technology Act with a computer or a computerized system or network located in India.

**Challenges in Cyber-crime Investigation and Prosecution-**

Rapid advancements in technology have augmented the severity and frequency of cyber-attacks. Since investigation of cyber-crime is not possible with the traditional cyber forensic tools and techniques, it needs proficiently devised cyber forensic tools and techniques. The challenges are greater before the investigating, prosecuting and judicial authority. These challenges can be broadly classified into technical challenges that hinder law enforcement's ability to find evidence that could be used to prosecute criminals operating online in addition to the challenges of laws resulting from scarcity of laws and legal tools needed to investigate cyber-crime. The major challenge is search and preservation of evidence as there is a conflict between conventional and modern technological environment. In the conventional environment preservation of evidence is different rather easy. There is evidence in conventional environment such as substance/ article known as potential evidence for example murder weapon etc. can be stored in the tangible form. Some information about a person, his photographs, handwriting in notebook accounts details can be kept physically, however this evidence is susceptible to vandalization by the real word activities done physically like theft or puting on fire, and burglary, etc. The state of affairs is changed in the hyper-tech world, today information and data are stored in an intangible mode outside the limitations of conventional methods. Nonetheless, boundary less nature gives ample opportunities to criminals to commit offence in disguise and poses challenges to the investigating officer in carrying out search in any suspicious place. In the information age the investigating officers' conduct search on suspicious computer or similar electronic memory devices that are likely to be found with the evidence. The role of computer forensic scientists in a 'Forensic Science Laboratory' becomes not only significant but also very important for examination preservation and

analysis which a common Policeman can't precisely and accurately perform. There are also resource challenges for satisfactory and complete/ unchallenged investigation. So the existing structure appears most of the time to have failed to fulfil the investigative and prosecutorial needs. The nebulous nature of cyber-crime poses a challenge led by the high degree of uncertainty in cyber-crime investigation. Technology poses challenges of certainty, and it becomes difficult to quickly identify and assess the type of crime, if any, has been committed. In the absence of precise definition of various crime sometimes one criminal activity leads to indeterminate possibilities as in the case of intrusion involving its computer network in the trade or business, the charge may be framed for the malicious hacking/ terrorist attack / some form of espionage/ denial of service attack or even for some combination of traditional crimes such as frauds or extortions. This needs techno-legal proficiency to find a conclusion or confirmation on any crime and very intense forensic observation. A real world/traditional crime incident of bank robbery can be easily identified and collection of evidence in such a case is easy. The witness statements to the fingerprints data, DNA reports, medical reports, shoe impressions, CCTV footage can help in framing of charges in such an incident. However in online crime commission this evidence in the commission of an online crime and evidence will usually not exist for long or will fade away or be lost in friction of time, without an immediate response by skilled cyber investigators leading to many uncertainties.

**Conclusion**

Indisputably, the internet is the global system of interconnected advanced tech devices such as computers with highly systematic and structured searching techniques. The internet gives ample opportunities to people to manipulate and exploit its best features for serving their good or bad motives. Good motive can be utilized for the growth of one's intellect while, bad motive leads to commission of crime. As technology grows increasingly complex, so do computer crimes. The increased use of computers and digital systems in day-to-day life has complicated the investigation of crime. There is no definition of cyber criminals; anyone can be a wrongdoer on the internet irrespective of their age, gender, qualifications or place. The motives or intentions are sometimes not playing any role in the commission of crime; a child just to prove his skill at computer programing amongst friends may commit it; a teenager just to teach a lesson to their classmates may bully someone. The internet is bursting with such incidents. Thus by a simple exploitation of technology a crime can be committed. The internet doesn't believe in geographical boundaries or it can be said that bits and bytes do not know the geographical borders; they travel uncontrolled and unchecked. This free flow nature of the internet poses challenges for investigation and prosecution. The rate by which cyber-crimes are growing may be just doubled in few years. There are very few cyber-crime convictions in India. It appears that the law enforcement agencies are in a perpetual race with cyber criminals for catching them through investigation. In addition, absence of scientific evidence, knowledge and proper cyber-crime investigation, poor reporting of cyber-crime, even if reported, failure in investigation actually reduce the possibility of case moving in the court. Cyber-crime is not like a traditional crime; it is a device-based crime which simply demands technically advanced and well-equipped cyber investigating team. Cyber forensic may play an important role in detection of online criminal activity and sometime pre-emptive measure could be taken based on cyber forensic analysis. The major challenge that cyber forensic is facing is the fast growth of devices/ digital gadgets, scientific advancement and on a daily basis evolution of techniques to commit crime in mask. Digital/cyber forensic requires set standards and properly designed methods of investigation that may improve the situation. An investigation needs to be done by a person with the diverse experience of the same, a vast

knowledge of matter, a better understanding of forensics and his ability to do the same with the potential to implement those principles. In cyber-crime investigation the proficiency, competence and ability of cyber forensic experts should be diversified with techno-legal knowledge and experience. Mere technological understanding is not sufficient for the purpose of forensic examination of the purported evidence. The tie between law enforcement agency and IT industry may give strength to cyber-crime investigation. Training on cyber forensics by cyber experts (technical and legal) can help police to closely supervise the investigation of newly coming cyber-crime and thereby get technical and legal advice. The coin of cyber forensic has a positive side which involves the peculiarity of data security. The probability of data theft may go down, prevention of unauthorized access can be secured, prevention from cyber-attack, virus attacks phishing and hacking is possible with security implementation. An understanding of the existing laws is equally necessary for without a clear understanding of the legality or otherwise of any cyber-event, it is impossible to provide an understanding to the evidence of a cyber-event or a virtual document. Law enforcement has faced many significant challenges in developing and mastering the skills, tools and techniques of digital forensics. This demands a serious care and attention in the sense that it should be developed properly while incorporating a feature of full-fledged training of investigating and prosecuting authorities.

Judiciary plays a vital role in solving a dispute. Advancement in technology is so fast that keeping up with new developments in the cyber field is difficult for legislators and the judiciary. Sometimes because of the above shortcomings and sometimes due to the lack of training or information judiciary is bound to decide in the light of available information and data. Therefore properly equipped judiciary with cyber forensic tools and training may play a decisive role in increasing the number of convictions and giving a lesson to the wrong doer by setting up the examples. The Internet may be employed in the best way to get good assistance in solving the most complicated criminal cases based on cooperation, which are less legal but more political in nature, hence need government policy initiative. The unique nature of cyber-crime cannot be investigated in the absence of cooperation amongst the nation. In the absence of any uniform cyber law, coordination and cooperation can be a tool to solve the cross-border cases of cyber-crime. Hence nation's agreement with each other to help in solving a case may play a greater role in removing the forensic hurdles. Investigative needs of the country can be satisfied by providing requisite support, liberal sharing of forensic technology, providing technological training from experts. Cyber-crime is a crime against humanity and a gross violation of human rights of any one against whom the crime has been committed. Since the crime is globalized, we need a globalized solution.

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14. Example can be cited as defamatory statement published in newspapers, etc.
15. Example can be cited as knife used in murder (murder weapon).
16. Example can be cited as the chemical used in commission/ other smells etc.
17. Different reports have different timelines. "Tweedy reported that identifiable fingerprints can persist on plastic carrier bags for over seven years. Bunter reported a case study where a surface bearing a left hand impression had been cleaned down several times and even painted over, however, the impressions had survived as they were formed in an old layer of paint, a matter not noted by the CSI. Cohen. Bunter, S. (2014). How long can an identifiable fingerprint persist on an exterior surface. *CS Eye-The home of crime scene science articles, April.*
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# Spatial and Rational Choice in Drug Peddling at Kochi City: A Descriptive Analysis of News Reported in Print and Electronic Media during 2016-2017

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**Abstract:**

The illegal drug peddling and usage are one of the serious problems in India, especially in metro cities. According to the National Crime Records Bureau of India (NCRB), 2015, the city of Kochi in Kerala reported 654 cases under the Narcotic Drugs and Psychotropic Substances Act, India (1985). Noticeably, Kochi ranked second among the metro cities next to Mumbai in terms of the number of NDPS offences reported. It assumes significance to understand the spatial and rational choice of drug peddlers. The peddlers either sell the drugs in one specific area or they shift their business location to increase the benefits and reduce the risks associated with it. Through analysis of news reported in electronic media, this paper attempts to study the spatial choice, type of drugsinvolved in drug peddling. Further, through rational choice perspective, this paper tries to understand the rationale in spatial choice and other aspects of drug peddling. Studying spatial and rational choice will help us to understand the possible location of drug peddling in the future.

**Keywords:**

Drug Peddling, Spatial Choice and Rational Choice.

## Introduction

The Crime in India statistics 2015 published by National Crime Records Bureau illustrates that Kochi city in Kerala reported 654 cases under the Narcotic Drugs and Psychotropic Substances Act, India (1985). Evidently, Kochi ranked second amidst the metro cities next to Mumbai in terms of the number of NDPS offences reported. The problem of drug peddling and drug usage and abuse turns out to be hazardous by considering the dark figures of crime ("Drugs in Focus", 2007). Drug usage and abuse are extremely prevalent among the school and college students of Kerala, especially in Kochi (The Times of India, 2014) and the same has been frequently reported in several other media. The drug usage and abuse not only have negative impact on the individual but also on society as well. Depending upon the frequency and type of drugs, it produces physical and psychological consequences (Sahu, Kamlesh&Sahu, Soma, 2012). The drug usage and the behaviour associated with it may affect the family system at a micro level and the society in a Macro level. Therefore, the problem of

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preventing drug peddling and drug usage should be of a serious concern.

There are no statistics available for the illicit drug production in the country at present. However, it's known that there is a widespread production of illicit opiates and cannabis in politically unstable territories and in other parts of the country, which means politically unstable regions are always a fertile ground for illicit drug production (UNODC, 1999). Apart from the illicit drugs manufactured and circulated in the country domestically, proximity to internationally quarantined illicit drug production regions such as Golden Crescent (Iran, Afghanistan, & Pakistan) and Golden Triangle (Myanmar, Laos, & Thailand) aggravate India's vulnerability to the drug menace (UNODC, 2005). India is a destination as well as transit route for illicit drugs, and a plethora of drugs are trafficked into the country through the politically unstable frontier regions and porous borders , which ensures a regular supply of drugs to the illicit market (Das, 2012). The traffickers target India, since there is a great demand for the drugs, especially among younger generation. India has the largest youth population in the world, with 242 million aged 10-24 ("Youth in India", 2017).

The drug trafficking also poses two major threats to India's security. Firstly, the routes used by drug traffickers can be used to smuggle arms; second, illicit drug trade often funds the cross-border terrorist and internal terrorist activities (Das, 2017). Though drug trafficking is a serious problem, it is the peddlers or street sellers who keep drug reach to the consumers. This paper claims that the peddling and peddlers are essential part of the drug trade network. Hence, if we could understand nature and characteristics of drug peddling, it will help to formulate strategies to reduce the opportunity of the peddlers to sell drugs and to reduce drug consumption and demand for drugs considerably within the country.

Further, drug peddling itself is a crime which also generates more crimes as drug users indulge in various crimes which have been proved by various studies (Singh, n.d.; Siegel, Welsh & Senna, 2009; Malhotra, Sharma, Saxena & Ingle, 2007). This paper claims that, if the drug availability is reduced, the drugs usage and various crimes associated with it are reduced. This study considers drug peddling as one of the causes of drug usage and abuse. Through the rational and spatial choice perspectives, this study attempts to understand the operational area, target population, and types of drugs associated with drug peddling in the Kochi city. Such understanding will help us to reduce drug peddling in considerable amount.

