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Editorial

The India Police Journal has come long way since its 1st Edition published in year 1954. Over the period of time, the IPJ has created its own niche among the readers especially among the police Officers. It has been our continuous endeavour through India Police Journal to enrich the reader through well researched articles on Contemporary Policing, Administrative, Forensic, HR and Police Tech issues. The India Police Journal has been striving hard to promote citizen centric Police service.

In this edition through article **“Toxicological Viscera Analysis in India : Current Scenario, Problems & Suggestion One year study of Autopsy Cases Where Viscera had Preserved”** writer has highlighted the importance of Chemical and Toxicological analysis of the viscera in medico legal cases. This test either establishes or rules out the poisoning/intoxication as cases of death. Further this test is conducted in the Government Forensic Laboratories and data analyse presented in the articles show considerable delay in conduct of test, which in turn delays the investigation and trial.

The article on work stress **“work place support and job Stress among Non-gazetted Rank in Police in Rajasthan”** highlight the Co-relation between the work stress and job satisfaction. Writer has discussed the impact of three types of work stressors-role ambiguity, role overload and physical environment and its impact on the Rajasthan Police Personal.

The article **“view from the top-key issue for higher Police Leadership”**- has brought out the need for better Leadership in Police Leadership.

In the article **“Terrorism and Media : Symbiotic Relationship between Media and Terrorism”**- the writer has flagged the issue of over reporting of terrorist activities in the media and need for balanced approach in reporting.

The article **“Administering the Challenges of 21st Epoch towards Effective India Policing”** flagged the need for the changes in police organisation due to change in operating environment. Further writer has also suggest measures to achieve it.

The article **“Is Technology; A Saviour for our Criminal justice system”** emphasizes the role of technology for better service delivery in the field of Criminal Justice System.

This issue also contains certain specialized topic like, hyper spectral imaging as a tool for discrimination amid forensic falsification in documents, Process Oriented Policing, A study if Genuineness of Rs. 2000 bank note and related issue, Awareness about White Collar Crimes among Professionals.

Article “**Suicides in India: The Alarming Threat**” flagged the issue of increasing rate of suicide in India and also gives State wise analysis and position of the country at global level. Also highlight the major factor for suicides & ways & means to minimize it.

Article “**Quality of Life and Work Life Balance amongst Police Personnel in India**” discuss the origin, consequences and area of work-life balance. Writer has also suggested the check list for maintain work life balance.

I am sure the reader will find the articles interesting and will continuing giving their support and feedback.

(V. H. Deshmukh)
Editor-in-Chief

Toxological Viscera Analysis in India: Current Scenario, Problems & Suggestions- One Year Study of Autopsy Cases Where Viscera had been Preserved



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Dr Abhishek Yadav¹

Dr Arijit Dey²

Dr Kulbhushan³

Dr Neha Sharma⁴

Dr S K Gupta⁵

Abstract:

Chemical and Toxicological analysis of viscera is conducted in a Medicolegal Death investigation to rule out poisoning/intoxication in the death of the deceased. The analysis is done only in Forensic Science Laboratories established by the Indian Government. The Viscera reports are usually received after a period of considerable delay and opinion about the case is kept pending till then. Keeping this viscera, a study was undertaken to analyze the system of Viscera analysis after autopsy and identifying the factors and problems hampering the timely chemical analysis. The study was conducted in the Department of Forensic Medicine, All India Institute of Medical sciences, New Delhi. All the medicolegal autopsy cases in the period of one year from 1st January 2013 to 31st December 2013 where viscera was preserved were studied. Data was collected and analyzed from the PM reports and the subsequent viscera reports from FSLs received in the Department till 30th April 2017. The viscera analysis report was received in only 45.5% cases till 30th April 2017 and only 6.2% cases analysis reports were received within six months of conduction of postmortem. Poisons and Drugs were detected in 134 (41.5%) case out of which Ethyl and Methyl Alcohol constitutes 78.6% cases and only in those

Author Intro:

1. Assistant Professor.
2. Senior Resident
3. Assistant Professor
4. Senior Resident
5. Prof and Head of Department

Department of Forensic Medicine and Toxicology, All India Institute of Medical Sciences, Ansari Nagar, New Delhi-110029.

cases quantification was performed. The reasons of the delay in analysis of viscera and its effects on Medicolegal Death Investigation are discussed. It was concluded that there is a need of establishing Toxicological Laboratories associated with the district hospitals and Medical Colleges where postmortem are being conducted.

Keywords:

Toxicology, Poisoning, Viscera, Medicolegal Autopsy, Chemical Analysis.

Introduction

In Medicolegal Autopsy practice viscera is preserved for Toxicological and chemical analysis in poisoning cases, sudden deaths, unclear history or to rule out concomitant poisoning/intoxication¹⁻⁴. The preserved viscera are handed over to the Investigating Officer of the case. The Indian Government has established many Forensic Laboratories controlled by either State or Central Government where the viscera are tested. The report of the Viscera analysis is again sent to the autopsy surgeon by the IO for opinion about the cause of death so as to complete the legal course of the case. A negative viscera report creates a dilemma for the autopsy surgeon when there is no other pathology or injuries found during the postmortem and there is suspicion of foul play in the case with specific allegations of poisoning. Similarly a false positive report can also raise an unwarranted suspicion in a case. The authors of the study have themselves encountered these problems many times in course of their duty. The Viscera reports are usually received after a period of considerable delay and the case is kept pending till then. Considerate the same, this study was undertaken to analyze the system of Viscera analysis after autopsy and identifying the factors and problems hampering the timely Chemical Analysis.

MATERIAL AND METHODS

The study was conducted in retrospective and prospective manner in the Department of Forensic Medicine, All India Institute of Medical sciences, New Delhi. All the Medicolegal Autopsy Cases in the period of one year from 1st January 2013 to 31st December 2013 where viscera was preserved were taken for study. Data was collected and analyzed from the PM reports. We further analyzed the subsequent viscera reports from FSLs received in the Department till 30th April 2017 regarding factors like nature of poisons detected, time lag between autopsy & receipt of analysis of reports, quantification of poisons (if detected), number of positives & negative cases etc.

RESULTS AND OBSERVATIONS

A total number of 1713 autopsy were conducted in the year 2013 between 1st January 2013 to 31st Dec 2013 and viscera was preserved in 710 (41.4%) autopsy cases (**Figure-1**). Out of these 710 cases, the viscera analysis report was received in only 323 (45.5%) cases till 30th April 2017 (**Figure-2**). The time duration of submitting the viscera report by the IO in the Department was calculated from the date of the autopsy and their percentage was calculated out of the total 710 cases of Viscera preservation. It was found that the analysis reports were received in only 2.7% cases within three months, in 3.5% cases from three to six months, in 28.6 % cases from 6 months to 1 year, in 9.3% cases between 1-2 year and in 1.4% cases after 2 years (**Table-1**). The viscera report was still awaited in 54.5% cases. Out of 323 cases in which the report was received, Poisons and Drugs were detected in 134 (41.5%) cases. (**Table-2**). Out of 134 positive reports, Ethyl Alcohol was reported in most of the positive cases (67.1%) followed by the combination of Ethyl and Methyl Alcohol (11.2%) and Aluminium Phosphide (6.7%) (**Table-3**). One important observation was that the quantification was done in 107 cases out of 134, but all of them consists of ethyl and Methyl Alcohol.

DISCUSSION

The Department of Forensic Medicine, AIIMS has the jurisdiction for conducting the autopsy of the Medicolegal cases of two districts of Delhi, namely South and Southeast besides hospital admission deaths. Out of the total 1713 autopsy cases viscera was preserved in 710 cases, which is an important finding which needs deliberations as it implies that the police investigation could not be concluded in 41.4% (**Figure-1**) of the Medicolegal cases for the want of viscera report. To understand the reason for such high number of viscera preservation, we will illustrate few examples of the type of cases in which the viscera is generally preserved¹⁻⁴:

1. Suspected poisoning.
2. Sudden Natural Deaths with no hospital admission.
3. Accidental deaths with the suspicion of deceased/driver being intoxicated or under influence of alcohol/drugs.
4. Homicides to know about the toxicological/intoxication status of the victims to correlate the chain of events.
5. Equivocal cases of hanging to differentiate between suicidal and homicidal manner.
6. Suicides after intoxication
7. Suspected Deaths of females due to Dowry harassment.

So, we can deduce that determining the toxicological status of a deceased is essentially required in a variety of cases even other than the poisoning cases. This is further supported by our finding that out of the total 323 viscera analysis report 41.5 % reported the presence of a poison or drugs (**Table-2**). Ethyl alcohol alone and in combination with Methyl Alcohol was detected in 78.3% of the total positive reports in different concentrations (**Table-3**). This again indicates that the significance of keeping Viscera as the presence of alcohol can hugely impact a Criminal Trial in a court of law in an accident case to fix the culpability. Presence of alcohol can also be linked as a confounding factor in suicidal cases, a deciding factor in Insurance cases and an important circumstantial evidence in Homicide cases.

The cutoff date for analyzing the viscera reports was fixed as 30th April 2017 which is about more than three years if calculated from the end of the study year 2013. The viscera report was not received in 54.5 % cases till cutoff date. It implies that in about 387 cases of Medicolegal death conducted in a year (**Figure-2**), the investigation was still pending even after three years have passed since autopsy was done. It is a matter of grave concern as the data collected is only for the two districts of the county in a single year. There were 640 districts in India as per the data of 2011 census⁵. If there are 387 cases pending in two districts of the National capital even after three years, one can very well imagine the number of incomplete investigations across all the districts of the country which may run into lakhs per year. The first and the foremost reason for the delay is insufficient number of Forensic Science Laboratories (FSLs) in the country. There are only 7 FSLs under Central Government and about 31 FSLs in different states of the country^{6,7} while Medicolegal postmortem are conducted at all major District Hospitals and Government Medical College. So a gross mismatch is clearly visible between the scientific demand and available infrastructure for analysis of viscera.

The viscera preserved routinely during autopsy for Toxicological analysis consist of Stomach with contents sealed in one jar, parts of liver with gall bladder, kidneys, and spleen sealed in another jar, about 20-50 ml of blood in one container and a solution of preservative in another container. The preservative used in most of the cases is saturated solution of common salt¹⁻⁴. The human tissue starts to degrade after death and the preservation of the viscera can only slow the process but does not completely stall it¹⁻⁴. An Honorable High Court of Calcutta had queries regarding the procedure of preserving the Viscera and its analysis for which an amicus curiae was appointed⁸. The amicus curiae consulted the experts who informed that viscera can be preserved only if properly refrigerated and will decompose in six months. Currently the viscera are collected by the police officers and stored in the police station at room temperature. They are submitted in the FSLs as per the waiting list according to the priority of the case. Delay in processing of Viscera leading to decomposition of the tissues is a well established reason for a negative analysis⁹⁻¹¹. In our study viscera analysis reports of only 6.2% of the total 710 cases

were received within six months (**Table-1**), the ideal time in which the analysis should have been conducted. Further analysis of the viscera in the pending 387 cases after more than three years have passed seems nothing but a mere formality as the tissues would have been already decomposed and now will not be of any aid in Medicolegal investigation. Few previous studies¹²⁻¹⁴ done specifically in poisoning cases have reported about the non detection of poison. Malik¹⁵ also pointed about the pendency in the viscera reports. But no study specifically tried to understand the reasons and the solutions to address this issue. One more important finding which needs to be mentioned is that the quantification was done only in the cases where Ethyl alcohol and methyl alcohol were detected. Many poisons like Lead, Organo-phosphorus, Pesticides, Arsenic etc have been reported to be present in general population¹⁶⁻²⁰. So in absence of the quantification attributing cause of death due to a specific poison is a questionable issue and importance of the viscera report is reduced to a mere corroborating evidence.

The above mentioned findings and discussion mandates the need of overhauling the current mechanism of viscera analysis and infrastructure. India is a developing nation and is in a continuous process of improvisation. By this study we intend to highlight the drawbacks in the system not to criticize but only to improve the process of delivery of Natural justice.

RECOMMENDATIONS

1. There is a clear and urgent requirement of establishing more Laboratories for Toxicological analysis in India at both State and National Level to cope up with the increasing work load so as to ensure accurate analysis of viscera and timely conclusion of Medicolegal Death Investigation.
2. A toxicology unit which can handle the analysis of the commonly found poisons and drugs should be established in association with Government Medical Colleges and District Hospitals where the postmortem are being conducted.
3. The laboratories should take measures to quantify the poison/drug detected in the Viscera so as to increase the positive evidentiary value of the analysis.

COMPLIANCE WITH ETHICAL STANDARDS

Funding: There was no funding involved with the study.

Conflict of Interest: There is no conflict of interests of any of the author.

Ethical approval: The ethical approval was taken from Institutional Ethics Committee.