**Methods**

The locale of the study is the Kochi city and it suburbs. This study considers the outskirts of the Kochi city as it will help to get a complete picture of the spatial pattern and geographical characteristics of drug peddling in the region. To address the objectives of the present study, news items related to drug peddling reported in Malayalam and English newspapers in electronic media from 1st January 2016 to 20th November 2017 were reviewed. Keywords such as the Narcotic Drugs and Psychotropic Substances Act, 1985 (commonly referred to as the NDPS Act), drugs, illegal drugs, illicit drugs, marijuana, cocaine, glue, cough syrup, tablets, pills were used to get the data from websites of English newspapers. Keywords such as Kanjavu (marijuana), mayakkugulika (sedition tablets/ pills), leharipadharthanagal (sedition candies, chocolate) were used to get data from the Malayalam newspapers. Multiple newspapers have been cross-verified to collect detailed information about the variables such as date of the crime, time of the crime, place of crime, type of drug, the number of drugs, the age of offenders or sellers were inferred from the reported news items. An analysis of these elements was instrumental in identifying the spatial and rational choice of drug peddling in the locale. Geographical, spatial and demographical aspects about Kochi and adjacent region are inferred from 'Department of Town

and Country Planning, 2010' published by the Kochi Municipality.

Further, the study considers other factors such as proximity to schools and colleges, heterogeneity of the population, mobility of the population, tourist places, and the presence of law enforcement agencies associated with drug peddling and usage. The tactical crime analysis method was used for the present study. This method examines the recent criminal events and potential criminal activities by analysing how, when and where the event occurred to understand and predict the future crime incidents (Hill & Paynich, 2013).Google Earth and Arc Gis 10, were used to create maps and analyse the locations and to assess data from spatial and geographical perspective. Frequency analysis of demographic factors has been done using the Statistical Package for Social Science (SPSS).

According to the National Crime Record Bureau (Crime in India, 2015), 654 cases were registered under the NDPS Act at the city of Kochi in Kerala on 2015. However, the present study considers only 72 cases reported from 1st January 2016 to 17th November 2017. Many of those cases registered under the NDPS act are regarding drugs seizure in the airports and other transit hubs and hence, the study focuses only on cases in which drug peddlers involved.

**Results and discussion**

The crime is often based on the hedonistic principle i.e., pleasure-pain principle, which refers to increasing reward and reducing risks (Bentham, 1789). In general, the increasing rewards refer to the need for the offender and the risk means the difficulties involved in committing the crime successfully. There is overwhelming evidence that the offenders select their targets based on the choice (Cornish, 1986). In the case of drug peddling, the purpose of the trafficker and the seller is to increase the reward (money) and reduce the risk (avoid apprehension, having been noticed by others). Importantly, drug trafficking is an organised crime and its purpose is to make more money ("Organized crime", n.d.). Hence, drug peddlers choose the operational area based on the availability of the customers, spending capacity of the customers, access to drugs and mobility in the locality.

As in any business, drug trafficking requires the proper distribution and selling of illicit drugs to procure money. It is the sellers who are essential to converting mere drugs into money. In order to make more money, the sellers choose the suitable target areas and the target groups. To study the rationale of drug peddlers, this paper adopts tactical crime analysis to analyse the drug peddling news items and attempts to add further understanding on rational and spatial choice of drug peddling.

**Geographical Significance of Locations**

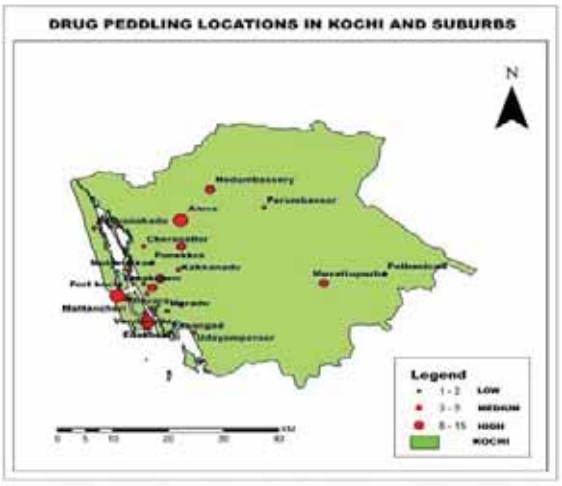


**Fig. 1: Maps illustrating drug peddling locations in Kochi city region and suburbs**

72 incidences of crimes under NDPS offence were reported over the timeline. These incidences are dispersed over 26 locations across the locale.Geographically, 26 locations are scattered across the city and its suburbs. Majority of these locations fall under the city limits and few locations are dispersed across the suburbs. To list out the characteristics of individual location which are Hotspots drug

peddling is a difficult task.Majority of the individual locations share common characteristics.

Kochi city is a Commissionerate, i.e., cities police force comes under the jurisdiction of Commissioner of Police.Suburban areas come under the jurisdiction of Superintent of Police (Rural). Commissonerate is divided geographically into three Sub Divisional Zones. Each Sub Divisional Zones are further divided into Circles and under each Circle, there are a number of police stations and outposts ("Kochi City Police", n.d.). Assessment of the spatial characteristics of sub-divisional zones was more possible.

26 locations are matched with 19 police station jurisdiction; of this 14 police station come under the city police limits and 5 come under the rural police limits. Of the 72 incidences reported, 56 cases are reported from the city limits and 16 are reported from the rural police limits around the suburbs of the city. Geographical, logistical and demographical attributes of each sub-divisional zone are explained further. Three Subdivisions of Kochi City Police are as follows; Mattancherry Sub Division,Ernakulam Sub Division and Thrikakara Sub Division

**Mattancherry Sub Division**

Mattancherry subdivision covers the western part of the Kochi city. 7 police stations and 1 outpost come under the subdivision limit ("Kochi City Police", n.d.). Out of 72 cases reported, 30 incidences were reported from Mattancherry subdivision. Geographically, entire division lies between the Arabian Sea and the Vembnad Lake, and this subdivision has a coastline of 48 kilometres. There are many estuaries of rivers, which make the area engulfed with islands and marshlands. There are 10 large islands and a number of small islands in this division ("cochin city profile", n.d.). Most of these small islands are uninhabited.

Cochin international seaport and central railway station are the two important transport hubs which are in very close proximity to the subdivision. Port represents international accessibility and railway represent vista of domestic accessibility to the mainland (Kochi Metro, 2014).

Mattancherry was the old town of Kochi area, which was under the control of colonial rule from 1500 till 1947, and it is the only city in India that was ruled by Portuguese, Dutch and the British ("Queen of Arabian Sea", n.d.) . Anglo Indians constitute large proportions of the population community and the region follows a mixed culture. Demography of the area is very complex and it has a heterogeneous population. Majority of the people reside in this area are of different ethnicity and culture. Fort Kochi as an international tourist destination visited by millions of international tourists from across the globe and therefore it has an inclination to the western culture. These heterogeneous demographical factors provide ideal targets or market for drug peddlers, since there is always a significant demand for cheap drugs like marijuana as well as expensive drugs like cocaine (The pioneer, 2015). Hence, the geographical factors such as sea coast, backwaters and presence of uninhabited islands, logistics facilities such as international seaport, railway station, backwater transport as well road connectivity along demographic attributes such as heterogeneous population make the place an ideal location for drug peddling .

**Ernakulam Sub Division**

Ernakulam subdivision is the central zone; it covers the central part of the city. The division comprises 7 police stations ("Kochi City Police", n.d). 14 incidences of offences are reported from within the Ernakulum Subdivision. Backwaters mark the western boundary of this division. The central zone is the administrative centre of the city and all important government offices are situated in this zone. Main business enterprises are located in this part of the town. This zone consists of shopping centres, academic institutions, banks, hospitals, etc. that are vital to all aspects of human life.

The area is well connected through roads, Cochin port and container terminal is located in the north west of the division. The central railway station is located in the heart of the division. City bus station and railway station is in a very close proximity. Demographically huge proportions of the residents of this division belong to upper and middle-class entrepreneurs; skilled workers often migrated within the state or other parts of the country. Floating population is a yet another aspect, large proportion of people routinely commute from suburban areas in order to engage in their occupation in this sector (Department of Town and Country Planning, 2010). Ernakulam subdivision is as similar as zone one i.e. central business district in the Concentric Zone Theory (Vito, Maahs, & Holmes, 1994). The geographical attributes of this subdivision is as similar to zone one. Attributes such as the backwaters transportation hubs such as the Cochin port, railway station and the bus station facilitate drug peddling. Commutation of people on daily bases to work in this zone may aid the drug peddlers as they can hide among the commuters.

**Thrikakara Sub Division**

Thrikaakra subdivision encompasses the lately developed part of the city. This police subdivision consists of 3 circles and under each circle, there are 3 police stations, as a whole, it consists of 9 police stations ("Kochi City Police", n.d). 12 cases were reported from this subdivision. It's the largest subdivision in terms of land area. This zone covers the industrial and housing zones of the city. Important landmarks of this area are hill palace museum, Ambalamugal oil refinery, Info Park, special economic zone and Bhrampuram diesel power plant and this makes the zone a strategic industrial location.

Logistically Ernakulum South railway station and Vaytila mobility hub are the two important transport landmarks within the subdivision. A water channel extends from the Vembandu Lake to interior parts of the subdivision, which makes the region accessibility through waterways (Department of Town and Country Planning, 2010).

Demographically it's the residential zone of the city; the majority of the workforce of the central zone reside in this part of the city. The area has a higher concentration of skilled and semi-skilled workers along with the native people. The majority of these workers are temporary migrant labourers who work in various industries and construction sites (Department of Town and Country Planning, 2010). The geographical attributes of these division resembles the zone three i.e. Inner City/ Working Class Zone (Vito, Maahs, & Holmes, 1994) and this papers arguers that these attributes may facilitate drug peddling.

The large number of the cases reported from this part involves cheap as well as expensive drugs. Geographical attributes such as the extension of Vembanad lake act as a logistic aid apart from the presence of road network along with migrant population both skilled and semi-skilled labours working in info park, special economic zone as well as oil refinery facilitates drug peddling .

**Incidence Reported under Rural Police Limits**

Of the 72 incidences reported, 16 incidences were reported under the rural police limit. 5 operational areas were identified under the rural police limit and they are Nedumbassery, Aluva, Pothinakadau, Perumbavoor and Muvattupuzha. These operational areas are matched with corresponding police station limits and 13 incidents are reported from 4 police stations jurisdiction across the rural police limits. Aluva East police station reported the highest number of offences from the rural police station limits and 10 incidents are reported from Aluva East jurisdiction. Aluva is a location with strategic importance to the city of Kochi Region; it's a satellite town that developed on the outskirts of Kochi. Aluva is the gateway to Kochi, most of

the working population resides in Aluva, and it's a hub of the migrant population who is employed in various unorganized sectors in Kochi city (Praveen, 2019). Apart from Aluva, 3 incidents are reported from Muvattupuzha. Nedumbassery, Perumbavoor and Pothinkadu reported 1 incident. All these locations are satellite towns that are in close vicinity towards Kochi Metropolitan city.

**Rational Choice of Drug Peddling**

The core supposition of the rational choice approach is that, before committing an offence a rational offender weighs the cost and benefits of his action (Cornish & Clarke, 1986). Drug peddlers also make some rational choices before indulging in peddling. Choosing the operational area, selecting a particular type of drug to sell, selecting the target are some of the rational choices that a drug peddler makes. Based on the reported incidents some of the important factors of drug peddling are identified and analysed to get a rational choice of drug peddling in this particular geographical area.

**Number of offenders arrested**

Number of offenders arrested in an incident provides some hints on rationality of the peddlers in operational area. In the 76 reported incidents of drug peddling, 167 offenders are apprehended and the frequencies of the offenders arrested corresponding to incidences reported are as follows.

**Table 1: Offenders Arrested**

| Offenders Arrested Corresponding to Incidences | | |
|---|---|---|
| **No. of offenders arrested** | **Frequency of cases** | **Per cent** |
| 1 | 37 | 48.7 |
| 2 | 21 | 27.6 |
| 3 | 8 | 10.5 |
| 4 | 5 | 6.6 |
| 5 | 2 | 2.6 |
| 9 | 2 | 2.6 |
| 31 | 1 | 1.3 |
| **Total** | **76** | **100.0** |

The numbers of offenders arrested on each of the 76 reported incidents fluctuate. Significantly, Single offenders are arrested in 48 %( 37 cases) of the total incidents reported. About 27 % (21 cases) of the cases reported with multiple offenders and 10.5 %( 8 cases) incidents are reported with triple offenders. 4 peddlers are arrested in 5 offences, 5 and 9 offenders are arrested for 2 offences, which is insignificant as compared with rate of offences involving single and multiple offenders. Analysis of the frequency of incidents corresponding to a number of offenders apprehended reveals that the 37 of the offenders are apprehended alone.

**Age of the offender**

Age is a vital demographic factor on the profile of a drug offender. Youngsters are more vulnerable to drug abuse (UNODC, 2018). A drug user or abuser has a high chance of becoming a drug peddler. Most of the drugs peddlers are also drug addicts, almost all peddlers consume drugs and mostly they are paid in drugs rather than cash (Johnson, 2003).

**Table 2: Age of the offender**

| Age | Frequency | Percent |
|---|---|---|
| Under 18 | 3 | 3.9 |
| 18-25 | 31 | 40.8 |
| 26-30 | 11 | 14.5 |
| 31-35 | 2 | 2.6 |
| Age not available | 29 | 38.2 |
| **Total** | **76** | **100.0** |

The above table illustrates the age of drug peddlers. 41% of the offenders are in the age group of 18-25, alarmingly 59% (3.9%+40.8%+14.5%) of the offenders are between the age of 18 and 30. It's evident from the table that most of the offenders are youngsters, as in the same age group of that of the school and college students, which gives them an advantage of easily identifying their targets or even camouflaging among the students as one among. Drug mafia is using youngsters who are addicted to drugs as carriers as well as peddlers (Kumar, 2014). There is a higher possibility that majority of these young drug peddlers are once drug users and them turn to illegal drug peddling.

**Classification of drugs reported from locale**

13 different types of drugs are identified from news reports. Legally drugs are classified by the laws and vary in different regions and territories. Drug Enforcement Administration (DEA) is the Federal agency of United States of America which classifies drugs into five distinct categories or schedules depending upon the drug's acceptable medical use, drug's abuse and dependency potential and this classification of drugs is extensively known as DEA drug schedules ("Drug Scheduling", n.d.).

**Table 3: Shows the type of drugs reported in news, number of cases reported and drug schedule:**

| Type of Drug | Number of Cases | Drug schedule |
|---|---|---|
| Cannabis | 41 | 1 |
| Nitrazepam | 10 | 4 |
| Hashish | 6 | 1 |
| LSD | 5 | 1 |
| Methamphetamine | 4 | 2 |
| Ecstasy | 4 | 1 |
| Heroin | 2 | 1 |
| Cocaine | 2 | 2 |
| Amphetamine | 1 | 2 |
| Alprazolam | 1 | 4 |
| Codeine | 1 | 1 |
| Buprenorphine | 1 | 3 |
| Magic Mushroom | 1 | 1 |

This analysis reveals the intensity of illicit drug problem in the locale, most of the types of drugs reported from the study area are categorised in schedule I. The reported incidents reveal that Cannabis, LSD, Hashish, Heroin codeine, Ecstasy and magic mushroom are the seven different types of drugs that come under the schedule one. Drugs in schedule I are cheap and availability is high compared with drugs classified in the other three schedules, hence there is high potential for abuse. Amphetamine, Cocaine and Methamphetamine are the three types of drugs which come under the schedule II. Drugs categorized under the schedule II are very expensive and dangerous but have high potential for abuse which leads to severe psychological dependence. Among the types of drug identified from the reported incidents, Buprenorphine was the scheduled under schedule III and Nitrazepaam and Alprazolam are drugs categorised under schedule IV.. Schedule III and IV are categories of drugs with less potential for abuse and psychological dependence than schedule I and II.

**Native of the Offender**

The reported incidents reveal that most of the offenders are from other districts and some are from other states and other countries. Among the 76 incidents reported, 54 reports mentioned the nativity of offenders. In 20 reported incidents, offenders' nativity is in close proximity to operational area. The average distance travelled by offenders to operational area is 14.7

km in these 20 incidents, which means there is a higher probability that the search base of the offender is his home itself. Search base is referred as a location from which an offender consistently begins his search for new targets (Paynich & Hill, 2009). 1n 19 cases reported the offender's native lies beyond the city/district jurisdiction and the average distance travelled by the offender is 159.9 km. In 12 cases the native of the offenders are out of the state and in 3 incidences the offenders are foreign nationals. Even though in the majority of the cases the offender's native is far away from their operational area which doesn't mean that they travel every day from their native residence. Most of the offenders may have a search base (temporary residence) which is in close proximity to their operational area. The study assumes that some of the peddlers choose targets in awareness space and others select targets in distant areas.

**Targets**

A drug apart from its legal status is like any other commodity and the supply of any commodity is primarily determined by the demand of that commodity. Drug demand and drug supply is interconnected. In Drug offences, victims are the ones who abuse drugs and it is their need that creates a demand for the illicit drugs. Of the 76 incidents reported only 37 give information on the targets of the drug peddlers.

**Table 4: Frequency of Targets**

| Target | Frequency | Per Cent |
|---|---|---|
| Cine actors | 1 | 1.3 |
| IT People | 1 | 1.3 |
| Migrant | 7 | 9.2 |
| Party Goers | 10 | 13.2 |
| Students | 17 | 22.4 |
| Tourist | 1 | 1.3 |
| **Total** | **37** | **48.7** |

Among the incidents reported, only 49 per cent have mentioned the likely targets of the offenders. Analysis reveals that the majority of the targets of the offenders are students (22%). Students are one of the most at risk sections of society since they easily fall prey to crimes, they can be easily convinced, and psychology, age and peer factors are a bonus for offenders (Kumar, 2014).

Party goers are the second most important targets of drug peddlers. Of the 48% reported in 13% of offences, the targets are party goers. Kochi has lots of pubs and bars, 86 classified hotels with star category and 51 registered home stays (Kerala, Government, 2014). Totally around 831 approved accommodation facilities are there in the district of Ernakulum. Kochi is an international tourist destination; every year billions of people visit the city; in the year of 2017, 4, 53,973 foreign tourists and 3,2,85,088 domestic tourists visited Kochi city (Kerala Government, 2018). Thus there is a higher chance that drug peddlers may target party goers, foreign and domestic tourists.

Another noticeable cluster which comes under targets is migrant workers. Of the 48% reported incidents, 9.2% constitute migrant workers as the targets of drug peddlers. Kerala has an enormous migrant population of around 2.5 million (Narayana et al, 2013). Kochi city region has an extremely high populace of migrant workers from across the country who works in semi-skilled and unskilled areas. Migrant population in Ernakulum district also has a higher rate of crime involvement (Hameed, 2017).

Fig. 2 illustrates the buffer analysis of schools and college within the radius of 3 kilometres of the operational area (circled in the map). Early target analysis reveals that the majority of the targets are students. Ernakulum district in which the Kochi city region is situated has a total number of 1031 schools and 156 colleges, ("Education", n.d.). The present study analysis reveals that there are around 222 educational institutions that come under the study area.

**Operational Area and Educational Institutions**

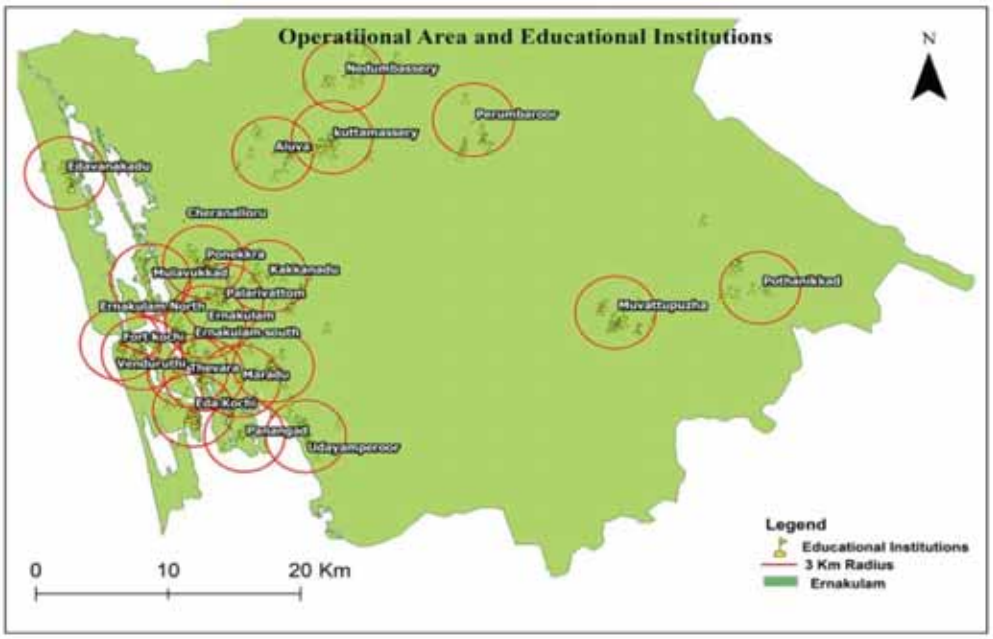


**Fig. 2: Maps illustrating the educational institutions within the operational area**

Statistics of schools and colleges illustrate that there is a high number of educational institutions and student population within the region. Within each buffer there are a number of educational institutions. Hence, it reveals that the peddlers target students often. Higher student population makes the demands for drugs higher. Hence this paper claims that the offender chooses out places which have a more potential demand for drugs.

## Conclusion

The study attempts to understand the spatial and rational choice of drug peddlers in Kochi city. Based on the cases reported in the print media, the study found that certain patterns are involved in drug peddling. The peddlers often choose areas within the city to sell their drugs. The cases reveal that the heterogeneity of population has a significant role in drug peddling location. The demographic factors such as ethnicity, culture, and migrant population added with tourism and the availability of the potential customers are the main pull factors that attract the peddlers to sell drugs in certain locations. Further, roads which have more connection to other roads, ports, railway station, bus stands and other major locations influence the target selection of the peddlers. The location that facilitates more transport by road and waterways is chosen very often by the peddlers. The peddlers also sell different types of drug based on the demographic characteristics, i.e., high-value drugs in the location of customers who can afford it; and low-value drugs in the area which has poor customers. The peddlers largely target students, party goers and IT professionals. Among the peddlers, most of the offenders are between the age group of 18-30. The locations chosen by peddlers have many education institutions (both schools and colleges) within the radius of 3 km. The study implies that since peddlers are around the age of 18-30, same age as the college students, the peddlers can disguise as students and sell the drugs without any suspicion.