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Figure-1
Percentage of Cases in which Viscera was preserved

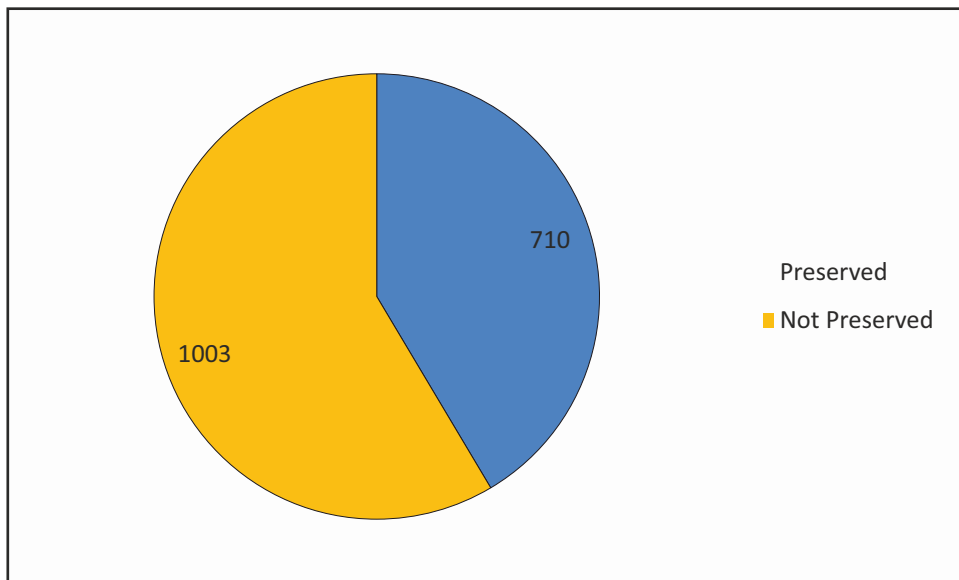


Figure-2
Percentage of Viscera analysis reports received till 30th April 2017

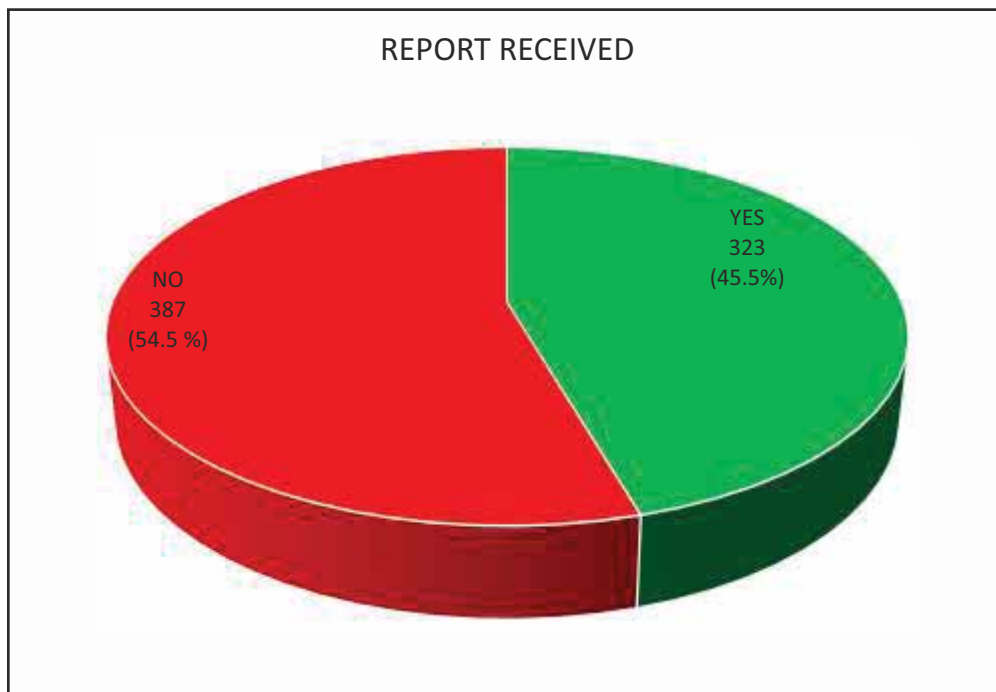


TABLE-1
TIME DURATION OF RECEIVING VISCERA ANALYSIS REPORT
FROM AUTOPSY DATE

TIME DURATION	NUMBER	PERCENTAGE OUT OF TOTAL 710 CASES OF VISCERA PRESERVATION
WITHIN 3 MONTHS	19	2.7
3—6 MONTHS	25	3.5
6—12 MONTHS	203	28.6
1—2 YEARS	66	9.3
MORE THAN 2 YEARS	10	1.4
TOTAL	323	45.5

TABLE-2
VISCERA REPORTS POSITIVE FOR POISON/DRUGS

REPORT POSITIVE FOR POISON/DRUGS	NUMBER	PERCENTAGE
YES	134	41.5
NO	189	58.5
TOTAL	323	100.0

TABLE-3
TYPES OF POISONS DETECTED

POISON DETECTED	NUMBER	PERCENTAGE	PERCENTAGE OUT OF TOTAL 710 CASES OF VISCERA PRESERVATION
ETHYL ALCOHOL	90	67.1	12.6
ETHYL ALCOHOL AND METHYL ALCOHOL	15	11.2	2.1
METHYL ALCOHOL	2	1.5	0.3
ALUMINIUM PHOSPHIDE	9	6.7	1.3
DICHLOVOS	4	3.0	0.6
ORGANO PHOSPHORUS COMPOUNDS	4	3.0	0.6
CARBON MONOXIDE	1	0.7	0.1
CORROSIVE ACID	2	1.5	0.3
OTHERS	2	1.5	0.3
MORE THAN ONE POISON	5	3.8	0.7
TOTAL	134	100.0	18.9

Work stress, Work Place Support and Job Stress among Non-gazetted Ranks in Police in Rajasthan by



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BPRD Publication

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Richa Burman¹

Dr. Tulsee Giri Goswami²

Abstract:

The purpose of this research is to find out the relationship between work stress and job satisfaction and analyze the moderating effect of workplace support on this relationship. In particular, this paper tries to analyze the impact of three types of work stress—role ambiguity, role overload and physical environment among the Rajasthan police employees. An exploratory quantitative research approach was used (N= 267). This approach was conducted by means of questionnaires to measure work stress (role ambiguity, role overload and physical environment), job satisfaction, and workplace support. Job satisfaction was measured using the short form of the Minnesota Satisfaction Questionnaire (MSQ) which was designed by Weiss, Dawis, England, and Lofquist (1967) whereas statements related work stress and workplace support were also adapted from the previous literature and the reliability was checked using cronbach alpha. The results showed role ambiguity shows a positive correlation with job satisfaction whereas role overload shows a negative correlation with job satisfaction. Also, positive correlation was found between physical environment and job satisfaction. Moreover, workplace support does not showed any moderating effect on these relationships. This paper creates awareness among the police sector of the causes of work stress and its impact on job satisfaction and performances. In addition police sector should build an organizational culture, where police personnel can have better bonding with others because a good relationship among police personnel may result in more workplace support at work. This is one of the first studies to examine the relationships between work stress and job satisfaction and workplace support as moderator among the Rajasthan Police.

Author Intro:

1. Research Scholar
2. Assistant Professor

Department of Management, Central University of Rajasthan, Kishangarh, Ajmer, Rajasthan, India.

Keywords:

Work stress, stress, job satisfaction, workplace support.

Paper type:

Empirical Study

Introduction

The police profession is meeting several critical occupational problems and is not rewarded as compared to other professions in the society. Police forces are important for society as well as for nations as they provide safety and security. Moreover they face high level of risk and threat to their life and family too. Police work stress has become a common problem as it has various negative effects on police personnel and on police organizations too. The various issues which cause predicament among police officers are risky assignments, long working hours, inflexible hierarchy pattern and besides this police officers have to maintain law and order in the state as well. Such situations cause work stress and create an impact on work place outcome like the level of job satisfaction.

Work stress can be referred as a strain, depression, fretfulness, anxiety, angst etc one faces at workplace when overloaded with copious demands and expectations to be fulfilled within a limited time-frame. Besides, stress increases when the demands or expectations of the job do not match the capabilities of a person. Therefore stress can be also referred to as high job demands attached with low decision-making ability (control or discretion over their own responsibilities). According to the World Health Organization's (WHO), occupational or work-stress "is the response people may have when presented with work demands and pressures that are not matched to their knowledge and abilities and which challenge their ability to cope." The main purpose for studying job satisfaction among police personnel is to know whether they are satisfied or not with his/her job. Due to a large number of stress symptoms and poor quality of life there is a need of coping strategies and preventives measures in police occupation (Marilda E. Novaes Lipp 2009). The other factors which cause stress are lack of public support, lack of basic equipment, increases level of air pollution, dust, noise, and nervousness. To reduce the work stress among the police personnel different coping strategies were suggested in previous studies such as; exercising, socializing with people, maintaining healthy diet, career planning and growth and proper employee training. Therefore, it is necessary to explore the impact of work stress with job satisfaction and psychological well being among the police officers.

Literature review

Work stress and job satisfaction

Locke (1976) defined job satisfaction as “the pleasurable emotional state arising from the appraisal of one's job or job experiences is called job satisfaction”. Job satisfaction has a significant impact on the job performance, work productivity, employee absenteeism and turnover. So, it can be considered a strong motivator and predictor of an individuals' well being. Job satisfactions among the employees of service industry are more important because if the employees are satisfied only then can that satisfy the customers by providing the service. The officers have an adverse impact of work stress on physical as well as mental state which results in anxiety, intolerance, poor relationship with co-workers and supervisors and bad temper. There are various police work stressors such as getting injured while on duty, lack of resources, poor salary, role overload, use of force, high responsibility, dealing with fatal accidents and violence, uncertainty about promotion etc which causes job dissatisfaction [Agolla, (2009)] . Police officers of high rank experience excessive stress and consider police occupation as a stressful profession. A study conducted by Savery and Luks (2001) found that the amount of control over the work is a vital variable in job satisfaction as well as in work stress. Nevertheless when a person reaches a high position in the organizational hierarchy and has a large amount of autonomy, the employee feels stressed. Therefore it can be concluded that the higher the job responsibility the higher the work stress. Thus the other variables such as level of responsibility, work overload, role ambiguity, long working hours etc have an impact on employee work stress as well as job satisfaction. The main cause of job dissatisfaction is high level of work stress among the employees. The other reasons of stress among employees are low salary, work overload, lack of co-worker support, physical environment, autonomy etc. (Malhotra and Chadha; 2012). Thus the level of job satisfaction and its relation to job stress cannot be determined by a single factor. In relation to the impact of job stress on job satisfaction, most research stated that work stress and job satisfaction are co-related related (Mikkelsen et al., 2000; Noblet, A., Rodwell, J., & Allisey, A., 2009).

According to Parkinson M. (2010) in policing there is different workplace stressor which contributes in increasing level of stress such as long working hours, role overload, role ambiguity, physical environment etc. and each stressor can have a different impact on job satisfaction. Among various work stressors mentioned in previous research, this paper would focuses on role overload, role ambiguity, and physical environment and its impact on job satisfaction.

Role ambiguity- It can be referred to as the lack of clear information about job responsibilities and expectations, which are required by the individual to perform his/her job in more efficient and effective way. When an employee does not understand or realize the expectations and demands of the job it leads to role ambiguity. Research evidence has shown that role ambiguity has been associated with tension and fatigue, intention to quit or actually leaving the job, and high levels of anxiety, physical and psychological strain, and absenteeism. When the employee is unclear about the objectives or goals of his role it leads to job dissatisfaction, low self-

confidence, depression and low work motivation.

H1: A positive relationship exists between role ambiguity and job satisfaction.

Role Overload- When the role consists of too many responsibilities for an employee to handle in a reasonable amount of time then it leads to role overload. Role overload can occur for a number of reasons. It has been identified there is two types of over loads- quantitative overload and qualitative overload. Quantitative overload means more work in less time which leads to job dissatisfaction, tension and low self-esteem, whereas qualitative over load refers to the job which is very difficult to perform. When the work goes beyond one's knowledge, ability and skills then the employee suffers from qualitative overload.

H2: A positive relationship exists between role overload and job satisfaction

Physical Environment-: It refers to the working environment of the organisation that causes work stress. Extreme temperature, poor lighting, night shift, improper equipment and facilities etc are some of the factors which cause work stress that affects the job satisfaction.

H3: A positive relationship exists between physical environment and job satisfaction.

Workplace Support as Moderator

The previous literature related to psychology and business management has focused on the impact of workplace support on the work stress. The effect of workplace support among police officers should be examined because the possible benefit of workplace support cannot be known unless its effects are identified (Gangster, Fusilier, and Mayes, 1986). As work stress is gradually recognized as inevitable feature at work, the need of reducing its negative impact of stress has risen. According to many researchers and the previous studies, workplace support can play this role. Cohen and Wills (1985) stated that social support is comprised of four parts: esteem support, information support, emotional support and instrumental support. Esteem support provides affirmation and feedback, which helps to enhance self-esteem, whereas information support helps in coping with difficult situations by giving guidance, suggestion and information. Emotional support is providing affection and trust, and instrumental support is aid in time, labor, money or modification of the environment. Collectively, these supports can be termed as workplace support. There are two sources of social support primary and secondary source. Primary source includes family and friends whereas secondary source includes persons who have less friendly relationship with supervisor and co-worker. The paper will focus on supervisor and co-worker support as work stress mostly occurs in the workplace. House (1981) also stated that supervisor and co-worker support are the most significant and helpful sources of social support at work. Therefore, this paper will concentrate on two sources of workplace support—supervisor support and co-worker support which will act as a moderator. Beehr, King and King (1990) used communications between supervisors and subordinates as variable of

social support and found that social support moderates the relationship between job stress and job satisfaction. They concluded that the effect of job stress on job satisfaction can be reduced when the level of social support is increased. Ok and Kim (2001) also hold that the social support act as moderating effect model in the relationship between job stress and job satisfaction when interaction term is entered with job stress.

H4: Workplace support moderates the relationship between role ambiguity and job satisfaction.

H5: Workplace support moderates the relationship between role overload and job satisfaction.

H6: Workplace support moderates the relationship between physical environment and job satisfaction.

Research design

Research approach

This paper follows a qualitative research approach. This approach is conducted by means of questionnaires to measure work stress (role ambiguity, role overload and physical environment), job satisfaction, and workplace support.

Research participants and procedure

In this study multistage random sampling was used to collect the data from the police personnel working under Rajasthan police department mainly from Jaipur Range, Jaipur Commissionerate, and Ajmer Range. The respondents include police inspectors (25.1%), sub-inspectors (17.2%), assistant sub-inspectors (27.4%) and constables (30.3%). Of the 300 police personnel receiving surveys, 267 completed rendering a response rate of 89%.

Measuring instruments

Job satisfaction: Job satisfaction was measured using the short form of the Minnesota Satisfaction Questionnaire (MSQ) which was designed by Weiss, Dawis, England, and Lofquist (1967) to investigate employees' satisfaction with their jobs. It consists of 20 item scale. Respondents were asked to rate each item on a five-point Likert scale ranging from 1 (very dissatisfied), 2 (dissatisfied), 3 (neither satisfied nor dissatisfied), 4 (satisfied), and 5 (very satisfied).

Work stress: Work stress was in terms of three variables i.e. role ambiguity, role overload and physical environment. The statements related to these variables were adapted from the previous literature and the reliability was checked using cronbach alpha which was more than acceptable limit (0.7). The scale for role ambiguity consisted of a 1–5 ('strongly disagree to 'strongly agree') Likert scale range with 6 items asking questions such as: '*I am clear with goals and objectives of my job?*' ($\alpha = 0.81$). The scale for role overload was also determined by a 1–5 Likert scale ('strongly agree' to 'strongly disagree') where responses to 6 items can be evaluated, with questions such as: '*I am unable to carry out my assignment to my satisfaction on account of excessive load of work and lack of time?*' ($\alpha = 0.76$). Similarly for physical environment the

scale was determined by using 1–5 Likert scale ('strongly agree' to 'strongly disagree') with 5 items with questions such as: '*Work conditions are bad in terms of facilities and trainings?*' ($\alpha = 0.77$).

Workplace Support: To determine the workplace support, it was rated on a 1-5 Likert rating scale of ('strongly disagree' to 'strongly agree') with six items, where questions like: 'My co-workers understand my feelings and situation at my work place' were asked ($\alpha = 0.81$)

Statistical analysis

The statistical analysis was carried out by means of the SPSS-programme (SPSS Inc., 2009). Descriptive statistics (e.g. means, standard deviations, maximum and mean) were used to analyze the data. Cronbach Alpha coefficients were used to measure the internal consistency, homogeneity and unidimensionality of the statements (Clark & Watson, 1995). The Eigen values and screen plot were studied to determine the number of extracted factors. A principal component analysis with a Varimax rotation was used if obtained factors were not related (Tabachnick & Fidell, 2001).