## Suggestion

First and foremost thing is to prevent drug production and its trafficking inside the country

thus to make drug sources unavailable for peddlers. There should be cooperation between the international, national and state level agencies to detect and control drug trafficking and peddling. Police stations should have maps of hot spots drug prevalent areas and patrolling should be increased in hot spots locations such as schools, colleges, industrial areas, tourist places and places with high commutation. Awareness programs for students should be conducted periodically to stay away from drugs and students should be encouraged to provide information to the law enforcement agencies about drug peddlers. School and college level crime prevention committees should be formed to assist the government agencies in curbing the issue of drug menace. Community-level crime prevention should be initiated and police, parents, teachers and other sections of the society should work together to curb the drug usage. Importantly both the state and central governments should provide data for further research in the realm of drug crime prevention. The availability of larger data will help the researcher to give more insights into drug peddling, which will, in turn, help the law enforcement agencies to devise strategies for drug related crimes.

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# The need to revisit applicability of Sections 323-326 of the Indian Penal Code to a Surgeon's act

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**Abstract:**

There is a lot of grey area and confusion regarding applicability of sections 323-326 of the Indian Penal Code (IPC) to a surgeon's act of surgery. Actually, when the IPC was written, surgical science was in its infancy. Therefore, the writers of the IPC focussed only on injuries inflicted as an act of violence and could not envision any injury attributable to an act of surgery. The definitions of 'hurt', 'grievous hurt' and 'voluntarily causing hurt' given in sections 319,320 and 321 IPC respectively and mechanical interpretation of the ingredients of these sections have led to a gross error, resulting in discrepancy and confusion and implication of surgeons for their acts of surgery under sections 323-326 of the IPC. It is not legally correct to attribute criminality to a surgeon's act of surgery. Though a surgeon's act may be classified as a civil wrong attracting penalties like payment of compensation and damages under the Law of Tort and Civil Laws. The present article analyses, in detail, the reasons as to why these general provisions relating to causing hurt, as contained in the IPC, cannot be applied to a surgeon's act of surgery.

**Keywords:**

Hurt, Grievous Hurt, Grievous Injury, Dangerous Weapon, Violence, Surgeon's Act, Surgery, Life Threatening, Section 320, Section 326, Voluntarily, Section 319, Section 321.

## Introduction

Hurt means bodily pain, disease or infirmity caused to any person.[1] Section 320 of the Indian Penal Code (IPC) designates eight kinds of hurt as grievous hurt including emasculation, permanent privation of the sight of either eye, permanent privation of the hearing of either ear, privation of any member or joint, destruction or permanent impairing of the powers of any member or joint, permanent disfiguration of the head or face, fracture or dislocation of a bone or tooth and any hurt which endangers life or which causes the sufferer to be, during space of twenty days, in severe bodily pain or unable to follow his ordinary pursuits.

Causing hurt *per se* is not an offence. In fact, causing hurt is punishable only when it is caused voluntarily. Causing hurt to any person with the intention or knowledge that it is likely to cause hurt is said voluntarily to cause hurt.[2] Similarly, causing grievous hurt is punishable only when it is caused voluntarily.[3] Therefore, intention and knowledge on the part of a person are key issues to determine whether he is guilty of causing hurt or otherwise.

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Human beings are animals who possess mind and power to think and analyse. That is why every human activity is associated with some purpose behind it. The purpose behind causing hurt, thus, becomes an important factor to decide whether it was inflicted voluntarily or otherwise. It is only the ignoble purpose behind causing hurt or grievous hurt that makes it punishable. Therefore, analysis of the purpose behind an act of violence becomes relevant in the scheme of prosecution of a person for causing hurt/grievous hurt.

There are certain situations where hurt/grievous hurt can be caused involuntarily, without any malafide intention or ignoble purpose associated with it. One such situation, envisaged in the IPC, is causing grievous hurt by rash or negligent act.[4] This is, perhaps, the reason that the law makers have prescribed lesser punishment for causing grievous hurt involuntarily than that of causing grievous hurt voluntarily with knowledge and intention. Causing grievous hurt by rash and negligent act is punishable, even merely, with a fine which may extend to one thousand rupees, whereas, punishment for causing hurt/grievous hurt with intention or knowledge is punishable with imprisonment which may extend to life imprisonment.[5] Therefore, analysis of purpose, intention, knowledge and nature of the act etc. are very important relevant factors in adjudicating upon a case of causing hurt/grievous hurt. It is against this background that a surgeon's act of surgery needs to be analysed in order to determine whether it amounts to causing hurt/grievous hurt voluntarily or not.

In fact, a surgeon's act of surgery, if at all amounts to an offence, falls in the category of 'Healthcare Offences'. Healthcare Offences are a form of white collar crimes. International agencies like FBI (Federal Bureau of Investigation, USA) are increasingly getting cases for investigation against medical professionals, which include performing unnecessary surgeries, diluting medication for profit, and inappropriate prescribing practices. In fact, acts of a surgeon, including surgery done with improper consent or without consent, surgery done by deceit etc., need to be defined and categorised separately under the head 'Healthcare Offences' in the IPC. Meanwhile, it becomes imperative to discover appropriate legal provisions of the existing laws which can be used against surgeons for their involuntary acts of surgery.

## Applicability of Sections 323-326 IPC against surgeons

In order to appreciate the applicability of Sections 323-326 IPC against surgeons, it is pertinent to note that the IPC was drafted in 1860 in British India when the science of surgery, as it exists today, was not known to the law-makers of that time.[6] It is exhibited singularly from the fact that grievous injury caused by a surgeon's act does not find mention in the list of grievous hurt given in section 320 IPC. The ground reality, however, remains that section 323 to 326 of IPC[7] are applied to an act of surgery performed by a surgeon, *inter alia,* when the surgery entails removal of organs or causing hurt of one of the eight types of injuries designated in the section 320 IPC. Tooth removal, joint surgery, scar on the face or castration for any reason are some of the acts of surgery which the medical professionals are performing in routine with the consent of the patients. Since cutting instrument is listed in the category of dangerous weapon in sections 324 & 326 IPC, and any surgery usually involves scalpel (surgeon's knife), section 326 IPC is commonly applied against surgeon for doing any of the above listed surgery. In order to illustrate this point further, following few cases need consideration.

### Case-1

*A 25 year old lady model is convinced and recommended by her friend that she will look more beautiful than before if she gets 'nose correction' surgery done. Her friend recommends a good plastic surgeon for the purpose in the city. The lady goes to the plastic surgeon and gets her nose correction*

*cosmetic surgery done. The surgeon carries out the surgery.*

*After some time, she feels/realizes that rather than looking more beautiful, than before, her looks have deteriorated after the surgery. She files a complaint with the police that her friend, due to jealousy, conspired with the plastic surgeon to make her look ugly.*

*The doctor, in his defence, says that he has no role in convincing her to go for the surgery. When the patient came to him, she was already convinced about undergoing the surgery. He explained her all the consequences (advantages and disadvantages) of the surgery. How can he be blamed if the results of the surgery are not as per her expectations?*

*The police registers First Information Report (FIR) under sections 326 and 120-B IPC against the doctor and the friend of the model. The police justified their case that since disfigurement of face is one of the components of 'grievous injury' under section 320 IPC and use of cutting instrument namely the scalpel qualifies as a 'dangerous weapon' under section 324 IPC, section 326 IPC can be applied.*

**Case-2**

*A 30 year old male patient goes to a dental surgeon to get his upper left diseased tooth extracted. The dental surgeon by mistake removes the upper right tooth, which is not diseased. The surgeon apologises for the error and recommends a dental implant (artificial tooth) to replace the missing tooth. The implant surgery is costly. The patient is annoyed for obvious reasons. He blames the surgeon for doing the act deliberately to earn money.*

*He goes to police station and the police registers FIR under sections 326 and 417 IPC. The police justified their action that since tooth dislocation is one of the components of 'grievous injury' under section 320 IPC and use of cutting instrument namely the scalpel qualifies as a 'dangerous weapon' under section 324 IPC, section 326 IPC can be applied.*

**Case-3**

*A 27 year old eunuch alleges that a group of eunuchs got his castration (removal of testicles) surgery done five years back by giving him money and brain washing him that he would earn more money than before once he is included in their group. He alleges that the surgeon was also part of the conspiracy and conspired with the group to castrate him.*

*The surgeon, in his defence, says that the victim had suffered injury to his testicles when allegedly a hard ball hit the testicles while playing cricket. There was bleeding and extensive hematoma in both his testicles. The ultrasound done corroborated and confirmed the physical examination findings. Therefore, the removal of both the testicles was necessary to save the victim's life. The victim didn't produce any medical records and doctors said that the records are destroyed as they were quite old.*

*The victim files a complaint and the police registers FIR under section 326 and 120-B IPC against the doctor. The police justified their case that since castration (emasculation) is one of the components of 'grievous injury' under section 320 IPC and use of cutting instrument namely the scalpel qualifies as a 'dangerous weapon' under section 324 IPC, section 326 IPC can be applied.*

A necessary corollary to the above mentioned situations would be to examine the relevant question whether criminal liability is attributable to the acts of the Surgeons in all these cases or not. If the answer to the question is 'yes', then, it would be appropriate to prosecute the doctors under sections 323-326 IPC. However, before applying sections 323-326 IPC to the acts of

surgeon (surgery), the following arguments need consideration.

(I) Sections 323-326 IPC were not meant to be applied to the acts of surgery- As discussed above, surgery was in a very rudimentary stage when the IPC was formulated in 1860. So, any act of surgery was obviously not kept in consideration while drafting the provisions of sections 323-326 IPC. These sections were meant to be applied to the acts of violence and not to acts of a surgeon.

(II) Sections 323-326 IPC are applied only for acts of violence-The sections 323-326 IPC are meant to prosecute the offender for 'causing hurt' which occur during an act of 'violence'. The rationale behind this is as follows: -

(a) When the 'hurt' or injury is caused during an act of violence, then its magnitude and implications are different and much more dangerous than those that would happen during surgery.

For example, a powerful blow on the face during a 'violence' leading to a broken tooth attracts provisions of section 325 IPC. A tooth, broken during violence has been classified as grievous injury because the blow/assault as powerful to break a tooth can also potentially cause death. This is not true today but was true in 1860 when first aid and medical facilities were hardly available. On the other hand, when a dental surgeon removes a wrong tooth surgically (attracting criminal liability for any reason), then, it is hardly dangerous to life. Therefore, section 325 IPC cannot be applied in that scenario.

(b) All the types of 'hurt'/ injuries listed in 320 IPC are surface injuries. If the eight categories of grievous injuries listed in 320 IPC are analysed, it becomes evident that all the injuries are injuries to the organs present on the surface of the body, which can be potentially injured during violence. This is understandable that in most cases of violence, the surface organs like eye, ear, testicles, tooth or bones etc would be injured. If a deep organ like liver, spleen or heart is damaged during violence, then, injury to surface organ is inevitable. On the other hand, a surgery can be done on deep organs without injuring any surface organ. In this way, an act of violence is different from an act of surgery. Therefore, surgery can not be equated with an act of violence. It would be wrong to classify surgery with an act of violence.

For example, wrong extraction of a tooth would invite section 325 IPC but removal of kidney by cheating may not invoke 325/326 IPC because it doesn't satisfy any of the eight parameters listed in section 320 IPC though removal of kidney, for wrong reason, is a far more grave, disabling and life threatening offence than any of the eight injuries listed in the list of grievous injuries.

So, non-inclusion of injury or removal of any of deep organs like kidney, spleen, liver etc. in the list of grievous injury clearly indicates that 'grievous injury' means only superficial body organ injury inflicted by an act of violence and it never meant to include injury caused while performing surgery on deep organs.

(c) In violence, everything in uncontrolled. When an injury occurs during violence, the damage to the victim's body is uncontrolled and unpredictable. However, surgery is

entirely different from an act of 'violence'. When a surgery is conducted by a surgeon, everything is controlled and meticulously planned. The following three cardinal ways suggest that injury occurred during an act of 'violence' is different from an injury caused during surgery.