To study the relationship between the independent and dependent variables, Pearson product-moment correlation coefficients were used in the case of normal distribution. In terms of statistical significance, it was decided to set the value at a 95% confidence interval level ($p \leq 0.05$). Effect sizes (Steyn, 1999) were used to decide on the practical significance of the findings. The practical significance of correlation coefficients was set with a medium effect ($p \geq 0.30$) and a large effect

($p \geq 0.50$).

A hierarchical regression analysis, as recommended by Aiken and West (1991), was conducted in order to find out the moderating effect of the moderator variable (workplace support) on the relationship between the independent variable (work stress) and the dependent variable (job satisfaction). To provide a clearly interpretable interaction term and to reduce multicollinearity, the variables were standardized. In Step 1, the independent variable (work stress) was regressed with the dependent variable (job satisfaction). In the subsequent steps workplace support were entered. In the final step, the interaction term (works tress \times moderator) was added, and a moderating effect was confirmed if the interaction term was statistically significant and if explained variance (R^2) was significantly increased ($p < 0.05$).

Results

Table 1 provides the descriptive statistics and Table 2 shows inter correlations between work stress (role ambiguity, role overload and physical environment), job satisfaction and workplace support.

Table 1: Descriptive Statistics for the Dependent and the Independent Variables

Variables	Mean	Standard Deviation	Min	Max
Job Satisfaction	34.355	3.029	24.00	43.00
Role Ambiguity	22.558	2.005	18.00	27.00
Role Overload	23.981	2.420	18.00	30.00
Physical Environment	20.565	2.383	9.00	25.00
Workplace Support	22.535	3.063	14.00	30.00

Note: Means and standard deviations (SDs) for “centred” variables were calculated prior to centring.

Table 2 indicates that role ambiguity shows a positive statistically significant correlation with job satisfaction supporting the hypothesis H1. Role overload shows a negative statistically significant correlation with job satisfaction Therefore H2 is rejected whereas positive practical significance (with a medium effect) was found between physical environment and job satisfaction, thereby providing support for H3.

TABLE 2: Correlation coefficients between work stress(role ambiguity, role overload, physical environment) and job satisfaction

Item	1	2	3	4
Role Ambiguity	1	-	-	-
Role Overload	-.17*	1	-	-
Physical Environment	.49* ⁺	-.13*	1	-
Workplace Support	-.17*	.22*	-.11*	1
Job Satisfaction	.17*	-.11*	.32*	.30* ⁺

*, Correlation is statistically significant at the 0.01 level.

+, Correlation is practically significant, $r > 0.30$ (medium effect).

\$, Correlation is practically significant, $r > 0.50$ (large effect).

A hierarchical analysis was conducted in order to determine if workplace support acts as a moderator in the relationship between work stress and job satisfaction.

Workplace support as moderator between work stress and job satisfaction

Table 3 shows that if workplace support act as a moderator between role ambiguity and job satisfaction. Therefore, in step one of the hierarchical regression, workplace support was regressed on job satisfaction ($\beta = .308, p = 0.00$) producing a significant model. The entering of role ambiguity in step two produced an insignificant model ($\beta = 0.111, p = 0.73$). In the third step the interaction term was entered, which also produced an insignificant model ($\beta = -.964, p = 0.81$). Thus, workplace support proves to play an insignificant role in the relationship between role ambiguity and job satisfaction.

Similarly in Table 4, the first step one of the hierarchical regression, workplace support was regressed on job satisfaction ($\beta = .308, p = 0.00$) producing a significant model. The entering of role overload in step two produced an insignificant model ($\beta = -.195, p = 0.43$). In the third step the interaction term was entered, which too produced an insignificant model ($\beta = -.1.111, p = 0.73$). Thus, workplace support proves to play an insignificant role in the relationship between role overload and job satisfaction.

Table 3: Hierarchical regression analysis (workplace support) with job satisfaction as dependent variable and role ambiguity as independent variable.

Model	Unstandardized coefficient		Standardized coefficient	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i>	<i>R</i> ²	ΔR^2
	Beta	SE							
1 Constant	27.494	1.314	-	20.918	0.00	27.756	.308	.095	.095
WPS	.304	.058	.308	5.268	0.00				
2 Constant	24.528	2.103	-	11.663	0.00	15.619	.325	.106	.106
Role Ambiguity	.168	.093	.111	1.802	0.73	-			
WPS	.268	.061	.271	4.393	0.00	-			
3 Constant	9.757	15.462	-	.631	0.00	28.694	.497	.247	.247
Role Ambiguity	.834	.697	.552	1.196	0.56				
WPS	.919	.678	.930	1.355	0.00				
Role Ambiguity × WPS	-.029	.030	-.908	-.964	0.81				

SE, standard error; *t*, t-statistic; *p*, statistical significance; *F*, F-statistic; *R*, square root of R-square (correlation between the observed and predicted values of the dependent variable); *R*², proportion of variance in the dependent variable explained by the independent variables; ΔR^2 , change in percentage variance explained by next step in model.

*, $p < 0.05$

Table 4: Hierarchical regression analysis (workplace support) with job satisfaction as dependent variable and role overload as independent variable.

Model	Unstandardized coefficient		Standardized coefficient	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i>	<i>R</i> ²	ΔR^2
	Beta	SE							
1 Constant	27.494	1.314	-	20.918	0.00	27.756	.308	.095	.095
WPS	.304	.058	.308	5.268	0.00				
2 Constant	32.366	1.956	-	16.544	0.00	19.890	.362	.131	.131
Role Overload	-.244	.074	-.195	-3.313	0.43	-			
WPS	.348	.058	.352	5.977	0.00	-			
3 Constant	17.877	0.181	-	1.356	0.00	25.258	.466	.217	.217
Role Overload	.343	.533	-.274	.642	0.56				
WPS	.996	.586	1.007	1.700	0.00				
Role Overload × WPS	-.026	.024	-.890	-1.111	0.73				

SE, standard error; *t*, t-statistic; *p*, statistical significance; *F*, F-statistic; *R*, square root of R-square (correlation between the observed and predicted values of the dependent variable); *R*², proportion of variance in the dependent variable explained by the independent variables; ΔR^2 , change in percentage variance explained by next step in model.

*, $p < 0.05$

Further in Table 5, in step one of the hierarchical regression, workplace support was regressed on job satisfaction ($\beta = .308, p = 0.00$) producing a significant model. The entering of physical environment in step two also produced an insignificant model ($\beta = -.034, p = 0.56$). In the third step the interaction term was entered, which again produced an insignificant model ($\beta = -.688, p = 0.49$). Thus, workplace support proves to play an insignificant role in the relationship between physical environment and job satisfaction.

Table 5: Hierarchical regression analysis (workplace support) with job satisfaction as dependent variable and physical environment as independent variable.

Model	Unstandardized coefficient		Standardized coefficient	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i>	<i>R</i> ²	ΔR^2
	Beta	SE							
1 Constant	27.494	1.314	-	20.918	0.00	27.756	.308	.095	.095
WPS	.304	.058	.308	5.268	0.00				
2 Constant	28.378	2.008	-	14.133	0.00	14.013	.310	.096	.096
Physical Environment	-.043	.074	-.034	-.583	0.56	-			
WPS	.305	.058	.308	5.267	0.00	-			
3 Constant	38.643	15.046	-	2.568	0.00	9.482	.312	.098	.098
Physical Environment	-.542	.729	-.427	-.744	0.45				
Environment	-.117	.615	-.118	-.190	0.00				
WPS	.020	.030	-.688	.688	0.49				

SE, standard error; *t*, *t*-statistic; *p*, statistical significance; *F*, *F*-statistic; *R*, square root of *R*-square (correlation between the observed and predicted values of the dependent variable); *R*², proportion of variance in the dependent variable explained by the independent variables; ΔR^2 , change in percentage variance explained by next step in model.

*, $p < 0.05$

Contrary to our assumption, none of interaction terms has a statistically significant impact on the job satisfaction. In other words, these findings suggest that workplace support does not moderate the relationship between work stress and job satisfaction and alleviate the negative effect of work stress. That is, a moderating model is rejected ($H4 \sim H6$).

Discussion and Conclusion

The main aim of the present study was to determine the relationship between work stress and job satisfaction and the effect of workplace support on this relationship. As we know, work stress is growing with the dissemination of government reforms; therefore it is necessary to examine the impact of work stress in police sector. Also, workplace support plays an important role at work so it may lessen the harmful effects of work stress. However, there are few researches which have been conducted on this topic. Hence, this study is intended to fill the gap in the study of impact of work stress on job satisfaction and workplace support act as a moderator by empirical research.

This paper examined the relative impact of work stress on job satisfaction and if workplace support acts as moderator in relationship between work stress and job satisfaction. Moreover, this study focuses on three types of work stressors: role ambiguity, role overload, and physical environment. Based on previous literature, this research assumed that each work stressor would be positively associated with job satisfaction. The result showed that role ambiguity has a positive significant relationship with job satisfaction (H1) whereas role overload shows a negative significant correlation with job satisfaction which implies role overload plays an important role in lowering job satisfaction (H2). In case of physical environment it was found that it has positive significant relationship with job satisfaction (H3). In taking a closer look at the results of our study, it is also important to note that each work stressor has a different impact on job satisfaction.

With regard to workplace support acting as a moderator, the results of this study strongly suggest that none of the interaction terms have a significant impact on job satisfaction (Table 3, 4, 5). There are some studies which show that social support when interacts with work stress has a moderating effect (Beehr, King and King, 1990; Ok and Kim, 2001).

If the result would have suggested that workplace support has a moderating effect in the relationship between work stress and job satisfaction, then it may be used as coping resources (Boumans and Landeweerd, 1992). A moderating effect means that the existence of work stress would not lead to negative outcomes for those employees who receive or perceive a high amount of workplace support. However, the findings of this study showed that the interaction term does not moderate the relationship between work stress and job. Carlan (2007) reviewed and stated that one of the main causes for work-related dissatisfaction by law enforcement officers is stress which is directly related to the organizational characteristics of workplace. Supervisor, peer, colleague characteristic of support helps the officer to perform the difficult tasks, also giving credit for jobs well done, and providing incentives for employees to perform better.

The outcome of this study suggests different strategies that police sector may consider if they want to improve job satisfaction among their employees. First, police sector can influence the level of job satisfaction by reducing work load and improving physical environment because analysis results show that role overload is negatively related to job satisfaction. To reduce role

overload, police sector should re-design jobs so that it can be less stressful and time saving. Vanishree (2014) yielded similar findings that role overload brings about work stress among employees which leads to poor concentration, psychological problems and poor job performance.

Secondly there is a need of reforming of the police structure as it is not aligned with the responsibilities it has to carry out. This turn in low morale due to overextended work hours, poor reward and poor livelihood causing stress. Also, a policy should be amended where the casual leaves should be provided to the employees of police department as they are deprived of these leaves because of work overload and less number of employees in police department.

Moreover police organizations should build an organizational culture, where police personnel can have better bonding with others. A good relationship among police personnel may result in more workplace support at work.

In addition police organization should pay more attention to corrective measures to reduce stress. If one tries to understand Police organizational and functional system, he will realize the impediments causing stress among the police personnel which can be mitigated if the causes of stress such as lack of police personnel, lack of resources such as vehicles, arms and ammunitions, physical infrastructure, work load, role ambiguity, work shift etc are addressed properly.

Limitations in this study could be addressed in future research. The first limitation is that the study only focused three types of work stress i.e. role ambiguity, role overload and physical environment but there can be other variables of work stress which can be examined. Secondly, workplace support might be viewed as partial as only two sources of workplace support had been focused—supervisor and co-worker support. Therefore sources of workplace support outside of the workplace can also be taken into consideration (Caplan et al., 1975). Another limitation is that this study focused on only one specific sector, which makes the counteraction strategies less specific to other sector.

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The death of KPS Gill in mid-2017 was the passing of a titan. Borne on the Assam-Meghalaya cadre of the IPS, he made his mark in these north-east states for over 25 years. He then provided unparalleled leadership to the Punjab Police in the late 80's-early 90's, at a time when terrorism had forced the administration and judiciary to the knees. Political activity came was in doldrums. His towering personality led from the front recognizing talent regardless of rank; his grasp of the macro perspective and understanding of the psyche of the different communities of Punjab, reinforced an incisive mind that looked for innovative solutions to situations that seemed hopeless. Critics may fault him on many counts; “desperate times call for desperate measures”. KPS Gill did what had to be done, absorbing much of the vitriol levelled against the police after normalcy was restored.

Criticism of higher police leadership. Today, criticism-often uninformed-against the country's police leadership continues. The debate ranges from whether to make fitness standards mandatory for promotion, to whether police leaders pander to their political masters rather than rule of law, or whether IPS officers on deputation have failed to provide required leadership in the CAPFs. Dissatisfaction is being expressed from different quarters without systematically diagnosing the weaknesses perceived or articulating the qualities needed. Proposals to amend IPS promotion rules refer to “domain expertise”. Leadership and higher management skills are not mentioned. Every time there is a major incident in a conflict area, or a riot erupts, there is a clamour over the inadequacies of amateurish police leadership and comparisons with the professional officer corps of the army. What these critics ignore (or are ignorant of) is that the policing eco-system is not Manichaeian, but an unbelievably complex operating environment. Multiple factors jostle with conflicting objectives of different stakeholders. Often struggling with grossly under-resourced organizations, while coping with a boundary-less charter, police chiefs are aware that their own authority is diffused. Parallel power centres within or external assert formal or informal influence; whether political leaders, the civil administration, the judiciary or the plethora of quasi-judicial oversight bodies, and even the media. In today's polity, sometimes the police chiefs' own subordinates have more access and influence with decision makers.

This article is not a mea culpa or a defensive apology for inadequacies perceived or real, of the top police leadership. In a diverse country like India, a single template of leadership is unrealistic. Apart from differing working environments in various states, the style of leadership required in central armed forces and central police organizations is different, as it is in conflict zones compared to states where policing challenges are more conventional. What is undisputed is that competent leadership appropriate to the force and situation is a force multiplier in achieving the national goal of improving police capabilities. The intention here is simply to highlight a few issues that are critical to effective leadership at the highest levels.

Power Centres Achieving a functional balance with political power centres has become the litmus test for a state police chief, more so in states where the lines are very clear: “my way or the highway”. Navigating a course through the shoals of political compulsions (or personal benefit) that sometimes skirt ethical dubiety or even legality, often challenges professional benchmarks and moral tenets. At the same time, (and not just to retain their own jobs), police chiefs are aware that without sufficient rapport with political power centres, it is virtually impossible for an HOD to function effectively; whether to secure adequate resources, line up support for initiatives to improve policing or even to mute pillorying of police in the legislature or from public forums. Recruitment, postings to key appointments or help with personal issues such as those involving property or cases is the usual quid pro quo demanded for support. Intervention in critical investigations, tying adversaries into knots through registering of cases or response (or lack thereof) in public order disturbances is sometimes expected. In extreme cases political power centres expect the police to function like a private army or even 'goon squad'. There are often decisions that the police leadership may professionally disagree with but have to accept on grounds of 'political compulsion'. One example is the widespread deployment of personal security with prominent individuals (including senior police officers), many without objective threat assessments. This dissipates police strength without providing effective security that is usually better ensured by well-organized area security. Though this swallows up to 10-15% of force strength in many states it has become a status symbol and is an issue few political leaders are willing to address.