(i) No limit to damage during violence-During the fight or violence, the perpetrator has no control over situations and can guarantee that the damage caused would be limited to what he intends. There can be unintended damage to the surrounding or deep organs.

For example, the perpetrator gives a blow in the face of the victim and assumes that it will only cause a small abrasion at the most. However, the blow might damage the eye, eardrum or vital brain structures. At times, even a light blow can rupture the eardrum causing permanent damage. So, superficial assault on vital organs can have disastrous consequences over which the perpetrator has no control at all.

On the other hand, during surgery, the surgeon assures that only intended part is removed/repaired and no surrounding tissue or organ is damaged.

(ii) No control on damage immediately after the act of violence- After the act of violence is over, the perpetrator has no control over the continuing damage to the victim's body which can happen due to the act of 'violence'.

For example, if an artery is injured during violence and starts bleeding, then, the victim may not die due to the act of violence per se but may die after a couple of hours due to uncontrolled bleeding (if not taken to hospital in time).

On the contrary, during surgery, there is no damage immediately after surgery. For example, if there is any bleeding from an artery, then, it is controlled during surgery and not left unattended.

(iii) No control on long term damage due to the act of violence-During 'violence', the damage or injury is caused by a non-medical person who has no knowledge or intention to prevent long term damage as a result of violence.

For example, the weapon used in violence is unsterile which can cause severe life-threatening infection after few days or weeks of the injury or during violence, an important nerve may be damaged due to which the victim may suffer long term disability.

Whereas during surgery, there are no long-term risk as all instruments are sterile and proper surgical procedures are followed.

(d) <u>During violence, there is no attempt to control simultaneous damage</u> Unlike in violence, in surgery, all the damage control is done simultaneously at every step of surgery.

For example, if bleeding starts in midst of surgery, the surgery is stopped temporarily and bleeding is controlled before proceeding further. After completion of surgery, the stitches are applied for proper wound healing and antibiotics are given to prevent infection. Nothing of this sort is done during an act of violence.

The above illustrations show that 'hurt' to a superficial body organ during a random act of violence cannot be compared to the 'hurt' to

the same organ caused during a surgery performed by a surgeon. The 'hurt' during violence can be life-threatening while the same 'hurt' during surgery may be very safe with no threat to life.

(III) The concept of 'Grievous Injury' in section 320 IPC - The literal meaning of the word 'grievous' is 'serious'. Accordingly, 'grievous injury' means an injury which is serious or dangerous to life. That's why the punishment for simple injury in section 323 IPC of 1 year imprisonment is enhanced to 7 years imprisonment in case of grievous injury under section 325 IPC. In view of points discussed in Para (II) (a-d) above, unlike an act of violence, surgery done by a surgeon is not dangerous to life. Therefore, any of the eight injuries specified in the category of 'grievous injury' in section 320 IPC when occur as part of surgery done by a surgeon cannot be classified as 'grievous injuries'.

*For example, a tooth broken by a fist blow during violence would invoke section 325 IPC but tooth removed by a dental surgeon (wrongly for any reason having a criminal liability) should not attract section 325 IPC. Because the fist blow during an act of 'violence', sufficient to break a tooth, can also potentially cause damage to vital brain structures leading to haemorrhage and death but tooth removal after giving proper anesthesia by a surgeon has no risk to life at all.*

(IV) The concept of dangerous weapon in Section 324 IPC - The word 'dangerous' used in section 324 IPC does not indicate dangerous to any particular body part but is defined as 'an instrument when used as a weapon of offence likely to cause death'. It does not indicate dangerous to any body part as injury to superficial vital body parts which can be injured during 'violence' are already covered in section 320 IPC. It is important to understand that when the 'weapon' or the 'instrument' is used in such a manner that it can cause potential death, then only it qualifies to be a 'dangerous weapon'.

For example, a sanitary worker picks up a scalpel during fight with his colleague. During the assault, he moves the scalpel very close to the neck of the victim and ends up causing laceration on the neck skin. No vital structures are damaged and the victim is safe. Here, the scalpel qualifies to be a 'dangerous weapon' because a sharp weapon has been used in such a manner that it could have been potentially fatal ('likely to cause death'). However, when a surgeon makes a skin cut (laceration) on the neck while conducting a surgery (a surgery involving only a skin cut for removing a small skin cyst but invoking criminal liability for any reason), then, the scalpel used by the surgeon does not qualify to be a 'dangerous weapon'. This is because of the followings:-

– surgeon's movement are well controlled and meticulous,

– the surgeon knows the tissue planes and

– cut given by a surgeon is not going to damage the vital structures in the neck.

So, mere use of a sharp cutting instrument *per se* does not make it a 'dangerous weapon'. The manner in which the weapon/instrument has been used is a very important consideration for calling it as a 'dangerous weapon'.

(V) The Quantum of Punishment - The 'dangerous weapon' means 'an instrument, when used as a weapon of offence, likely to cause death'. That is why punishment for causing 'simple injury' under section 323 IPC entails 1 year imprisonment , whereas, inflicting simple injuries by dangerous weapon under section 324 IPC

is punishable with imprisonment upto 3 years.

On the other hand, the use of 'dangerous weapon' to cause 'grievous injury' (section 320 IPC) is punishable with imprisonment upto 7 years in section 325 IPC and up to life imprisonment in section 326 IPC (grievous injury by a dangerous weapon). Here, it is important to understand that punishment under section 326 IPC is similar to that under section 307 IPC (attempt to murder) i.e. life imprisonment. The reason for such severe punishment in section 326 IPC is that the violence, which caused grievous injury (threatening to life) by a 'dangerous weapon' (dangerous to life), has very high probability of causing death. As there is 'double risk to life (dangerous weapon + grievous injury), hence, the punishment prescribed under section 326 IPC is akin to punishment under section 307 IPC.

For example, if during an act of violence, the assailant, while attacking the victim's face, uses a knife in a dangerous manner and ends up in breaking of tooth, then, 326 IPC is applicable.

However, when a dental surgeon removes a tooth surgically (in a wrong manner invoking a criminal liability for any reason), then, there is no risk to life at all because the knife of the surgeon has not been used randomly in a dangerous manner but in a controlled and meticulous manner. Hence, sections 324, 325 or 326 IPC should not be applied to the surgeon's action. Just inflicting any of the 8 listed grievous injuries (tooth injury in this case) in section 320 IPC, coupled with the use of a sharp 'weapon' i.e. the scalpel, *per se*, does not qualify the act for punishment under section 326 IPC.

Sections 324 & 326 IPC provide that whoever, except in the case provided for by sections 334 and 335 IPC respectively, voluntarily causes grievous hurt by means of any instrument for shooting, stabbing or cutting**,** or any instrument which, used as a weapon of offence, is likely to cause death, shall be punished. The law clearly provides that the 'cutting' instrument when used as 'weapon of offence is likely to cause death', then only it qualifies as a 'dangerous weapon'. Unfortunately, quite commonly, the police apply section 326 IPC even when a surgeon has done a surgery because it is assumed that the use of cutting instrument makes it a dangerous weapon. The police investigative officers fail to read and appreciate the importance of the phrase "used as a weapon of offence likely to cause death" in the context of weapon of offence. All surgeries involve use of cutting instrument. So, any surgery (for example tooth extraction) can attract sections 325 and 326 IPC on the whims of the police personnel. Whereas a surgeon does not use cutting instrument for causing death. Therefore use of section 323 to 326 IPC against surgeons for their acts of surgery is improper and illegal.

(VI) Surgeon's act is not a voluntary act

As per section 39 IPC[8], a person is said to cause an effect voluntarily when he causes it by means whereby he intended to cause it. A doctor never intends to cause an effect which qualifies it to be 'hurt' or 'grievous hurt'. The effect intended to be caused as a result of surgery by the doctor is to provide medical relief that too as per the desire of the patient.

In fact, it is the person/patient who desires or decides the effect of the intended surgery. Therefore, the effect caused by way of surgery by the medical professional is as per the will of the person/patient and not a voluntary act on part of the doctor. Moreover, a patient/person approaches a surgeon of his own will and volition. Before lying on the operation table, he gives his consent in writing to the surgeon to perform surgery upon him. The relative and friends, as well as other medical professionals present in the operation theatre are enough testimony of the fact that the patient submitted himself to the doctor for surgery voluntarily. Not only this, the patient also pays professional fee

to the doctor. Therefore, the surgeon's act of surgery is not a voluntary act on his part. Hence, a surgeon does not qualify to be prosecuted under section 323-326 IPC, singularly for this reason. If police fail to appreciate this very important ingredient of section 323-326 IPC i.e. causing hurt voluntarily, then, it is nothing but misuse of law and amounts to false prosecution.

(VII) Surgeon's act in good faith for person's benefit is no offence

Section 88 IPC[9] provides that nothing is an offence which is done by consent in good faith for the person's benefit. Illustration given after section 88 IPC makes it amply clear. Section 92 IPC[1010]

Section 92 IPC-

Act done in good faith for the benefit of a person without con

-sent.

—Nothing is an offence by reason of any harm which it may cause to a person for whose benefit it is done in good faith, even without that person

's consent, if the circumstances are such that it is impossible for that person to signify consent, or if that person is incapable of giving consent, and has no guardian or other person in lawful charge of him from whom it is possible to obtain consent in time for the thing to be done with benefit: Provisos

—Provided

—

(First)

— That this exception shall not extend to the intentional causing of death, or the attempting to cause death;

(Secondly)

—That this exception shall not extend to the doing of anything which the person doing it knows to be likely to cause death, for any purpose other than the preventing of death or grievous hurt, or the curing of any grievous disease or infirmi

-ty;

makes it clear further and provides that act done in good faith for benefit of a person without consent is not an offence. Surgeon's act on a person who submits to him voluntarily on the operation table can, by no means and stretch of imagination, be called not an act in good faith. It can safely be concluded that a surgeon's act of surgery is covered under the provisions of 'General Exceptions' elaborated in the IPC and it would be wrong to attribute criminality to it.

(VIII) What is the remedy?

Thus, the important question which remains to be answered is as to which provisions of law are attracted to a surgeon's act of surgery done wrongly or where criminal liability is attributable to an act of surgery. Police must appreciate the medical procedures and surgery have several issues and dimensions.

In the worst scenario, when the surgery has been done by deceit (without consent), then 337 IPC or 338 IPC coupled with section 417 IPC may be used against the surgeon. Section 337 IPC provides punishment for causing hurt by act endangering life or personal safety of others, rashly and negligently. Section 338 IPC covers causing grievous hurt by act endangering life or personal safety of others. These sections adequately cover causing hurt/grievous hurt by the 'wrong' act of a surgeon which are not life threatening in any way. The vital and important ingredient of sections 324-326 IPC is "gravely dangerous to life of the victim". This vital component is altogether absent when a qualified surgeon performs surgery.

## CONCLUSION

In view of the above discussion, it can safely be concluded that provisions of sections 323-326 IPC are not attracted to a surgeon's act, even if the act invites penal consequences. These sections (323 to 326 IPC) are primarily applicable for 'an act of violence' which is voluntary and uncontrolled and is caused by a non-medical person with no attempt to do damage control, potentially life threatening and inflicted by a dangerous weapon (instrument used in a manner likely to cause death). The act of surgery performed by a qualified surgeon is a fully controlled exercise. Any damage done during surgery is immediately rectified. Surgery is not risky to life *per se* and is not caused by a dangerous weapon. Scalpel/surgical knife used by a surgeon during surgery is a very safe instrument. A surgical operation does not qualify to be called as 'an act of violence'. Hence, it is not legally correct to attribute criminality to a surgeon's act of surgery. Though, a surgeon's act may be classified as a civil wrong attracting penalties like payment of compensation and damages under the Law of Tort and Civil Laws. Summary of the discussion is given below.

**Summary**

**Comparison between causing hurt voluntarily and a surgeon's act of surgery**

| | Points of comparison | Causing hurt voluntarily during an act of violence (Section 323-326 IPC) | Surgeon's act of surgery<br><br>Surgery–Planned operation |
|---|---|---|---|
| 1. | **Definition** | Violence- Injury caused by a lay person during fight | done by a well-trained qualified surgeon |
| 2. | **Legal Provisions- IPC drafted in the year 1860** | 'Violence' was well known in 1860 | In 1860, the concept of surgery was in its infancy. |
| 3. | **All the 'hurt'/ injuries listed in 320 IPC are surface injuries** | Violence affects primarily surface organs. Even if injuries are inflicted on deep organs, surface organs would be injured nonetheless | Surgery can be selectively done for deep organs. Non-inclusion of isolated deep organ injury as grievous hurt clearly indicates that 320 IPC was not meant for surgical procedures. |
| 4. | **Control during the Act** | In Violence, everything in uncontrolled. The injury and damage can be far more and much serious than intended. | In surgery, everything is meticulously planned and controlled. The damage is exactly as planned |
| 5. | **Simultaneous damage control** | During violence, there is no attempt to do simultaneous damage control | Any damage occurring during surgery is immediately controlled before proceeding further |

| | | | |
|---|---|---|---|
| **6.** | **Long term impact** | There can be long term disability/ damage after a 'violence'. | There are no long-term damage as proper tissue planes are followed |
| **7.** | **"Grievous" injury in section 320 IPC** | All eight types of 'grievous injury' when occur during an act of 'violence' can potentially cause death | All eight 'grievous injury' when occur during surgery can not cause death as post operative care is available. |
| **8.** | **"Dangerous weapon" in Section 324 IPC.** | A scalpel (surgeon's knife) used as a weapon by lay man during violence can cause death, hence a "dangerous weapon" | A scalpel (surgeon's knife) used during surgery by a surgeon is safe and does not cause death, hence not a "dangerous weapon" |
| **9.** | **The Quantum of Punishment** | The punishment in section 326 IPC is similar to that in section 307 IPC (attempt to murder) i.e. life imprisonment. The reason for such severe punishment in section 326 IPC is that the violence which caused grievous injury (threatening to life) by a 'dangerous weapon' (dangerous to life) has a very high probability of causing death. As there is 'double risk to life (dangerous weapon + grievous injury), hence the punishment is akin to section 307 IPC. | There is no risk to life during a properly done surgery by a well-trained qualified surgeon. |
| **10.** | **Voluntary Act** | Injury inflicted during violence by a layman is a voluntary act | Surgeon's act of surgery is not a voluntary act. The act is invited by the person by giving consent in writing |
| **11** | **General Exception** | Injury inflicted during violence by a lawyer can not be covered under general exception in the IPC | Surgeon's act of surgery is covered under general exceptions in the IPC. |

**Footnotes**

1 Section 319, Indian Penal Code (IPC), Act No. 45 of 1960

2 Section 321 IPC.

3 Explanation to section 322 IPC- A person is not said voluntarily to cause grievous hurt except when he both causes grievous hurt and intends or knows himself to be likely to cause grievous hurt. But he is said

voluntarily to cause grievous hurt, if intending or knowing himself to be likely to cause grievous hurt of one kind, he actually causes grievous hurt of another kind.

4 Section 336 to 338 IPC

5 Section 338 IPC read with section 326 IPC

6 Police is using provisions contained in Sections 323-338 IPC against surgeons wherever any complaint is received by them *qua* an act of surgery performed by a medical professional.

7 Section 324 IPC- Voluntarily causing hurt by dangerous weapons or means. — Whoever, except in the case provided for by section 334, volun -tarily causes hurt by means of any instrument for shooting, stab -bing or cutting, or any instrument which, used as weapon of offence, is likely to cause death, or by means of fire or any heated substance, or by means of any poison or any corrosive substance, or by means of any explosive substance or by means of any substance which it is deleterious to the human body to in -hale, to swallow, or to receive into the blood, or by means of any animal, shall be punished with imprisonment of either de -scription for a term which may extend to three years, or with fine, or with both.

Section 325 IPC-Punishment for voluntarily causing grievous hurt. —Whoever, except in the case provided for by section 335, voluntarily causes grievous hurt, shall be punished with imprisonment of either description for a term which may extend to seven years, and shall also be liable to fine.

Section 326 IPC - Voluntarily causing grievous hurt by dangerous weapons or means —Whoever, except in the case provided for by section 335, voluntarily causes grievous hurt by means of any instrument for shooting, stabbing or cutting, or any instrument which, used as a weapon of offence, is likely to cause death, or by means of fire or any heated substance, or by means of any poison or any corrosive substance, or by means of any explosive substance, or by means of any substance which it is deleterious to the human body to inhale, to swallow, or to receive into the blood, or by means of any animal, shall be punished with 1[imprisonment for life], or with imprisonment of either description for a term which may extend to ten years, and shall also be liable to fine.

8 Section 39 IPC "Voluntarily". —A person is said to cause an effect "voluntarily" when he causes it by means whereby he intended to cause it, or by means which, at the time of employing those means, he knew or had reason to believe to be likely to cause it. Illustration A sets fire, by night, to an inhabited house in a large town, for the purpose of facilitating a robbery and thus causes the death of a person. Here, A may not have intended to cause death; and may even be sorry that death has been caused by his act; yet, if he knew that he was likely to cause death, he has caused death voluntarily.

9 Section 92 IPC- Act not intended to cause death, done by consent in good faith for person's benefit.—Nothing which is not intended to cause death, is an offence by reason of any harm which it may cause, or be intended by the doer to cause, or be known by the doer to be likely to cause, to any person for whose benefit it is done in good faith, and who has given a consent, whether express or implied, to suffer that harm, or to take the risk of that harm. Illustration A, a surgeon, knowing that a particular operation is likely to cause the death of Z, who suffers under a painful complaint, but not intending to cause Z's death and intending in good faith, Z's

benefit performs that operation on Z, with Z's consent. A has committed no offence.

10 Section 92 IPC- Act done in good faith for benefit of a person without con-sent.— Nothing is an offence by reason of any harm which it may cause to a person for whose benefit it is done in good faith, even without that person's consent, if the circumstances are such that it is impossible for that person to signify consent, or if that person is incapable of giving consent, and has no guardian or other person in lawful charge of him from whom it is possible to obtain consent in time for the thing to be done with benefit: Provisos—Provided—

(First) — That this exception shall not extend to the intentional causing of death, or the attempting to cause death;

(Secondly) —That this exception shall not extend to the doing of anything which the person doing it knows to be likely to cause death, for any purpose other than the preventing of death or grievous hurt, or the curing of any grievous disease or infirmi-ty;

(Thirdly) -— That this exception shall not extend to the voluntary causing of hurt, or to the attempting to cause hurt, for any purpose other than the preventing of death or hurt;

(Fourthly) —That this exception shall not extend to the abetment of any offence, to the committing of which offence it would not extend. Illustrations

(a) Z is thrown from his horse, and is insensible. A, a surgeon, finds that Z requires to be trepanned. A, not intending Z's death, but in good faith, for Z's benefit, performs the trepan before Z recovers his power of judging for himself. A has commit-ted no offence.

(b) Z is carried off by a tiger. A fires at the tiger knowing it to be likely that the shot may kill Z, but not intending to kill Z, and in good faith intending Z's benefit. A's ball gives Z a mortal wound. A has committed no offence.

(c) A, a surgeon, sees a child suffer an accident which is likely to prove fatal unless an operation be immediately performed. There is no time to apply to the child's guardian. A performs the operation in spite of the entreaties of the child, intending, in good faith, the child's benefit. A has committed no offence.

(d) A is in a house which is on fire, with Z, a child. People below hold out a blanket. A drops the child from the house-top, knowing it to be likely that the fall may kill the child, but not intending to kill the child, and intending, in good faith, the child's benefit. Here, even if the child is killed by the fall, A has committed no offence. Explanation.—Mere pecuniary benefit is not benefit within the meaning of sections 88, 89 and 92.

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# Video Conferencing in the Trial of Trans-Border Crimes: A Good Practice Model in Victim Protection.

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**Abstract:**

In the criminal justice regime, we have enough more and more materials upholding the rights of the suspect and accused, but hardly do we come across the bold decisions upholding the rights of victim. However, in the recent past, things have changed for the good. Besides some judicial pronouncements, outstanding initiatives by law enforcement officers, including police, prosecutors, as well as NGOs, are making good grounds. This article by Dr PM Nair, the father of the anti-human trafficking movement and mission in India, explains the procedures and protocols in respect of video conferencing in the trial of human trafficking crimes, including trans-border. This is a good step to help the reader in not only expediting the justice delivery process, but also in ensuring the rights of the victims. It is a great initiative in victimology, started with the Special court in Mumbai, where the victim was stationed at Kathmandu. The trial was conducted through video conferencing after observing all precautions and protocols, leading to the conviction of the of the accused for 10 years. This was followed by two more cases where the victims were from Bangladesh and were repatriated when the trial came up. They deposed from Bangladesh. Based on this innovative experience, and on the request of the stakeholders, an SOP has been prepared in 2017 by Dr PM Nair. This article covers these protocols and is, therefore, a great tool for the guidance to all persons involving in the justice delivery process.

**Key Words:**

Court Trial, Good Practice, Human Trafficking, , Justice Delivery, Trans-border Crime, Victim Care, Victimology, Video Conferencing.

## 1. Introduction and Scoping the Issues

Irrefutable is the fact that the Victims of crime, having suffered the crime, continue to have a pivotal role in the dispensation of justice, especially in a **victim-centric justice deliverysystem**, like India, where maximum pressure is put on the victim to depose in the court of law and present all evidence against the accused who is facing trial. The fact that the accused are usually powerful persons and are often in cohort with those in power and authority, whichever format it is, the victim gets demoralised and even frightened to depose against them. The intimidatory scenario that exists in most of the courts is another great detriment. When it comes to crimes like trafficking of women and children or rape, the

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social stigma attributed to the victim is another impediment. Many times, the victims would have been repatriated to a far off place, may be another country. And when the trial comes up in the court, say after several years, the victim would be reluctant to join as it is physically inconvenient to travel or may have family issues that compel her to withdraw. There are several such reasons why the **victims either surrender or refuse to join the trial**. Even when the trial is **in-camera**, as envisaged under Section 327 CrPC, the protection to the victim can be ensured only inside the court. The moment she gets out of the court hall, the offenders and their supporters will be there in plenty to harm and harass the victim. How long and how far can the police protect and how many victims can be protected, are the usual questionsasked by the police, working at over-saturated capacity, especially due to shortage of human, financial and technical resources. Taking into consideration all these logistical and other issues and keeping in view the rights and comfort of the victims of crimes**, video conferencing (VC) in trial is a great option** that has come up in the recent past. Of late it has moved to trans-border crimes of human trafficking too. This is a note on this **good practice** initiative, laying down a Protocol to take VC forward.