It is a fact of life that the balance has shifted disproportionately in favour of political power centres. The reality of excessive political influence was recognized in the report of the 2nd ARC and sought to be addressed in the SC Directives (2006) on Police Reform that attempted to reduce the political component in selection and tenure of police chiefs. There can be no parameters or defined benchmarks to guide the police chief of today; like mixed martial arts anything goes, only desired outcomes matter! Every individual police chief evolves his own 'Lakshmanrekha'; where to draw the line on 'requests'. Of course, it depends also on the ethical framework of the concerned political executive and the nature of rapport with them. One police chief dumbed down the thumb rule for requests to “any request that I would consider if made by a batchmate”! Others work out systems with the political bosses to identify the few essential among the many requests that are forwarded, sometimes coding these in a different colour of ink! Purists will assert that a police chief has no business to step outside the letter of the law or the framework of rules, a principle so well enunciated by Lord Denning - that a police chief “is not the servant of anyone, save of the law itself”. At the same time, in the functioning system of governance as it exists, every transgression cannot become a 'Kuruksheetra', nor should a police chief be a mere rubber stamp or puppet. There will be issues that need to be considered

pragmatically because local conditions demand flexibility. Others that are so patently improper and cannot be acceded to by anyone with a working moral compass or baseline professional ethics.

In addition to political power centres, police chiefs more than ever need to work effectively with the civil secretariat, particularly Home and Finance. In many states, significant authority regarding procurement, financial powers and even personnel matters, have been retained at the secretariat. Ranting at the insensitivity of civil service officers or their inability to understand police requirements rarely helps, since secretariat officers by the nature of their role and Rules of Business often have closer systemic rapport with political decision makers. Ways need to be explored to systematically review pending proposals, improve coordination and effectively highlight causes of delay and bottlenecks, whether in the process or because of individual laggards. Supportive secretariat officials can ensure that proposals move smoothly and swiftly through different stages of processing or departments. Negative ones can make sure that files are delayed or 'disappear' and can 'kill' major proposals by sending up weak cabinet notes. Similarly, metropolitan cities have become really complex entities. Multiple departments needed to be taken onboard to achieve positive changes in policing outcomes – one obvious example is traffic management.

In states with heavy deployment of either CAPFs or the army, the police leadership needs to see these as indispensable force multipliers that only add to the state police's capability. Minor ego issues or competing for results should not be permitted to come in the way of effective coordination and synergy. A clear understanding of the capacities and limits of different forces is a pre-requisite to using them effectively.

In some states, the higher judiciary has taken on a more assertive role. Examples include coordination meetings to review cases pending trial or investigation, or questioning the quality of investigation as reflected in evidence produced at trials. Rather than perceiving this as unwarranted interference, the support of the judiciary can help push long-pending efforts to improve police capacity or in areas such as improving quality of prosecution, reviewing forensics capacity or monitoring of cases in the court system. Who can forget that the most definitive framework for Police Reforms came, not from the political executive or administration but the Apex Court? Similarly oversight bodies set up at different levels need not be a nuisance with their observations (viewed as 'nit-picking' by those who live in ivory-towers away from the hazards of policing); but an opportunity to review whether police SOPs and processes are within legal parameters and documentation can stand the scrutiny of quasi-judicial observers.

The media is often seen as intrusive and irresponsible in covering police related issues, often fanning panic or hostility by sensational or distorted coverage. What is true is that it can influence public opinion and so can also be a useful partner in calming public unrest triggered by unsubstantiated rumours or triggering positive public debate. The Fourth Estate can also be a useful ally in supporting the build-up of police capacity, highlighting deplorable conditions police work or in publicizing innovations to improve delivery of services. The wide network of the media can provide an alternative source of information, though this requires sifting the credible from the sensational and unverified or even 'fake news'.

The public has traditionally been hived as bystanders in the process of policing, except for bodies like Mohalla Samities, Neighbourhood Watch or Village Defence Committees. In some states religious or social bodies have emerged as alternative power centres that cannot be ignored. Similarly, the assertiveness of civil society organizations (CSOs) including RTI and human rights activists reflects greater engagement of sections of our people with the business of government, not with standing those who misuse these platforms. They can be a 'nuisance' by asserting narratives that may be counter to official versions. Today's ubiquity of mobile telephony and social media networks have provided an opportunity to directly enlist wider sections of the public more effectively, not just in supporting the police, but becoming an unparalleled and direct source of information regarding governance at grass-roots.

Other organized sectors like corporate/business, academia, agriculture or transport also have influence on polity, though their agenda is usually sectoral. Building rapport does not require much effort and can prove to be great help in times when there are agitations/protests. 'Mafias' whether in the real estate sector or control of labour in sectors like the railways operate at sub-surface levels, but can lean on political power centres and must therefore must be factored into any assessment of the power matrix.

To achieve objectives, any police chief must build a support base of an informal coalition of power centres that have a credible agenda. It is usually not possible to enlist the support of all. Without this he'll be in danger of tilting at windmills and is likely to be rapidly unhorsed!

Planning, Technology&Systems 'Rushing to the spot' was the conventional reaction expected from police leaders to any major incident. And it's true that prompt police presence especially of higher levels, does generate a degree of public confidence and facilitates prompt action and decision-making on the ground. At the same time, higher leadership is not expected to try and second-guess all decisions of field leaders like district SPs, unless obviously on the wrong track. It is sad but true that the professional growth of many higher police leaders ends at the level of SP; their subsequent experience is often "1 year repeated 20 times"!

An effective and sustained response directed by the top, needs a well thought-out plan, with a clear appreciation of the situation based on credible intelligence, specific objectives, and realistic capacity to achieve these in an estimated time-line. Most state police forces today do have an IGP/ADGP L&O or Ops to assist the DGP, but clarity of terms of reference is yet to be as clearly defined as older branches like state intelligence or CID. Also 'Ops' often functions in a silo separate from these other branches, reduced to merely keeping account of available forces and directing its movement, without adequate integration with the intelligence branch. Of course tactical units like SOUs or STFs intended to pursue individual targets have in many states achieved formidable capability in narrow areas such as anti-terrorist operations. The requisite structure and systems to support broader operational planning capacity or objectively evaluate effectiveness of on-going strategy is yet to be built up. To be effective, available force has to be rationally deployed, consonant with an articulated strategy towards defined objectives with well-placed reserves. While it is necessary to respond to the minutiae of policing as reflected in everyday crimes and law-and-order incidents, capacity to take a strategic overview and deploy resources according to a longer-term perspective is essential. For example, day-to-day policing will remain thana-centric; but the 'COIN grid' worked out in conflict areas in coordination with district SPs takes account available intelligence of insurgent/militant activity over a wider area and other external factors like terrain. The effort is to deploy available forces, whether central or state, in a manner based on a holistic perspective of the entire theatre of operations, not just in reaction to localized incidents.

A similar clarity of objectives and marshalling of available resources is needed when there are widespread law-and-order disturbances. It's not enough to send force reinforcements that are unfamiliar with the people and area. Also the situation is usually dynamic and panic or aggression spreads like wildfire in an age of social media and instant communications. Nor can these deployment grids be prepared solely on the basis of maps since the terrain on the ground and road connectivity often requires a different approach. Similarly routinely prepared riot-plans dusted off year-after-year will rarely achieve the purpose. First, since it remains a table-top exercise in most cases, and secondly since in a dynamic situation intelligence analytics is needed to identify 'hot-spots' and key individuals. In today's era, cyber-crime, terrorism and organized crime spill beyond police station, district, state and sometimes national boundaries. The police leadership needs to be able to think beyond territorial jurisdictions and in terms of broader networks and trends, even as they must direct actions to be taken locally and against individuals.

Evidence-based policing and a systems approach were once just interesting concepts. With the

increasing availability of big-data and analytics, policing is poised to enter an era when technology can play a key role in improving the quality of decisions and delivery of policing services, replacing subjective opinions or experiences of higher hierarchy as the sole basis for decisions. Already, several states have taken initiatives that have dramatically improved monitoring of cases under trial and even conviction rates. Crime-mapping has reached new levels of analytic capability enabling more systematically organized preventive and response mechanisms. Citizen-services like passport enquiries have been reduced from months to days by some innovative officers. Individual police leaders have understood and applied technology to achieve these innovations. For this to become systemic there may be a need for a Chief Technology Officer (CTO) to explore and advise the police chief on applications that can add value, and also to evaluate the multitude of technological products all claiming to be able to take policing to a new level. Since the revolution in communications has reduced reliance on wireless, perhaps police wireless organizations can be transformed to encompass capabilities in emerging technological domains.

Managing Personnel & Logistics Human resources are the bedrock of police organizations, but often not given enough attention. Innovations like Transparent Recruitment Process (TRP) have attempted to make the entry process fairer, but career progression is still elusive for most subordinate levels, both in most states and CAPFs that are mega-forces today. With more qualified youth joining the police, the structure and HR policies will need redesigning to meet their aspirations, with less emphasis on rank-hierarchy and more on skills sets. It is not just promotions that today's generation looks for, but opportunities to develop skills, a less-hierarchical relationship across levels, and to gain interesting experiences. Doing the same job for decades at the same level with little value addition is a recipe for frustration and poor morale. The National Police Scheme (NPS) scheme obviates the need for younger personnel to complete the requisite years of service to earn a pension. They can leave if they find working conditions unacceptable. Performance assessment systems and policies to recognize achievement need to become more objective and measurable. Simply making it numerical is not enough, as experienced in the past decade with APRs of AIS or army officers, and now 360' assessments. This is also critical to fitting 'the right person for the right job'. Corruption is not limited to the police, but has a major impact on internal morale and public image. Greater transparency, simplified processes and using technology applications offers opportunities to reduce corruption as much as by strengthening internal controls and introducing mechanisms to detect and investigate corruption. The policy to increase the proportion of women in the police is welcome, but needs to be thought through more thoroughly to make it work. What should be the QRs for different roles? Are women expected to perform the same duties as men? What

changes are needed in policies, organizational structure and logistics in the context of Indian policing to facilitate women contributing in equal measure?

Logistics includes systems to ensure adequate accommodation, vehicles, equipment, uniforms, rations etc. The CAPFs are better off; many state police forces are in a pitiable condition, with accommodation and vehicle fleets inadequate and in a state of disrepair. In some states, uniforms are not replaced for years, in others annual range practice cannot be carried out for want of sufficient ammunition and POL supplies or telephones disconnected because of non-payment of pending bills. Procurement policies are outdated and often without adequate research e.g. the arming policy that often demands weapons, not on the basis of assessed need for a particular role but what other forces have procured. Processes are often tortuous and opaque, budgets insufficient, and financial management a neglected skill. The Centre is only a little better; even essential items take CAPFs years to procure and at times involve over 20 different stages, the concern being more to counter anticipated audit objections than to ensure that the force has what it needs in time! HOD's flexibility in using allocated funds is limited, financial rules outdated and few FAOs are competent to effectively advise on planning budgets or expenditure so as to meet essential requirements under different heads over the year. Instead their role is often perceived as negative and rule-bound, raising objections to needed expenditure without proposing alternatives.

Earlier, inspections, parades and a system of manual inventory controls were devised to make sure that police forces had the wherewithal and capacity to perform their role. These can be adapted to current conditions using technology to achieve the same objectives and highlight deficiencies in real-time.

Training & Welfare An under-strength civil police and over-deployed armed police has impacted overall training in many states. Even many CAPFs are unable to keep training reserves because of over-deployment. Traditionally, repeated drills of laid down SOPs for different situations were used to ensure that personnel achieved desired professional competencies and cohesion. For example, the anti-hijack unit of the premier NSG rehearses drills thousands of times for an 11 second intervention to achieve zero-error in perhaps one of the most challenging AT operations. Unless skills like marksmanship, fitness and small-unit drills are repeatedly practiced so as to become part of the DNA of a unit, it's unlikely to respond according to the SOP in case of a contingency. Stress on training of NCOs/JCOs ensured that these front-line leaders knew their business and therefore commanded could hold ORs together in the most difficult situations. This needs to be revived today as also existing SOPs be reviewed to take account of current situations faced in changed conditions. Augmented Reality and other

technological innovations available could help design training to be carried out more realistically even for other police roles like investigation and to initiate desired behavioural changes. Moreover, ways to make training a priority must be explored and to design the curricula to address actual needs while using andragogic methods more suited to the present digital generation. Instructors with specialist skills need to be given adequate incentives or training outsourced to those with proved expertise.

The primary aspect of welfare is to make sure that subordinate ranks get what is due and to the extent possible in conformity with country-wide standards. It is unacceptable to expect subordinate personnel to live in sub-standard accommodation or have inadequate health care, yet give their all 24x7, on grounds that the police is a disciplined force. The higher leadership is not expected to be in frequent contact with subordinate ranks, but needs to ensure that welfare policies are rationally drawn up to meet current requirements and carried out impartially to the benefit of both organizational goals and individual needs. Also, to be accessible if the direct command cannot resolve genuine grievances – the highest leadership can afford to be fatherly and be seen as fair rather than feudal and rule-bound. Top levels can be a role model, by restraint in using facilities available, for example by eschewing luxurious offices and guest houses till subordinate personnel have at least the basic standards of accommodation and other facilities.

Internal Police Reforms The landmark SC Directives (2006) on Police Reforms given in Prakash Singh and Ors vs Union of India and Ors have been complied with by only a few states, diluted by many and ignored by others. What about internal reforms? Why is a judicial mandate needed to build up capacity for strategic and operational planning, apply technological innovations for better delivery of policing services, streamline management of finance and logistics, adapt modern HR practices, ensure need-based training content and more effective andragogy, or improve welfare of the force? Political leaders will rarely oppose and usually support initiatives towards improving welfare of subordinate personnel, since they are more closely linked to the constituencies of voters, and such measures do wonders for their public image.

KPS Gill Centre for Higher Leadership in Governance It would be appropriate for the National Police Academy to host a multi-disciplinary Centre for Higher Leadership. Detailed terms of reference can be worked out, but this should essentially address the structures, processes and skills needed at higher levels of governance, with focus on police organizations of the states and centre. It should have a state-of-art 'Leadership Lab' to conduct research on specific issues faced with regard to organizational structure and policies, adapt modern management practices, and advise and help implement these in states/CAPFs. Regular

workshops could be organized to build up specific capacities in emerging domains relevant to modern policing, and to design and conduct training courses to prepare officers for the higher levels of governance. It could draw resources from institutions like ASCI, IIT and even IIMs to ensure that the best available expertise is available. GOI/MHA could provide the seed money and be represented on the Advisory Body of this Centre. If felt appropriate, other states and entities like PSUs or organizations reputed to fund initiatives for the public good like the Tata Trust could also be invited to contribute resources, since the outcome will have impact on public social and economic well-being.