**The focus** here is on justice delivery in trans-border trafficking of women and children. As is known, trafficking of persons is the ultimate violation of human rights and dignity. In cases of **trafficking for commercial sexual exploitation**, the victim is sold, purchased, transferred, violated, assaulted, raped repeatedly by several persons over different periods, criminally confined, and is subjected to torture of different kinds and intensity. The victim becomes distraught and demolished. The trials and tribulations in the rehabilitation Homes add to their agony, as many of them are places of incarceration and victimization. Of late several such Homes have been exposed. When the victim is from across the borders and is desperate to reach back home, her story is still more pathetic. This is not an isolated case, as there are thousands of victims trafficked across the borders and thousands of them are being 'repatriated' after rescue, most of them after long periods of 'Home' stays. Such victims breathe the heights of exasperation, decimation and frustration. Asa result, they are indeed reluctant to come back to the Indian courts so as to speak against the accused.

**Delayed System**: As in any other crime, even in an organized crime like trafficking in women and children also, the criminal justice process in India is long-drawn-out, delayed and protracted. Often the crime which has been charge-sheeted will come up in the court after several years. By this time, the repatriated victim would have moved on, may have got married, may have settled in her own way and taken up a new lease of life. At his juncture, many of them are unwilling to go back to the Indian court as witness. It will be a dislocation, disruption and also an embarrassment. Even if forced by law to attend the court, she would choose to remain a reluctant witness and may even retract from her earlier statements. The influence of the trafficker, common in the existing scenario, can be more aggressive and open when the victim comes fromacross borders. This can make the victim succumb to them and in such situation, her coming over to the Indian court remains a frustrating act, serving neither public interest nor the interest of the victim.

**Therefore the open court systems, even in-camera trails** do not come up to the normal, modest and genuine expectations of a trafficked victim, as much as in other similar grave offences. The victim, hailing from a foreign country, is all the more horrified at the very thought of having to travel back to the foreign country, more so to the very same country and

place where she was exploited, oppressed and tortured. It is an unfathomably delicate situation for the victim. The law that demands her presence by sending summons and warrants, remains blind. But the law enforcers and justice deliverers cannot and should not. One has to find out a rational and reasonable solution. It was in this context that **the idea** came up for video conferencing in trans-border trafficking crimes.

## 2. The Case Study

The victim, a fourteen year old from Nepal was trafficked to Delhi and was subjected to exploitative labour and then commercial sexual exploitation. The revenue generated by traffickers was high and therefore she was shifted to Pune and then to Mumbai, considering the high demand. She was rescued at Mumbai when she was 16 years, and was lodged in a Home, where she remained in incarceration for two years. At 18, she was repatriated back to Nepal. A prominent NGO at Kathmandu helped her in the process. They were careful to see that the fact that the girl was ravished in the brothels in India was never made public, so as to avoid stigma and being outcast as 'prostitute'. They tried to resettle her with her parents in a different place. Eventually she got married and had a child out of the wedlock. Ait his point of time, the local NGO in Kathmandu received a summons asking the victim to appear in the Court of Law in Mumbai as witness in the crime of trafficking. The NGO approached her carefully, only to learn from her that she was not wanting at all to travel back to India to give evidence. She was reluctant as she feared that the message will go around that she was 'of bad character, that she 'was a prostitute' etc. and that such charades would create problems in her married life and peace at home. The husband can even throw her out branding her as an erstwhile prostitute! She refused to accept the summons. The summons gradually turned out to be a warrant of arrest!At this point of time the Nepal NGO appealed to the Indian Prosecutor that she may be excused from appearing in the Court, but the prosecutor was of the view that the girl is a 'prime witness; and that her deposition in the court will nail the offence and that the two 'master traffickers' will get convicted. In the interest of dispensation of justice, the prosecutor was not ready to compromise and insisted that the girl comes up to Mumbai for evidence. He got the case adjourned to another date seeking the presence of the victim-witness.

## 3. Mad Problems Require Mad Solutions

The issue, as it was, required a solution of different nature. The victim, in the given context, was very important to help deliver justice not only in the crime per se, but also to deliver justice to the victim who was trafficked and tortured. The Prosecutor brought this fact to the notice of the Presiding Judge of the trial court. Being a person who was genuinely committed to justice delivery and having comprehensive understanding of the issues of human trafficking, and being a Judicial Officer with open mind and ready to take an one-step-forward approach, the lady Judge was ready to find an appropriate way forward and thereupon, she confabulated with a few others who are practitioners in the anti-human trafficking mission in India. The decision was '**why not consider video conferencing across the borders?**'

## 4. The Laws and Rulings of the Supreme Court

Starting with *Maharashtra vsPraful Desai*[1], the Supreme Court has ratified the process of video conferencing, since long. There are instances of accused being abroad and trial being conducted by video conferencing, on the request of the accused or the State quoting security risk to the accused. But here was a different case, as it was focused on the rights of the victim and

not that of the accused. The Lady Judge sought the administrative approval of the Mumbai High Court and the latter gave administrative clearance. The Judge went ahead with the trial. The victim came to a room in the NGO Home at Kathmandu. The court in Mumbai was held at the DC Office where NIC facility was available. The victim deposed from Kathmandu, whereas the accused defended themselves from Mumbai. The trial was undertaken, with all precautions that were required. The victim spoke what she had to say and with ease. She was comfortable, as she was not exposed to the court scenes; not exposed to the accused; not hearing the shouts and noises at the court where the defence generally uses several tactics to cow down the victim/witness; that the questions were put to her only by the Presiding Judge and that she was responding only to the Judge; and above all, she was under no pressure or intimidation. The accused put forth all the questions to the Court and the Court would relay it to the victim. The examination in chief and cross examination and all the protocols were duly followed. **Justice was delivered.** Both the accused were convicted by the Court after the trial. And **innovation worked**.

**5. The Learning Points, the Action Points and the Method of Action**:

**a. Video conferencing: Reliability and Admissibility:**The IT Act has provided for the legal recognition of electronic data. Section 92 of the IT Act has introduced changes to the Indian Evidence Act, 1872 (IEA). "Evidence" under Section 3 of the IEA includes in its ambit, oral, documentary and electronic records, which also includes VC. Sections 65-A and 65-B of the IEA provides for evidence relating to electronic records and admissibility of electronic records.

**b. Permissibility** of deposition through telepresence:The meaning of the word "presence" under section 273 of the Cr. P.C. is not limited to actual, physical presence, but also includes virtual presence by electronic means which would include VC.

**Stakeholders and their Roles**

Stakeholders may include the following: Judicial Magistrate, Executive Magistrate, District Magistrate or Judge at the Remote Point or any other competent person, with legal background that the Court at the Court point may appoint as the coordinator at the Remote Point or any other Public Prosecutors, Police including special agencies like CBI( as an investigating body as well as the NCB of Interpol) and the NIA, Coordinators at the Court and Remote Point, Ministry of External Affairs, Non-Governmental Organisations. The role and duty of the stakeholders in conducting VC in trans-border crimes can be enumerated as follows:

**Judiciary**

i. The Presiding Officer may pass orders for the summons to be issued to the witness. The Coordinators and the District Judges at the Remote point must be included as copied recipients, to initiate and conduct the VC on the date and time as required.

ii. In cases where the witness is in another country, the MEA in India, the Indian Embassy in the witness' country and other relevant stakeholders must also be included as copied recipients.

iii. If the witness is overseas, care need to be taken to issue the summons in the format that is required by the authorities at the Remote Point. Efforts must also be taken to send the

summons via e-mail to the witness and the coordinator.

iv. In a case where the witness cannot be reached via e-mail, the summons may be copied to a reputed Non-Governmental Organisation(NGO) working in the area in order to contact the witness and assist them in appearing at the premises of the Remote Point and if required, to provide psychosocial support.

v. Where required, the Presiding Officer may pass an order to the effect that the coordinator at the Remote Point may appoint a Translator, Interpreter or Special Educator to support the witness who is to testify via VC.

**Public Prosecutors**

i. Public Prosecutors at the Court Point must take the initiative to see that the summons is issued to the concerned witness, and copied recipients (coordinators and other relevant stakeholders) in the format, as required by authorities at the Remote Point, in case the witness is overseas.

ii. They must follow up with the relevant stakeholders to check whether required efforts are being made, and to avoid any kind of delay in recording of the evidence.

**Police**

i. The Police need to ensure summons are served to the witnesses in time, to avoid delay of any kind. They must also ensure security of the witness.

ii. The Police at the Court Point may file its report on the service of summons and availability of witness. The Police need also coordinate with the Court Point and the Remote Point to get a convenient date for the witness to testify in court through VC.

iii. The Police need to coordinate with the computer department at the Court Point or the NIC and get necessary approvals to conduct the VC in court.

iv. The Police may take steps to send certified copies or soft copies of all or any part of the court record to the coordinator at the remote point sufficiently in advance of the scheduled VC.

v. In case the documents are in a language different from the language at the Remote Point, the Police need to get the documents translated before sending the relevant Court records to the Remote Point.

**Coordinators**

- A Coordinator need to be assigned by the Presiding Judge at the Court Point and the Remote point.
- In the Court Point/District Court: An official in the Court, can be made the in-charge of the VC facility, by the Court [2].

In a case where there is no official appointed to the said post, an official of the Court may be nominated by the Presiding Officer of such Court to act as the coordinator for the VC at the Court Point.

In a situation where an appropriate coordinator cannot be appointed, despite efforts, the Presiding Officer may ask a competent organization or a competent lawyer to play the role of a coordinator.

**At the Remote point:**

- Where a witness to be examined is overseas, the Presiding Officer at the Court

point may specify the coordinator out of the following:

- the Official of Consulate/Embassy of India
- Duly Certified Notary Public/Oath Commissioner
- District Magistrate
- Any competent person,as decided by the Presiding Officer.

- Where a witness to be examined is in another State or Union Territory, a Judicial Magistrate or an Executive Magistrate or any other responsible official may be deputed as the coordinator by the District Judge of such State or Union Territory.
- Where a witness to be examined is in a Special Home, Children's Home or Shelter Home, public or private, the Superintendent in charge of such home may be the coordinator
- Where the witness to be examined is in a hospital, public or private, the Medical Superintendent of such hospital, or the Additional /Deputy Medical Superintendent in the absence of the Medical Superintendent, may be the Coordinator.
- In any other case, the Coordinator may be such person as ordered by the Presiding Officer.

**Specific Role of the Coordinator**

i. Arrange for a convenient date and time to conduct the VC.

ii. Ensure that necessary approvals are obtained to conduct the VC.

iii. Coordinate the availability of the witness for the scheduled date of VC, with the local police.

iv. Follow up on whether the summons has been served to the witness.

v. Need to ensure that a VC test is conducted between both points in advance to avoid any problems during the testimony.

vi. Coordinator at the Court Point need to ensure that all relevant documents, translated if necessary, are sent to the Coordinator at the Remote Point, sufficiently in advance of the scheduled VC.

vii. Where required, the Coordinator may take steps to ensure that a Translator, Interpreter or Special Educator is appointed at the Court point.

viii. Acquiring signatures of Coordinators and witnesses on the transcript.

ix. Make arrangements to see that at the remote point, the victim/witness is free and comfortable, that she is able to listen to the Judge and is free to speak without fear or favor and that she is not under the influence of anybody, including the NGO hosting her.

**National Informatics Center (NIC)**

i. The NIC provides VC facilities to all Court establishments, District Collectors/Magistrates across India. This facility of the NIC may be utilized for the purposes of inter jurisdictional transfer of evidence via VC.[3]

ii. Arrange for equipment required for VC (laptop, web camera, microphone, speakers, internet connectivity)

iii. In a case where a Court Point or Remote Point (within India, considering that the jurisdiction of NIC is limited to India) is not equipped with facilities to conduct a VC, the NIC may be approached by the Coordinator to provide its nearest and

suitable premises for a witness to testify via VC.

iv. Further, the deposition recorded at the Court point may be sent to the witness at the Remote Point using NIC facilities, for the witness to sign on, which should thereafter be sent back to the Court Point using the same facilities.

v. Where a witness is overseas, NIC may provide for the necessary secured software for the VC.