Conclusion As we talk of reforming the police and building up its capabilities to meet the needs of 21st century India, a critical component is to ensure that the police leadership as a corporate group has the confidence of the public, and is trained with competencies and attitudes consonant with contemporary society and modern organizations. Everyone is not a natural leader like KPS Gill, but systematic efforts can help 'make' senior officers into leaders that he would have been proud of. Such a transformation is the first step to achieve the Revolution in Police Affairs that our country desperately needs and that can no longer be delayed.

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Hyper spectral imaging as a tool for discrimination amid forensic falsification in documents



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Hitesh P. Vora¹

Kapil Kumar²

Himanshu Pandya³

Abstract:

Hyperspectral imaging (HSI) as a non-invasive technique, has evolved as a tool in forensic analysis especially in cases of forensic document examinations. In this paper this most useful tool has been explored for forensic document examination. In document examination frequently issues of forgery of printed document, seal impression and fingerprint are encountered. Normally these prints are often questioned on its authenticity. Many times in document that prints on each other and form a smudge area on document. This smudge area is unable to observe clearly. This paper is focused on distinguishing printed text, stamp impression and fingerprint on document. Here using VSC-6000/HS with HSI range is used to distinguish and photographs were taken for record.

Keywords:

Hyper Spectral, Imaging,, Discrimination, Amid, Falsification, Smudge, Wavelength, Thermal Group Intensity, Spectrum.

Author Intro:

Department of Forensic science, Gujarat University, Ahmedabad, Gujarat

1. Introduction

Forensic document examination became an independent discipline in last few decades. Hyperspectral imaging (HSI) is a powerful tool for forensic document examination. Wide range of HSI applications are reported in art and archaeology, medical imaging, military, pattern recognition and remote sensing areas [1]. It is commonly used for in old documents for visual enhancement and to create reconstructed finishing image [2]. HSI obliges investigators for the evaluation and identification of forensic trace evidences [1]. The non-destructive manner of development of HSI system is put into use for enhancing the valuation of visual properties of stains. National archives of Netherlands has developed software for historical document examination [4]. The developed sophisticated system provides range from near UV, visible to NIR [5]. In commercial market Foster & Freeman and Chemimage, who provide HSI system for forensic examination [6-7]. Manual visual comparison of black inks in lab colour mode was reported by using HSI system Hammond et al [8] also reported the writing ink detection efficient HSI system for different types of ink analysis was, where dissimilar ink show divergence in spectra [9]. Detection and enhancement of untreated latent fingerprint impression using HSI system is studied and reported by many reasearchers[10-15]. It is also used for chemically treated latent fingerprints development and recognition [16-19]. HSI is a technique in the examination of gel pen writing ink, which enables the detection of subtle difference among chemically similar inks [20]. Non- destructive visual examination of document by microscopy and filtered light IR (infrared) and UV (ultraviolet) lighting, including thin layer chromatography(TLC), high performance thin layer chromatography(HPTLC)[22-23], HPLC, capillary electrophoresis(CE), gas chromatography(GC) alternative chemical technique is destructive method[24-27]. Other spectroscopic technique in UV-vis-spectroscopy[28-30], microspectrophotometry(MSP)[31], Fourier transform infrared spectroscopy(FTIR)[32-34],Raman spectroscopy[35-39], Hyphenated mass spectrometry and Laser induced break down spectroscopy(LIBS)[40-50] for minimal quantity of ink.

The goal of the study was to analyse and also document the examination of printed text, seal impression and fingerprint impression descrination and examination using Hyper spectral imaging non-invasive technique. This type of documents frequently encountered in forensic casework.

2. Materials and methods

2.1. Sample preparation

In this study, in all 60 simulated samples comprising inkjet (15 samples), laser print

(15 samples), thermal print (15 samples) and typewritten (15 samples) were investigated. Care has been taken that printers had original cartridges as recommended by the manufacturing company. For sample preparation, white office paper was used for obtaining printed text from different sources viz. inkjet, laser, typewriter and for thermal print samples with pre-printed ATM transaction slips were obtained. All the printed samples were further stamped by blue rubber seal impression (stamp pad ink) obtained from local market, which were further smudged with fingerprint impression by standard fingerprinting ink. Many a times fingerprints are also to be considered in questioned document examination because at instances thumb impression is used as signature by illiterate person in documents. In all 60 samples smudged with printed text, rubber seal impression and fingerprint were subjected to hyperspectral analysis for their discrimination.

Fig.1 is a prepared sample of printed text, seal impression and fingerprint (thumbprint) overlapped to each other on document.



Fig.1. (a) Inkjet group (b) Laser group (c) Thermal group (d) typewriter group -Simulated overlapped of printed text, seal impression and thumb print.

2.2. Analysis

The simulated samples were analysed under calibrated Video spectral comparator (VSC) 6000/HS by froster+freeman, UK. The Instrument is an assembly of various light sources, optical filters, CCD camera and high resolution grating spectrometer. It allows examining document under various wavelengths of light. Hyperspectral analysis mode able to analyse both in visual as well as spectral analysis at a range of 400-1000 nm and different filter. HSI feature is used with 10 band-pass filter steps within the range is used. Ultimately 130 images at every 10nm were obtained. Difference of wavelength absorbance is giving images at juxta position. This visual examination is able to simultaneously discriminate among images at difference wavelength illustrating visual difference among different types of inks. A spot fluorescence at 695nm was also obtained to visualize fluorescence property in the sample. The method was repeated on all the samples under similar condition. For reflectance spectra

reference background itself paper on which simulated sample prepared. Created spectral graph in reflectance mode in Video spectral comparator.

3. Results and discussion

In presence study 60 samples analyzed using VSC 6000/HS. Given below in the result imagery and spectral data observation in four group's inkjet, laser, typewriter and thermal. In result imagery data give visual representation and spectral data give variation in absorbance of sample.

3.1. Imagery data

3.1.1 Inkjet group

In *fig 2*. Inkjet group in printed text, seal impression and fingerprint smudge area in document examination under different filter, visual and infrared condition (400-1000 nm). Every 10 nm bandpass wavelength one image taken within range 130 image chart. In chart of image in some blank images indicate unable to distinguish on that particular wavelength. In the images printed text reflecting in 400nm to 800 nm range with seal impression and fingerprint not properly enhance. Seal impression under in special filter give clear imprinted impression is visible in image chart. Fingerprint discriminate 540 nm to 780 nm in range.

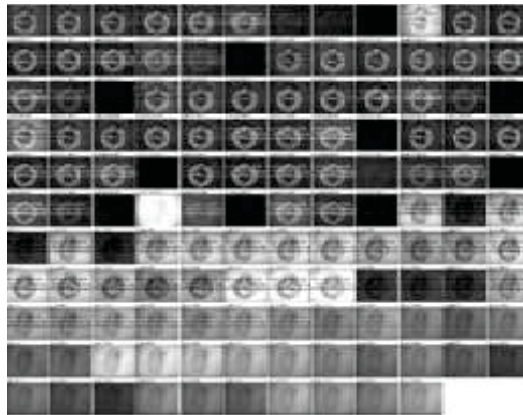


Fig. 2. Images in visible and IR condition, 400 nm to 1000 nm (Inkjet printed text, stamp-pad and fingerprint ink)

In this group distinguishing features showing in table 1 and indicating samples range and region of wavelength in which that particular portion is emerge out from background.

<i>Group 1</i>	<i>Samples</i>	<i>Distinguishing features</i>
	Inkjet printed text	Visible of printed text in range 400 nm to 840 nm. Text areas also give contrast in filter light condition.
	Seal impression(stamp pad ink)	Seal impression distinguish in range Spot 400-485(100) RG645, RG665, Rg695, RG715.Spot 400-535 (100) RG645 RG665, RG715, RG9. Spot 445-570(100)RG645, RG665, RG665, RG695, RG715 Spot 485-590(100) RG645, RG665, RG695, RG715, RG9 Spot 485-610(100)RG645, RG665, RG695, RG715, RG9 Spot 515-640(100) RG695, RG695, RG715, RG9
	Fingerprint	Absorption 540 nm to 780 nm in discriminating fingerprint

Table 1. Inkjet group Samples discrimination in different wavelength

3.1.1. Laser group.

Laser group image chart following 130 images showing absorbance at various wavelength and give an individual image. In chart blank image have unable to differentiate on that wavelength. In images visible printed text, seal impression, and fingerprint in sequence.

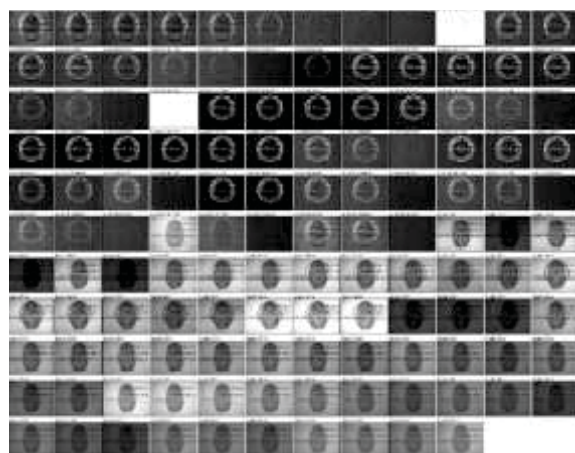


Fig 3. Images in visible and IR condition, 400 nm to 1000 nm (Laser printed text, stamp-pad and fingerprint ink)

In table 2 laser group in printed text, stamp pad and fingerprint features at different range of wavelength. Laser printed text reflecting 550 nm to 590 nm range following seal impression and fingerprint invisible. Same as inkjet group in laser also special filter condition in seal impression reflect on paper in visible form. Fingerprint ink discriminate in 550 nm to 590 nm region of wavelength. Following table 2.

Group 2	Samples	Distinguishing features
	Laser printed text	Text discriminating 550-590 nm
	Seal impression(stamp pad ink)	Spot 485-590(100)RG665 Spot 485-610(100)RG645 Spot 515-640(100)RG695 Spot 545-675(100)RG 9 Spot 585-720(100)RG830
	Fingerprint	Impression distinguish in 550-590 nm

Table 2. Laser group Samples discrimination in different wavelength

3.1.2. Typewriter group

In *fig 4.* typewritten group in printed text, seal impression and fingerprint smudge area in document examination under different filter, visual and infrared condition (400-1000 nm). Every 10 nm bandpass wavelength one image taken within range 130 image chart. In chart of image in some blank images indicate unable to distinguish on that particular wavelength.



Fig 4. Images in visible and IR condition, 400 nm to 1000 nm (typewritten text, stamp-pad and fingerprint ink)

As same as inkjet group and laser group typewritten group discriminated under different wavelength in given below table 3(typewritten text, seal impression and fingerprint impression). Typewritten ink reflecting and visible in 670 nm to 900 nm in range. Seal impression discriminate in special spot filter condition. Fingerprint ink visualize in 660 nm 800 nm in range. Following table 3.

Group 3	Samples	Distinguishing features
	Typewritten text	Text distinguish in range 670 nm to 900 nm
	Seal impression(stamp pad ink)	<i>Seal impression distinguish in different filters</i> <i>Spot 400-545(100)RG715, RG9 RG780 RG780 RG830</i> <i>Spot 445-570(100)RG645 RG665 RG695 RG715 RG645 RG 9</i> <i>RG645 RG780 RG830</i> <i>Spot 485-590(100)RG665 RG665 RG695 RG715 RG9 RG780</i> <i>RG830</i> <i>Spot 485-610(100)RG645 RG665 RG695 RG715 RG9 RG780</i> <i>RG830 RG850 RG925 RG695</i> <i>Spot 515-640(100)RG695 RG715 RG9 RG695 RG715 RG9 RG780</i> <i>RG830</i> <i>Spot 515-675(100)RG9 RG780 RG830 RG850</i>
	Fingerprint	Impression distinguish in 660 nm to 900 nm

Table 3. Typewritten group Samples discrimination in different wavelength

3.1.3. Thermal group

Thermal group image chart following 130 images showing absorbance at various wavelength and give an individual image. In chart blank image have unable to differentiate on that wavelength. In images visible printed text, seal impression, and fingerprint in sequence in fig 5

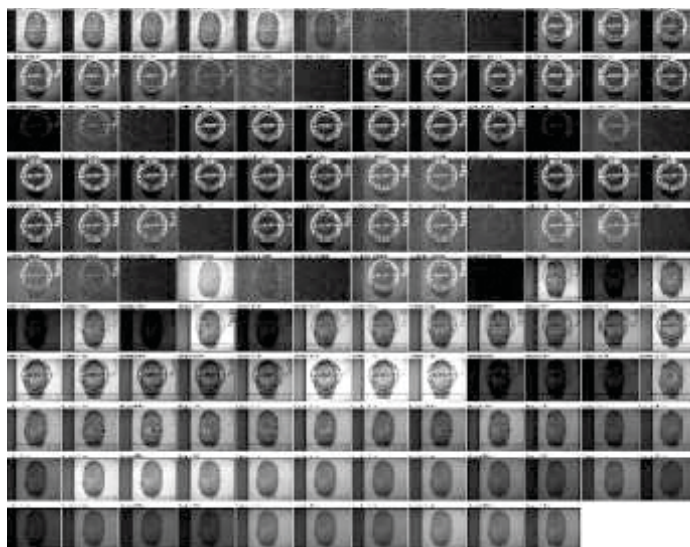


Fig 5. Images in visible and IR condition, 400 nm to 1000 nm (thermal printed text, stamp-pad and fingerprint ink)

In table 4 given range of wavelength and different filter use to discriminate thermal printed text, seal impression and fingerprint on thermal paper. Thermal printed text discriminate in spot filter condition and give clear text in visible form in this seal and fingerprint not reflecting. Seal impression discriminate spot filter in table being used. Fingerprint ink visualize in 600 nm to 800 nm in range.

Group 4	Samples	Distinguishing features
	Thermal printed text	<i>Spot 400-485(100)RG645 RG665 RG695 RG715 RG 9</i> <i>Spot 400-535(100)RG715 RG 9 RG780</i>
	Seal impression(stamp pad ink)	<i>Seal impression distinguish in different filters</i> <i>Spot 485-590(100)RG645 RG665 RG695 RG715 RG 9 RG780 RG830</i> <i>Spot 485-610(100)RG645 RG665 RG695 RG715 RG 9 RG830 RG780</i> <i>RG850</i> <i>Spot 515-610 (100)RG695</i> <i>Spot 485-610 (100)RG715 RG780 RG 9 RG830 RG850</i> <i>Spot 515-640(100)RG695 RG715 RG 9 RG780 RG830 RG850</i> <i>Spot 545-675(100)RG 9 RG780 RG830 RG850</i> <i>Spot 380-800(100)RG830 RG850</i> <i>Spot 585-720(100)RG830 RG850</i> <i>Absorption 550nm to 610nm</i>
	Fingerprint	Impression distinguish in 660 nm to 900 nm

Table 4. Thermal group Samples discrimination in different wavelength

3.2 Spectral data

3.2.1. Inkjet group

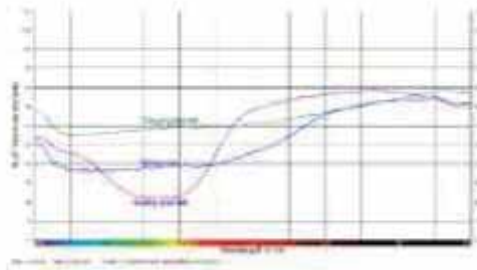


Fig 6 A single % reflectance spectrum of inkjet group (blue line= (I) inkjet print ink, violet line=(S) stamp pad ink, green line= (F) fingerprint ink)

In fig 6 spectra of ink jet group in three line (blue line= (I) inkjet print ink, violet line=(S) stamp pad ink, green line= (F) fingerprint ink) goes downward to upward. 'F' line in 400 nm to 450 nm downward afterward in 70 to 80 intensity in range. 'I' line 400 nm to 500 nm downward and after rising in 40 to 70 intensity range. 'S' line fall 400 nm to 600 nm afterward rise intensity in between 20 to 70 range. In spectrum major difference observe in 400 nm to 500 nm, 550 nm to

650 nm. In region of 800 nm to 950 and above whereas three line interact and overlap to each other. The % reflectance spectrum clearly indication of different source of inks. Artefacts shows on in 800-850 nm and 900-950 nm range. Discriminating power of inkjet group 0.93.

3.2.2. Laser group

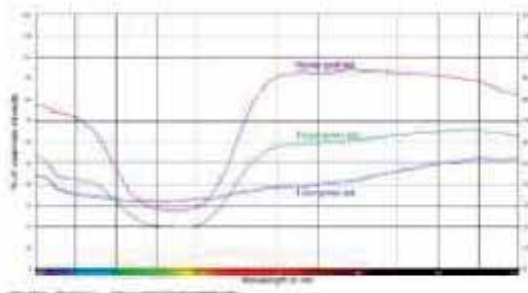


Fig 7 A single % reflectance spectrum of laser group (blue line= (L) laser print ink, violet line=(S) stamp pad ink, green line= (F) fingerprint ink)

In fig 7 spectra of Laser group in three line (blue line= (L) Laser ink, violet line=(S) stamp pad ink, green line= (F) fingerprint ink) goes downward to upward. 'F' line in 400 nm to 600 nm downward in 20 to 60 intensity in range. 'L' line 400 nm to 500 nm downward and after straight rising in 30 to 50 intensity range. 'S' line fall 400 nm to 600 nm afterward rise intensity in between 25 to 80 range. In spectrum major difference observe in 400 nm to 500 nm, 550 nm to 650 nm. In region of 650 nm to 1000 nm whereas three line individual to each other. The % reflectance spectrum clearly indication of different source of inks. In spectrum no artifacts observe and discriminating power 1.00 in laser group.

3.2.3. Typewriter group

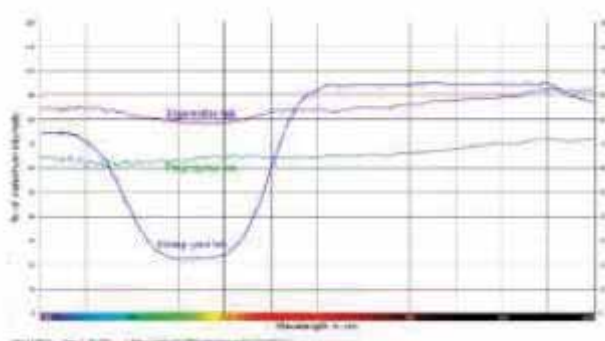


Fig 8 A single % reflectance spectrum of typewriter group (blue line= (S) stamp pad ink, (TY) violet line=typewritten print ink, green line= (F) fingerprint ink)

In fig 8 spectra of Typewriter group in three line (blue line= (S) stamp-pad ink, violet line= (TY) typewriter ink, green line= (F) fingerprint ink) showing differences. 'F' line is straight forward

with least rise in whole range. TY line likewise F line no upward and down ward difference. 'S' line downward and form U shape spectrum line in range 400 nm to 600 nm afterward rise intensity in between 20 to 90 range. In spectrum major difference observe in 450 nm to 600 nm, 650 nm to 900 nm. The % reflectance spectrum clearly indication of different source of inks. In spectrum no artifacts observe and discriminating power 1.00 in typewriter group.

3.2.4. Thermal group

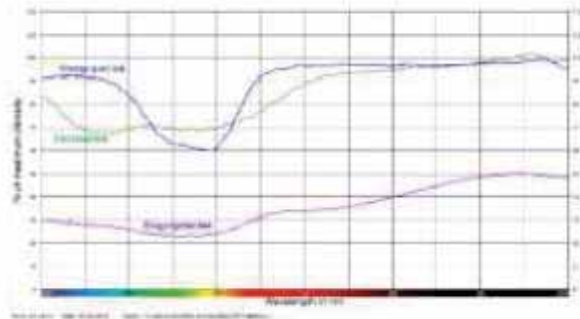


Fig 9 A single % reflectance spectrum of thermal group (blue line= (S) stamp pad ink, violet line= (F) fingerprint ink, green line= (T) thermal ink)

In fig 9 spectra of thermal group in three line (blue line= (S) stamp-pad ink, violet line= (F) fingerprint ink, green line= (T) fingerprint ink) goes downward to upward. 'F' line starting intensity 30 and downwards 400 to 600 nm and afterward rise up to 50 intensity range with no intersect to S and T spectrum line. 'S' spectrum line form U shape graph first downward 500 to 600 nm range. The % reflectance spectrum clearly indication of different source of inks. Discriminating power of inkjet group 1.00.

4. Conclusion

The HSI potential of discriminating over the other analytical techniques for inkjet, laser, and typewriter, thermal ink from stamp-pad and fingerprint ink analysis has been examined. HSI Discrimination relies upon the view of the examiner conversely some objectivity is provided by the % reflectance quantities. The changes in the responses of the ink under visible and IR condition at specific wavelengths in combination with comparison of spectral differences between inks, greatly assists discrimination. HSI provided a complete discrimination of all inkjet, laser, typewritten, thermal from stamp-pad and fingerprint ink examined. The discriminating power of 0.93. This HSII tool easy, handy and less time consuming with accurate results for question document examiner.

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Terrorism and Media: *Symbiotic Relationship between Media and Terrorism*



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Shabin O.S¹

Dr. M. Priyamvatha²

Abstract:

In a war of unequal forces, terrorists use the help of media to create wider impact for their action. Media is considered as the oxygen of terrorism, without the publicity which is created with the help of mass media the impact of the terrorist attack or their action will be restricted to the immediate victims. Terrorists plan and execute their attack in such a way to make sure they will get maximum media coverage to gain wider publicity to their attack and cause. This paper critically analyzes the symbiotic relationship between modern media and terrorism. This symbiosis between media and terrorism is worth examining in greater detail, as it is hazardous and largely ignored. In this paper it is attempted to find out how and why terrorists utilize media platforms, how and why the media covers acts of terrorism and to conclude, a few suggestions to counter the injurious effects of the symbiotic relationship are focused.

Keywords:

Terrorism, Media, Symbiosis, Publicity, Preventive Measures

'It's not right to respond to terrorism by terrorizing other people'

Howard Zinn

Author Intro:

1. UGC-Junior Research Fellow, Department of Criminology, University of Madras, Chennai, Tamil Nadu.
2. Dr. M. Priyamvatha, Assistant Professor, Department of Criminology, University of Madras, Chennai, Tamil Nadu.

The state sponsored act of terrorism which started during the French Revolution in the 18th century and the modern terrorism have tremendous change in the way it plans and execute their act. The preparation and execution of modern terrorism are similar to any theatrical engagement: meticulous attention paid to script preparation, cast selection, sets, props, role-playing, and minute-by-minute stage management, and just like compelling stage plays or ballet performances, the media orientation of terrorist activity requires careful attention to detail in order to be effective (Weimann, 2005). In this age of globalization and advanced technology, information regardless of their truthfulness reaches each and every corner of the world. Modern terrorists are taking full advantage of this to plan, coordinate and execute their devastating campaigns. Media plays a crucial role in creating a greater impact on the actions made by the terrorist, modern terrorists feed the media, both directly and indirectly, with the propaganda as news items. Last century witnessed a revolution in telecommunications which greatly altered communication by providing new media for long distance communication. Media with the arrival of the internet has made communicating around the world increasingly easier and cheaper. Today, even small kids are encouraged to use media tools and are expected to have a general understanding of the various technologies available. Modern terrorists grab this opportunity in full potential. As some remarkable terrorist attacks in history indicate, either it be, in the United States (US), Europe, or in the Middle East, it is by and large, the case that the architects of terrorism exploit the media for the benefit of their operational efficiency, information gathering, recruitment, fundraising, and propaganda schemes (Nacos 2006). According to Nacos (2002) whether it is the relatively inconsequential arson by an amateurish environmental group or mass destruction by a network of terrorists, the perpetrator's media-related goals are the same: attention, recognition, and perhaps even a degree of respectability and legitimacy in their various societies. In return, media accumulates the attention of the public that is vital for its existence and benefits from record sales and huge audiences (Seib and Janbek, 2011). One of the main factors related to the success of a terrorist attack is the publicity or amount of fear and confusion it created among the general public. Media act as an enabler for terrorist organizations to achieve this objective.

Media: Evolution

Mass media refers to the media technology that is intended to reach a mass audience. It is the central means of communication used to reach the vast majority of the general public. The most common platforms for mass media are newspapers, magazines, radio, television, and the internet. The general public typically relies on the mass media to provide information regarding political issues, social issues, entertainment, and news. Though there are many forms for the

collection of information, news paper and television news are the main source for the general public to gather information. The media coverage or attention related to particular ideology of a terrorist group changes according to time. Terrorism linked to the extreme right and left, pro-independence actions were the one which got maximum coverage before. The current trend in terrorism which gets maximum publicity is religiously motivated terrorism, to be more specific terrorist act committed by the individual who follows the religion of Islam. The reporting behavior of terrorism related news by the media increased radically after the 9/11 attack. “The 9/11 attacks moved terrorism from under-reported (by comparison) news that happened somewhere else to a major concern by a broad collection of media outlets. Assuming that independent media attempt to satisfy their readers' demands for information, this suggests that the public wanted, or at least consumed, stories about deadly terrorist attacks.” (Segalla, 2017). Gradual evolution has been occurred to terrorist group also in terms of using different media platforms. In addition to their own website and channels, Shyam Tekwani,(2008) a researcher from the Singapore Internet Research Centre explains, “many terrorist groups like Moro Islamic Liberation Front or Abu Sayyaf group are using technologies such as electronic mail, mobile phones, SMS and radio and video technologies to communicate with each other and to disseminate their messages to the general public.”

Terrorist's hidden agenda: How and why they exploit media platforms

Why terrorists utilize different media platforms

Publicity or reach of the information to the vast audience is one major reason behind the terrorist's use of different media tools. It is explained clearly by Hoffman (2008) “without the media's coverage, the act's impact is arguably wasted, remaining narrowly confined to the immediate victim(s) of the attack, rather than reaching the wider 'target audience' at whom the terrorists' violence is actually aimed.” In an era of technological advancement, modern terrorist relies on sophisticated methods to carry out their attack in which more than the immediate victims they are focused on the target audience and they emphasize how the audience reacts which is as important as the act itself. New improved methods of global communication have broadened the possibilities for organizing and mobilizing like-minded individuals and groups throughout the world to include activities of transnational criminal and terrorist networks like Al Qaeda (Baylis & Smith, 2006). Globalization along with the technological advancement in the media helped the terrorist in different ways. It assisted the terrorist groups to plan and conduct operations with far more devastation and synchronization than their ancestors could have imagined. In particular, technologies have improved the capability of groups and cells in

the following areas: coordination, security, mobility and lethality. In addition to that, through the media, they aim to publicize their political causes, inform both friends and foes about the motives for terrorist deeds, and explain their rationale for resorting to violence (Nacos 2006).

The publicity a terrorist organization obtains after a successful terrorist attack is multiplied many times with the help of different media. By reaching the masses in each and every corner of the world, it helps the organization for the easy recruitment to the terrorist organization. There is a high chance of getting radicalized towards extreme groups due to the mass publicity the terrorist organization obtains. They also want to be considered as regular, accepted world leaders and media helps them to achieve similar status. From a terrorist's perspective, the media functions as a tool to reduce the vast power differences between them and the entity they fight, create an atmosphere in the society which is full of fear and chaos, neutralize their heinous act, and to reach greater audiences. Finally, all these information instruments can also be used by terrorist organizations towards their own members for various purposes. This includes, strengthen cohesiveness, improve morale and relieve groups of internal conflict. In sum, sympathy and support from the populace for their cause is the ultimate goal.

How terrorist utilize different media platforms

A terrorist group uses different media platforms depending on their objectives of their mission. With the entry of the globalization, an increase in internet service providers and the access to more proficient and inexpensive computer, software and wireless technology has empowered terrorist groups with the ability to advertise their causes through the World Wide Web. The new and emerging media have made it easier for terrorists to publicize their messages to the world via websites at their own discretion and “new technologies have simply allowed the dissemination of terrorist messages to reach a broader audience with a more concise message” (Baran 2008). Once limited to mimeographed manifestos, some terrorist and their supporters are now capable of building websites to post any information they choose (Baylis & Smith, p.489).

Achieving both national and international media coverage which helps to get the attention of decision-makers in a government is one of the primary goals of terrorists. For this purpose, terrorist carefully select particular targets and day in which they carry out their attacks in order to provide the best media coverage and it may be historical buildings, governmental buildings, political leaders or government official and so on. All types of terrorist seek the maximum media coverage for an attack so a target which has lots of international visitors is a preferred target. For example why target a small local airport in the UK when you could target an international airport like Heathrow which has visitors from many nations. Any attack on such a

target would cause casualties among many nationalities and therefore generate maximum international media coverage (Dugdale, 2005). According to Alex P. Schmid and Janny de Graaf, in "Violence as Communication: Insurgent Terrorism and the Western News Media," the Red Brigades, chose Wednesdays and Saturdays as "their preferred communication days" so that their activities would make it into the more robust Thursday and Sunday newspapers. The infamous Oklahoma bombing culprit Timothy McVeigh told in an interview that the reason for selecting the target Murrah Federal Building, 'because it had plenty of open space around it, to allow for the best possible news photos and television footage' (Nacos, 2006). The selection of Mumbai city for the attack of 26/11 may not be a coincidence since Mumbai is the home of Indian film and media industry and it is very much easy for all the news media to reach there and cover the entire incidents effectively. The selection of targets in Mumbai, the spread of attacks and timing of the attack were so deliberate. It was conducted in the financial capital of the state where no part of the action to be missed with maximum media presence and easy access to the target places (Iqbal, 2008). The reason behind the gap between the attack on North and South towers on 9/11 can be attributed to gain maximum media attention. As noted by Leonard Spencer in his study "In the case of the second plane however we are faced not with a dearth of evidence but with an abundance of it. The incident was captured by scores of photographers and video camera operators, professional and amateur, drawn to the scene by the earlier attack on the North Tower. The photographs and video footage they captured have entered public consciousness as perhaps the defining images of 9/11" (Spencer, 2004).