**Ministry of External Affairs (MEA)**

i. The MEA must be copied in summons issued to a witness who is overseas, with the objective of keeping the Ministry informed of the VC that will take place and for appropriate support from the overseas agencies concerned, if necessary.

**Non-Governmental Organisations**

i. An appropriate NGO may be appointed by the Presiding Officer or the Coordinator at the Remote Point (with the approval of the Presiding Officer), to provide psychosocial assistance to a victim/witness, including psycho-social matters.

ii. If necessary, the NGO may be requested by any relevant stakeholder above to:

- To assist in coordinating the service of summons to the witness;
- Take steps to trace the witness and bring them over to the VC;
- Provide psychosocial assistance to the witness to testify in the said case;
- Help in procuring the equipment required for VC (laptop, web camera, microphone, speakers, internet connectivity, etc..), if available and allowed by the Presiding Officer at the Court Point, provided no VC facility is forthcoming from any government or related source;
- Help in providing a safe and free ambience for conducting the VC.

## 6. Infrastructural Requirements for Video Conferencing

The following infrastructure and equipment are required to facilitate VC between the Court point and the Remote point.[4]

i. Dedicated room for VC

ii. Uninterrupted Power Supply

iii. A computer or a laptop – with necessary programmes and software installed

iv. Printer

v. Internet connectivity- dedicated 1 Mbps[5] for Video and Audio calls

vi. VC equipment:

7. Projector and Screen, or, minimum 40" Screen Television

8. Microphone

9. Full HD Camera

10. High quality speakers

vii. Adequate lighting

viii. Insulation/ Sound Proofing of rooms

ix. Comfortable seating arrangements for privacy

x. Digital Signature, wherever possible, for the coordinators, preferably from

a licensed certifying authority or any agency which the Presiding Officer considers appropriate.

xi. Video graphing equipment.

## 7. The Process of conducting Video Conferencing

- **Application for VC**

i. The Presiding Officer may either suomoto or on an application made by either party or by a witness, **order summons** to be issued to any person to appear before it or give evidence or make submissions to the Court through VC.[6]

ii. While preparing the order to issue summons to the witness to testify via VC, the Court may**copy all** the relevant stakeholders as recipients, directing them to make necessary arrangements to produce the witness to testify in Court through VC.

iii. The Presiding Officer while making the order for issuance of summons may also **request/appoint an NGO** to assist with locating the witness and assisting with the entire VC process.

- **Service of summons**

i. The Public Prosecutor and the Police at the Court Point need to ensure that the summons, along with the Court order directing issuance of summons, is sent through email where possible or by post to the witness.

ii. In case the witness is not traceable, the Court, the Police or Public Prosecutor may request assistance from an NGO at the Remote Point to trace the witness and serve the summons.

iii. If the witness is in another country and cannot be traced, summons to appear through VC can be issued in the following ways:

a. Through the National Central Bureau of INTERPOL (In India, it is the CBI)

b. Through NGOs involved in the repatriation of the victim or involved in the case.

iv. Once efforts to serve summons are made, the Police at the Court Point must submit a report on the service of summons.

- **Preparation for VC**[7]

i. The Coordinators need to ensure that the prescribed infrastructural requirements for VC are in place at the Court Point and the Remote Point.

ii. In situations where the Court Point and the Remote Point do not have the same software to facilitate VC, the NIC may provide its software or any suitable and secured software to the remote point to facilitate the VC.

iii. If NIC facilities are not available, the Coordinator (at the Court or Remote Point) may suggest the next appropriate agency, which may include VC facilities at a NGO. The final decision on the use of such facilities shall lie with the Presiding Officer.

iv. A VC test should be conducted between both points in advance, to resolve any technical problems, so that the proceedings are conducted effortlessly.

v. The Coordinator at the Remote Point need to ensure that:

a. the person to be examined or heard is available and ready at the room reserved for the VC at least 30 minutes before the scheduled time.

b. no other recording device is permitted except the one installed in the VC room.

c. entry into the VC room is regulated.

vi. The Coordinator at the Court Point need to ensure that the Coordinator at the Remote Point has certified copies or soft copies of all or any part of the Court record sufficiently in advance of the scheduled VC. In case the documents are in a language different from the language at the Remote Point, the Public Prosecutor shall request the local police to get the documents translated before sending the relevant Court records to the Remote Point.

vii. The Presiding Officer may order the coordinator at the Remote Point or at the Court Point wherever it is more convenient, to provide:

a. a Translator in case the person to be examined is not conversant with Court language;

b. an expert in sign language in case the person to be examined is speech and/or hearing impaired;

c. for reading of a document in case the person to be examined is visually challenged;

d. an Interpreter or Special Educator, as the case may be, in case the person to be examined is temporarily or permanently mentally or physically disabled

e. VC may ordinarily take place during the Court hours. However, the Court may pass suitable directions with regard to timings of the VC as the circumstances may dictate.

- **Procedure during VC**

i. The Presiding Officer at the Court point may direct the coordinator at the Remote Point to introduce himself and all the other persons present along with him in the room, before the witness starts testifying.

ii. Where, for any reason, a person unconnected with the case is present at the Remote Point, then that person may be identified by the coordinator at the start of the proceedings and the purpose for his being present should be explained to the Court.

iii. Third parties may be allowed to be present during VC subject to orders of the Court.

iv. In case a victim is testifying, the Court may allow a guardian or a social worker to be present during the VC.

v. The identity of the person to be examined shall be confirmed by the Presiding Officer with the assistance of the coordinator at the Remote Point at the time of recording of the evidence.

vi. The Presiding Officer need to ensure that the person to be examined at the Remote Point can be seen and heard clearly and similarly, that the person to be examined at the Remote Point can clearly see and hear the Court. Also confirm from the person to be examined if she/he is free to speak without any fear, favour or influence.

vii. The Presiding Officer need to have, at all times, the ability to control the camera view at the Remote Point so that there is an unobstructed view of all the persons present in the room. In case the person being examined in the Remote Point would need to identify the Accused at Court Point, or vice-versa, the Court would need to ensure that the video camera is positioned in such a way that would allow the person being examined to have a clear and fair view of such individual as if he/she were physically present in the Court room.

viii. The Presiding Officer may have a clear image of each deponent to the extent possible so that the demeanour of such a person may be observed.

ix. While recording the evidence in writing, the Presiding Officer along with making note of the demeanour of the witness must record any interruptions due to internet connections or any other interference that occurred while the testimony was being recorded.

x. The record of proceedings including transcription of statement need to be prepared at the Court Point under supervision of the Court and accordingly authenticated. Certain options are in vogue. One is video-recording of the entire proceedings. Another, and a better option, is that the soft copy of the transcript is digitally signed by the coordinator at the Court Point and it may be sent by e-mail to the Remote Point where a printout of the same may be taken and signed by the deponent. A scanned copy of the statement digitally signed by co-ordinator at the Remote Point be then sent by e-mail to the Court Point. The statement received by the Court Point through email be finally re-endorsed by the Presiding Officer.

xi. The Presiding Officer may at the request of a person to be examined, or on its own motion, taking into account the best interests of the person to be examined, direct appropriate measures to protect his privacy keeping in mind the witness', gender and physical condition.

xii. If, in the course of examination of a person at the remote point through VC, it is necessary to present a document to her/him, the Court may permit such document to be presented in the following manner:

a. if the document is at the Court Point, by transmitting a copy of it to the remote point electronically, including through a document visualizer, and the transmitted copy being then presented to the person being examined;

b. If the document is at the Remote Point, by presenting it to the person being examined and transmitting a copy of it to the Court Point electronically, including through a document visualizer. The hard copy would also be sent, subsequently, to the Court Point by courier/mail.

xiii. The Presiding Officer need to ensure that the provisions under section 33 of the POCSO, while examining a minor victim, is adhered to. This includes:

a. Communicating all questions to the Presiding Officer, who shall in turn put those questions to the minor victim.

b. Creating a victim friendly atmosphere by allowing a family

member, a guardian, a friend or a relative, in whom the minor victim has trust or confidence, to be present in the court.

c. Frequent breaks for minor victims,

d. Not permitting aggressive questioning or character assassination of the minor victim and ensure that dignity of the minor victim is maintained at all times during the trial.

**Costs for Video Conferencing:**

The expenses of VC facility, i.e., the expenses of preparing soft copies or certified copies of the Court record for sending to the Coordinator at the Remote Point, the fee payable to the Translator/Interpreter/Special Educator and the fee payable to the Coordinator shall be borne by such party as is prescribed in the relevant rules or instructions regarding the payment of expenses to complainant and witnesses, as may be prevalent from time to time. In case there is no clarity on such provision the Presiding officer may decide on such costs.

**References:**

1 Dr PM Nair, served IPS for 35 years and retired as DGP of NDRF, Govt of India. He served Bihar Government, CBI, NHRC, CRPF, UNODC, NDRF and has the unique distinction of having worked with NGO, Institute of Social Sciences, on deputation, while doing the National Action Research on Trafficking in Women and Children in India, a study for the NHRC, and the first of its kind in India. Dr Nair has been acclaimed as an international expert on human trafficking. He has authored 12 books and several articles on professional subjects in law enforcement and justice delivery. He had investigated several important crimes like Rajiv Gandhi assassination, Purulia Arms Drop, Sanjay Ghose abduction of Assam, ISRO Espionage case, Mumbai Blasts, RSS building blast Chepauk Madras, international child trafficking in Goa etc. He has received President's Medal for Meritorious Services as well as President's Medal for Distinguished services. He has undertaken research on trafficking issues for the UN, ADB, World Bank etc. Having set up the first nine AHTUs (anti Human Trafficking Units) in India, he is considered the father of this movement. He is the author of AHTC (Anti Human Trafficking Clubs in Colleges) in India, where he has mobilized the youth of the country against human slavery. With MA in Sociology, LLB and PhD in victimology, he is also a graduate of prestigious academies like the FBI National Academy, Virginia, USA and the National Defence College, New Delhi as well as the Universities of Virginia, Delhi, Meerut and Kerala. He has personally trained more than 50000 stakeholders and rescued/facilitated recue of more than 50000 victims of trafficking. Email : nairpm@hotmail.com, facebook Nair PM.

2 The State of Maharashtra and P.C. Singh v. Dr.Praful B. Desai and Anr. (AIR2003SC2053).

3 Guidelines issues by Delhi High Court and Hyderabad High Court on VC.

4 SujoyMitra v. state of West Bengal 2016(1)Crimes105(SC)).

5 Guidelines issues by Delhi High Court and Hyderabad High Court on VC.

6 Minimum requirement for uninterrupted and clear video calls.

7 Guidelines issues by Delhi High Court and Hyderabad High Court on VC,

8 Guidelines issues by Delhi High Court and Hyderabad High Court on VC.

# The Indian Police Journal

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## Note for Contribution

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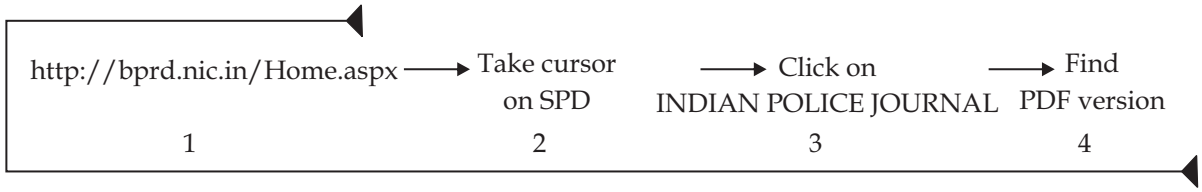


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