Earlier, a decade ago for spreading their message, the terrorist organization utilizes the power of other media forms and technologies such as video and audio cassettes, DVDs, video games, popular music, and novels which should not be underestimated (Nacos, 2002). Digital camera, video cameras, and various other technologies have made it to individual consumers at an affordable price. This has helped the terrorist not to depend solely on news agencies. The arrival of internet further facilitated them to create websites that hosted their videos, publications, audio files like podcasts, and various other materials that supported their cause and appealed new recruits.

Pursuit of ratings: How and Why the Media Covers Terrorism-Related Stories

Terrorism is an attractive topic for media coverage; it helps to increase the viewer ratings which in turn benefit them in terms of profit. To be more specific, terrorism has many aspects that make it a very attractive subject for the media, as it has the elements of drama, danger, blood, human tragedy, miracle stories, heroes, shocking footage, and action (Terrorism and the Media 2008).

Another reason is that violence is a central and defining quality in contemporary television culture and is critical to the semiotic and financial momentum of contemporary media organizations (Lewis 2005). Media's attraction towards terrorism is not a new phenomenon; however, the effective proliferation of television and radio channels, and the emergence of mega-media organizations have resulted in greater competition and insatiable appetites for shocking, sensational "infotainment" that is believed to keep audiences captivated, boost ratings and circulation, and increase profits (Nacos, 2006). Another reason which cannot be under estimated concerning why the media is that irresponsible and excessively profit-oriented in the context of terrorism is that a considerable number of top media executives today come from the corporate world, but not from the ranks of journalists (Biernatzki, 2001). The corporate giants always try to capitalize the opportunity for their optimum mileage compromising the cost of damage done to the wider audience. The terror groups clearly understand the psyche of unethical media mafia and use them according to their convenience.

The particular way in which media covers terrorism is the core issue to be addressed. Media always tries to sensationalize the issue in order to surge ratings. It is by and large the case that the media covers terrorist acts by writing sensation-seeking, enlarging anecdotic stories, especially on who is to blame, repeating the same images over and over again, separating physical and mental health consequences of disasters, and creating new syndromes (Vasterman, Yzermans, and Dirkzwager 2005). Apart from this, the media exaggerate the threats and related news which makes further panic among people. It further traumatizes the viewers by showing the same footage again and again. Altheide points out that the politics of fear is a dominant motif for news and popular culture today. Moreover, within this framework, news reporting about terrorism is linked with "victimization" narratives that make crime, danger, and fear very relevant to everyday experiences (Altheide 2009).

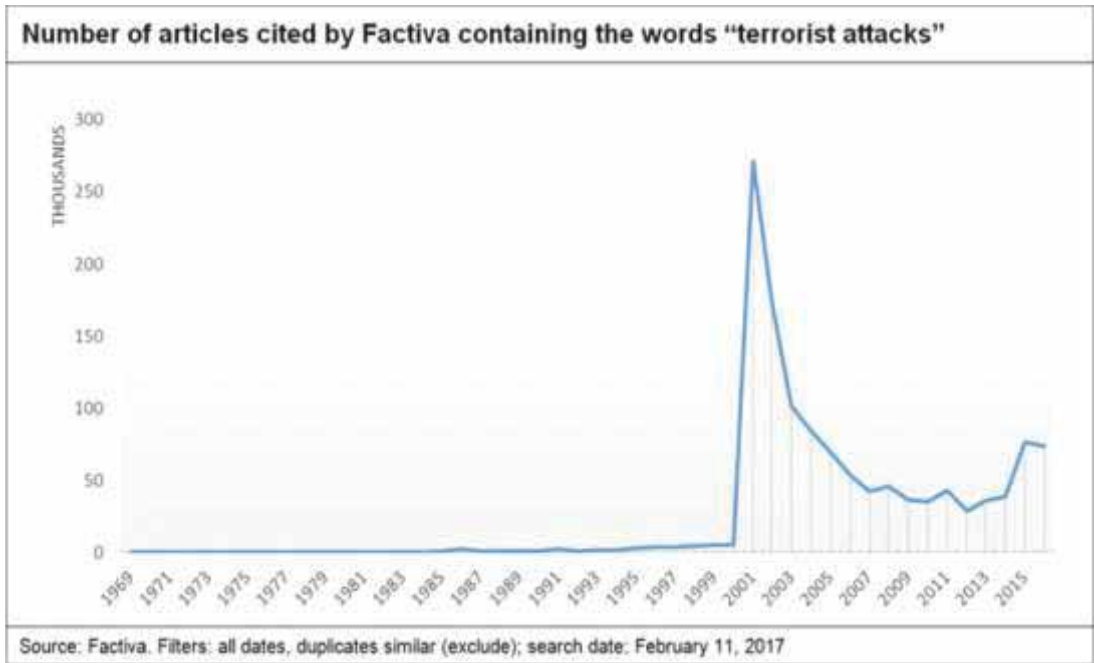
Most news media got its own agenda setting to highlight and make certain issues more prominent than others. Agenda setting is the theory that the more attention a media outlet pays to a certain phenomenon, the more importance the public attributes to such an issue (Terrorism and the Media 2008). Another tool in their arsenal while reporting news is framing. Framing is "selecting some aspects of a perceived reality and making them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described" (Papacharissi and Oliveira 2008). In this way, the words and images that make up the frame can be distinguished from the rest of the news by their capacity to stimulate support of or opposition to the sides in a political conflict (Entman 2003). A suitable example is the portrayal of Muslims

and Arabs after 9/11. They were discussed and apprehended either as suppliers of oil or as potential terrorists after 9/11. Very little of the detail, the human density, the passion of Arab-Muslim life has entered the awareness of even those people whose profession it is to report the Islamic world (Nacos and Torres-Reina 2002). As we can realize from the above example, perception of the common people may be negatively affected by the media's rhetoric, its bias toward certain religious or other groups, and framing of certain ethnic or religious groups as terrorists, and of events as acts of terrorism.

The media covers the terrorism-related news with appealing title and horrifying images to sensationalize the issue. Through agenda setting and the framing, the media may directly or indirectly serve the interests of terrorists by exaggerating or simplifying stories for the viewer to the point that it has little to do with the actual events. The competition between different news media also indirectly helps the interest of terrorists. Repeatedly showing the horrific images or the picture of the perpetrator (Ajmal Kasab in the case of Mumbai attack) of the brutal act will benefit the terrorist organization in many ways. Those images create panic and fear in the minds of audience. Further, it will make sure that the message or goal of the terrorist organization will reach wider audience for longer period since the media shows it repeatedly. Modern terrorists are well aware of this mechanism behind the media, they plan and execute their mission accordingly, knowingly or unknowingly media also plays a vital role for the success of the terrorist attack.

According to Sutherland's Differential Association Theory, crime is a learned behavior. The repetitive broadcasting of harmful and hazardous images radicalize the act of terrorism and convinces the younger minds to support terrorism and the ideologies of the terrorist organizations. Media do not attempt to make efforts to unlearn the illegal behavior by projecting the counter terrorism or campaigning against terrorism for the benefit of the younger generation. This neutralization of broadcasting may help in behavior modification or behavior setting pattern among viewers to select a law abiding path and for the reduction of fear of crime or terrorism in their minds.

The graph below shows the number of articles cited by Factiva database, Factiva provide access to more than 32,000 sources (such as newspapers, journals, magazines, television and radio transcripts, photos, etc.) from nearly every country worldwide in 28 languages, The graph shows the news items containing the word 'terrorist attack' which clearly shows the dramatic increase in 2001 to 2003 and there is a decline after that, which can be justified that the change in using different terminology for the word terrorism in media and researches like armed conflict, extremism, fundamentalism, insurgency etc in the current context or scenario.



The impact, that the media can create in the society is multi-dimensional, which includes economical, psychological and so on. In a 2009 Policy Statement on Media Violence, the American Academy of Pediatrics said, "Extensive research evidence indicates that media violence can contribute to aggressive behavior, desensitization to violence, nightmares, and fear of being harmed." There are many factors which influence the learning pattern of an individual. Research in the field of perception and advertising, psychology shows that an individual's perception of a particular subject or topic is created or manipulated by the television channel or other mass media sources that person prefers. Hence, it can be understood that media got the power to create and manipulate the mind of the vulnerable individual. In 2007, Anderson one of the eminent psychologist reported in *Psychiatric Times* about a longitudinal study of media violence. The study queried about children and their peers as well as teachers on aggressive behaviors and violent media consumption twice during a school year. The researchers found that boys and girls who played a lot of violent video games changed over the school year, becoming more aggressive. Media violence is one major factor among other factors which can lead to aggressive behavior in the later stage of life. The reach of the media is vast and the impact it can create in the life of the individual is also immense. It can alter the belief system and has the power to plant entirely new thoughts or belief depending on the media provider's interest. Since media has this much power among the general public, the way different media reports the act of terrorism, should be taken into great consideration.

Regulations on Media

Government cannot impose strict regulations on the media since it will curtail the freedom of press and the citizen's right to know information. The strict regulations restrict the “Virtual Democracy” of media. The regulations imposed on media differ in relation with the country in which it operates. In India after the 26/11 Mumbai attack which got wide media coverage and live video feed about the counter strategies; which helped the leader of the terrorist group to give directions to the terrorist via satellite phones, government was forced to enact “new clause to the program code of the Cable Television Network Rules which says that no program should be carried in the cable service that contains live coverage of anti-terrorist operation by security forces, wherein media coverage shall be restricted to periodic briefing by any officer designated by the appropriate government, till such operation concludes” (Dhawan, March 2015). There are strict restrictions on media to portray the violence happening during the armed conflict in Kashmir valley. The magnitude of the sufferings of the victims and the impact of the conflict is unknown to outside world due to the strict regulation on media. As the topic of this paper suggest there should be a positive symbiotic relationship between media and the act of terrorism in terms of what to report and what not to report.

Canada's Article Ten of the Radio and television News Directors Association (RTNDA) of Canada's Code of Ethics says “reporting of criminal activities, such as hostage takings, will be done in a fashion that does not knowingly endanger lives, hamper attempts by authorities to conclude the events, offer comfort and support or provide information to the perpetrator(s). RTNDA members will not contact either the victim(s) or the perpetrator of a criminal activity during the course of the event, with the purpose of conducting an interview for broadcast” (Ray, 2009). The British Broadcasting Corporation in United Kingdom has particular guidelines in relation with reporting of news related to war, terror and emergency. It motivates for the use of terms like “bomber”, “militant”, “attacker” instead of the term “terrorist” and it also provides for avoiding sensationalizing terrorism related news since it can lead to emotional attack as well on the audience. In US after the 9/11 attack the government introduced the USA PATRIOT Act which gives the US Government over riding power against anyone criticizing administration's action against combating terrorism. Thus the developed nations across the world have certain regulations to streamline the portrayal of terror attacks by various forms of media.

Conclusion

There is no doubt that terrorism must be reported. Reported news will reach wide audience, terrorists also know this. Terrorism is a category of political violence, which is intended to influence foreign and domestic governments, as well as communities. Terrorism uses its

immediate victims and material targets for semiotic and symbolic purposes (Lewis 2005). Terrorism can also refer to politically motivated deeds perpetrated by groups or individuals for the sake of communicating messages to a larger audience (Nacos 2002a). So, media must report terrorism related news responsibly. Media can adopt an approach which covers terrorism-related acts and stories just as any other story in a more responsible and less “sensational” manner. It prevents terrorists from using media as a free publicity and recruitment tool, it also reduce the degree of panic and confusion in the public. The first step for breaking the symbiosis between media and terrorism is the new approach in which news coverage with less repetition of horrific scenes, less dramatization, less sensation and more information and prudence.

Media must report the terrorism news objectively. Destroying the faith of public in their government and security measures is one of the goals of terrorists, while reporting terrorism they should keep this in mind. The media should present both sides of the story to the audience fairly and accurately without bias, so that the audience can make their own opinion of the news or story independent of the media's negative influence. Since information warfare is a critical part of counterterrorism, terrorist tries to manipulate this situation by giving much fake information to create panic and fear. So, the media should provide the clearest, most factual, and most balanced information. The media should take special care to avoid reporting extreme and blindly biased viewpoints to raise ratings. Different terrorist organizations differs in their goals and objectives, while reporting it will be better to differentiate between them, otherwise it will lead to labeling only certain ethnic or religious groups as terrorist like how Muslims or Arabs in general considered as terrorists by the West. Internet has created many opportunities for terrorist; they use the web to recruit, raise money, and spread their messages. Regulation of the Internet presents a fundamental dilemma due to the contrast between censorship and the democratic rights of free speech, privacy, and press freedom; still it is crucial to take countering measures against cyber terrorism. There are many measures which include tracking their activities on online forums, following their conversations and activities on social media. Apart from this, enacting strict laws to punish those who misuse the Internet to provoke the public, recruit, train, and to raise funds for the terrorist organization can curb terrorism. Implementing the above mentioned suggestions will take away the oxygen of publicity for terrorist and it will help to initiate more fruitful steps to counter the ideological and actual battle against terrorism.

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Administering the Challenges of 21st Epoch towards Effective Indian Policing



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Rupinder Aulakh*

Abstract:

The beginning of 21st era has marked the florescence of the proliferating complexities, advancement in technology, availability of faster means which has ushered new menaces as cyber and organised crime, masterminds in illegitimate activities and threats to civic life. In furtherance of awareness regarding Human rights among citizenry, change in social attitudes, movement of people, technicalities of job and soaring expectations of public from police have posed new challenges before police which it has to encounter so much as to ameliorate the quotidian functions. They are expected to begird social objectives and have to be pro-active to meet expectations of citizenry. Police personages are recognised as Nation's guardian who are resolved to give an efficient, law abiding and responsive enforcement machinery to its citizenry. Police personages who are reckoned as nation's sentinel must groom themselves by adapting this aspect with effervescence. Police-public interface is the imperative key for ameliorating the quotidian operations of police in the effulgence of Good Governance. They are now advancing to serve as the yardstick of licit governing bodies. Satisfaction of citizenry and good police-community interface are reckoned as imperative to persuade the police to render their services effectively.

Keywords:

Complete Policing, Police-Community Interface, Human Rights, ICT, Social Media, Good Governance, Media, Transparency and Accountability, Education, Political Masters, Training.

Author Intro:

* Research Scholar, Department cum Centre for Women's Studies and Development, Panjab University, Chandigarh.

1. Introduction

The new professionalism can better encapsulate and depict the ever-expanding goal of today's police forces.....

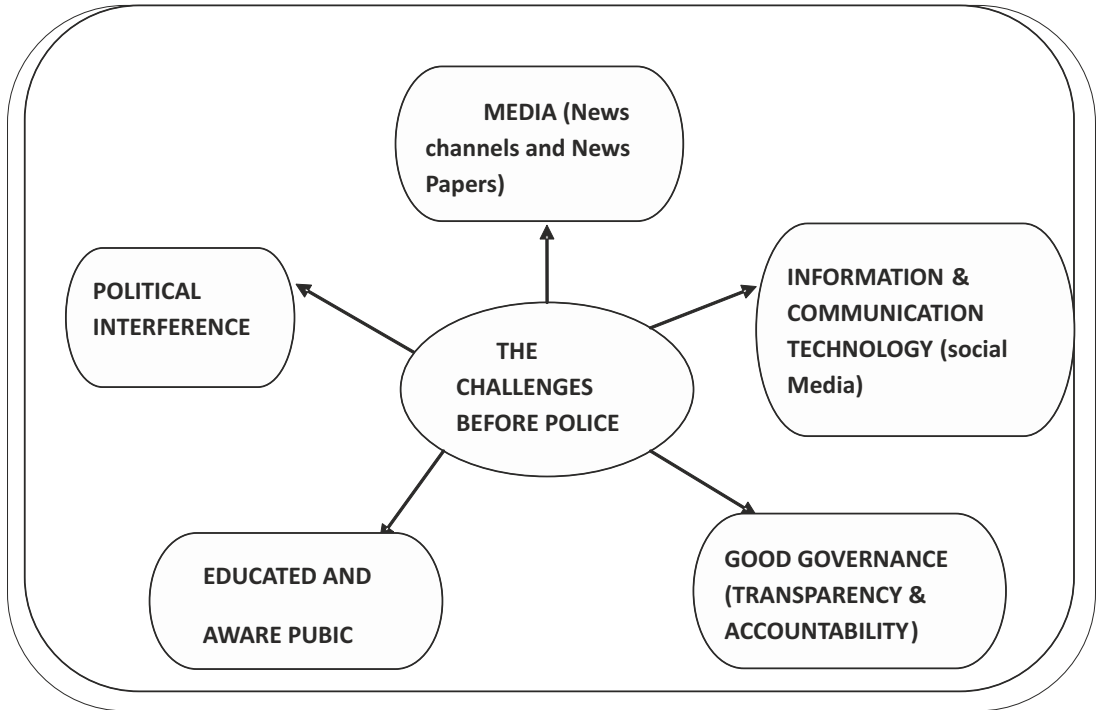
Police is an umbrella term (Mathur, 1998). Being cat's meow; a police personage is required to work like needle-nose pliers. Police personnel basically act as the axis on which the rule of law rests and explores. They are possibly perceived as power wielders with an enforcement role. They enforce the law firmly and impartially without fear or favour, malice or vindictiveness (Adil, 2006). Police is one of the prime agencies charged with responsibility of criminal justice. Police is a key functionary dealing with providing the solace and comfort to the people by looking in their matters. It is always in a state of predicament that the help of police is sought. They are ready to help the public in terms of protection, support, intervention, resolution and prompt response. Police may be regarded as pillar of every nation which provides it a strong base by maintaining peace and order. If a nation becomes able to maintain unity and integrity even during all the tumultuous circumstances, it is just due to the devoted services rendered by the police personnel. The police functions are known to have taken birth with the advent of civilization. The Police Act 1861 has authorised police personages with the execution of lawful orders and warrants precisely, prevention and detection of crimes, prosecution of criminals, bringing justice to offenders and collecting the intelligence regarding the public peace.¹ Our society is undergoing fast changes in social, economic political and cultural spheres which pose a challenging role before police department. It demand the indulgence in introspection, working skills and technique, attitudinal behaviours, update police research methodology to keep up with the pace of present scenario. With the passage of time, new array of responsibilities goes on adding to the root responsibilities such as managing people in disasters, protection against white collar crimes, tourism police and protection of most vulnerable groups of society as well as managing the grievances of citizenry. There is an absolute and gradual drift in the role of police personages. **They are expected to deliver their core mission in the era of high public demand with special focus, passion and commitment.** Their role has become even more emphatic and important. They are supposed to be friendly, corruption free, responsible, tolerant of ambiguity and pressure as well as empathy for others. The personnel are supposed to be time conscious, stress tolerant, mentally fit, robust and able to provide high quality potential at all levels as well as spheres as a model of conduct and discipline. In the present era, there is need of improvement in their rendition for discharging services and facing new challenges emerging from a wide spectrum of social and welfare laws. The rules of game are changing and police personages are required to act as complete policemen. They have the responsibility and authority within existing laws to act in a variety of ways which constitute the action requiring the official intervention and their discretion which is of paramount importance (Maurya, 2006).

The Concept of Complete Policing: The growing complexities, availability of faster means, advancement in technology has given new dimensions to crime in terms of cyber crime, very professional murderers, masterminds in pornography, online embezzlements and intellectual property crimes. It has posed new challenges to police force to cope up with the changing scenario. They have to maintain good community relationships as it is reckoned all over the world as main bulwark of police philosophy in the democratic countries like India. Thus, the scope and objectives of police administration are mushrooming day by day due to diversifications and complexities in the world. Police forces have deployed many tools in recent decades to improve policing outcomes and their relationships with public which include partnership with the community, volunteers and problem-oriented policing applying preventive approaches and systematic methods for focussing police resources on high-priority basis (Popper, 2014). Efficacious, responsible, innovative, sensitized and satisfied personnel are need of hour who could work assiduously and meticulously for the perpetuity of their multidimensional roles in different areas in the 21st epoch encapsulating the aspect of complete policing. They have to take effective steps to greet the people's demands and aspirations. The police has to galvanise and step up their professional efficiency which could neutralise criticism and provide substantial relief to the bewildered populace (Gupta, 2016). Complete Policing is the essence of policing which is effective, lawful and humane. It is form of policing delivered by well managed and well resourced police agencies deploying technically competent officials. This kind of behaviour is contingent upon compliance with great legal and humanitarian principles set out in international human rights and humanitarian law, contingent upon compliance with the detailed provisions of those branches of law, and with national law that embodies those provisions and contingent upon the development and perpetuation of an ethos supportive of human rights and high ethical standards within police agencies. Complete policing calls for operationalizing the administration based on various democratic values such as participation, openness, team-oriented management systems, proper rendition of services and result-oriented appraisal criteria. They have to work like Peel's enduring principle that **the police are the public and the public are the police** (Davis, Elves & Skiansky, 2014). Complete policing lays the foundation of police-community interface which requires the police to work with the community to provide a better quality and secured life by concocting the mechanisms for grassroots feedback from the community.

II. MODERN CHALLENGING CONTEXTURE FOR POLICE SERVICE

The police personages have to encounter umpteen challenges in this 21st epoch. They are parts and parcel of their service which are substantial to face and encounter by being well acquainted at regular intervals of time to render best service to people.

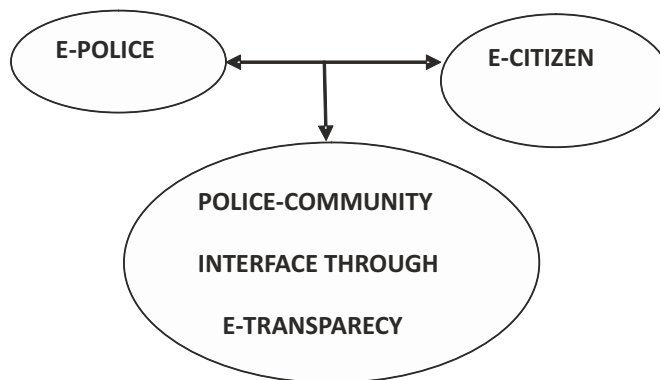
Table No.1

Modern Challenging Contexture : Advancement Towards Complete Policing

- a) **INFORMATION AND COMMUNICATION TECHNOLOGY (The impact of Social Media):** The Technological Revolution is transforming society in a profound way. We are living in the epoch of information society with rapidity of information transmission as its supreme trait. Globalisation ushered the advent of information technology across the nations. It has called for the continuous development, internet based commerce and technology, use of automobiles, telephones, fingerprint technology, and DNA profiling as few technological innovations. It is widespread among population and criminals. The increase mobility worldwide and new fangled technical ideas have facilitated new arrays of crime as internet-based child pornography, moral offences, exploitation, counter-terrorism and mushrooming white collar high-tech crimes call for a multi-agency approach to police protection. The work of police is more electronically based and knotty. The personages have to be on their toes to sort out the complex matters in their quotidian operational life styles. They are supposed to be well acquainted with the use of updated technological aspects to battle and conquer them. It has posed a severe gauntlet before them as they have to be in touch with all the dynamic spectrums while dealing with other

routine matters. Being in the world of “**IT -ORIENTED**” **policing**; In order to enhance the ability of internal governance in the present system and attain good governance; the IT (Information Technology) tools have been incorporated as a significant Act in 2005 for making the administration transparent. IT initiative calls for bringing the most suitable, efficacious and real time leadership by the higher police personnel to their subordinates by keeping them handy with the gadgets and act as the capable employers. Moreover, it has the exigency for swift response from the police. Recently 16 SHOs in Chandigarh Police have been given tabs with an inbuilt software which would help them tracking the information of the vehicles by feeding their registration numbers to keep a check over the stolen vehicles and improve the quality and pace of service to public (The Times of India, 2017). This IT initiative acts as the online life long guidance and on the job training for personnel. Most of the data regarding the Human Resource in police is updated online for the information of the public as well as suitability of police department as well. On the other hand, Social media is a means of communication and conversation which have always been at the centre of policing (Manning, 1989, Miller, 2011 & Muir, 1979). It is more a way for police departments to take community policing into the networked age. Police has to tackle all the gauntlets regarding managing the cavalcades, strikes, dharnas, rallies and carry out the duties assigned binding themselves with the law and order. Social media can develop new models of policing that are adapted to our 21st century policing. They have to work with pre-mentioned code of conduct so as to keep their image plausible before media and public because any act of violence and illegitimacy may fetch bad image in public and it takes a long while to salvage that. The actions of police sometimes generate negative media coverage. So they are required to work meticulously serving the public and at the same time hosting the media. Information on organizational structure, women and child support unit, missing and wanted persons, stolen vehicles, crime and traffic statistics, statistics of complaints and details of arms and licence holders online by police. In addition to this, police also play its part by catering to the emergency needs of citizens via Emergency Helpline numbers on line. E-Governance is adoption of new technology in the police administration. E-Governance lays the foundation stone of updated version of serving the public by giving gleanings on cyber crimes i.e. any criminal act such as hacking, cyber stalking and phishing. Police have unique powers, unique responsibilities and unique relationship with public. **E-Police** is a phenomenon to help everyone feel safe and secure (Pathak & Kaur, 2014). Police personages are required to provide public with two data bases:

1. Providing information to public on the specialised police personages to provide a track of personages working their respective fields.
2. Providing a precise track of all criminals and criminal activities if big or small so as public could easily sought information when required. The concept of E-police work in the challenging environment using police-community Interface.



Many senior officers use the online avenues for police-community interface. They act as “open door” to listen to the problems of public and give quick remedy to the gauntlet posed for the department. Chandigarh SP Traffic, Shashank Anand uses his Twitter handle very efficiently to respond to the queries of public and act as a source of inspiration to other police personnel as well. This enables the department create a sense of compliance among the concerned stakeholders (TNS, 2017).

b) GOOD GOVERNANCE (TRANSPARENCY AND ACCOUNTABILITY):

Changing socio-economic scenario milieu, increased awareness among public about their rights, the need to have a fully accountable and responsive administration and growing public opinion which views efforts at secrecy as enhancing the chances of abuse of authority by the Government functionaries have led to demand for a greater transparency in their functioning (Jain, 2012). In the empowerment milieu of contemporary society, police must work collaboratively with the members of many hierarchal levels and stakeholder centres especially to meet the change. By striving in proactively to stakeholder's services and satisfaction, the root obligations of crime prevention and control are easily and diligently pursued. The information which is in goodness of public must be shared as public is very curious now to have a deep insight of services rendered by this machinery and police has to be answerable and accountable to them for everything that come under their purview. In order to meet this gauntlet and to gratify public many concepts as: **Right to Information and Citizen's Charter** help public to sought information on many matters from police. Police in a democratic polity is an

instrumentality of Rule of Law and they are supposed to provide pronto results while dealing with disorder in society. **Right To Information Act, 2005** is regarded as backbone of new information regime and the preamble to RTI, 2005 supports that democracy requires a well informed citizenry and transparency of gleanings which are vital to functioning and Section 24 of this Act provides that information pertaining to the allegations of corruption and human rights violations can be sought out (Singh, 2007). The police are custodian of privileged, confidential and unpublished office police records. But under Section 8 of RTI Act, 2005 any person can demand copy of a public document from State authorities, except the documents mentioned in the exempted category of documents (Singh, 2007). Police can prevent the identity of source of information as well as deny to give information which put a halt to progress in investigation. Unauthorized and wrong communication of information by a public servant is punishable under the Official Secrets Act, 1923. It is against arbitrary decision making, the prospects of public gaze and transparency force the authorities to make fair decisions with relevance and fair in appearance. **Citizen Charter and Grievance Redressal Bill 2011** aims to improve quality of public services by dealing in a hassle free, efficient and people friendly manner (Venkataramanan, 2017). Citizen Charter acts as a technique to create awareness about services rendered by police to various beneficiaries (Vohra, 2017). Basically, it is a document defining the duties, commitments, obligations of public authority to work efficiently in time with acceptable levels of standards and information of officers. This is a big challenge because it is mandatory to provide information available to public within a specific period of time and it has to be appropriate. Moreover, Police personages are bound to be responsible for the steps taken by them to maintain peace in the environment. Community policing also act as a backbone to the system of maintain law and order in the present era. It is rightly said in this context that: **To handle yourself (police) use the mind and to handle others (public) use your heart** (Kataria, 2007).

- c) **EDUCATED AND AWARE PUBLIC:** Earlier things were left for the police to delve into and sort out without meddling with the situation itself. It was with the only efforts of the personnel. Social change is impossible without educated populace engrossing and performing well along with police personnel in the affairs of the society to compete, withstand and ensure persistence in 21st epoch. Globalisation again has ushered the aspects of self confidence, higher knowledge and awareness among public due to education widespread entrepreneurship and exposure to global communication system and trade. **Moreover, the growing awareness among the people due to the spread of education, the impact of intertwining different societies and consciousness among people regarding their safeguards have forced the police agency to work precisely.**

People have become aware of their rights and the services which police personnel are liable to offer them. They are more active into the matters and evils of society as well as ready to coordinate with personnel for the cause. **Now the need of the hour is smart work in the place of hard work. Police is held responsible to look after the feelings of local people and maintain good community relations.** It is of paramount importance these days to deal with all the citizens at par. The personnel are supposed to be swift, honest and ready to actively join the public to meet out their grievances. The personnel are now expected to encompass social objectives in which the people's expectation from their police and the citizen's opinion of police performance is an important condiment for the smooth functioning of society. It is supposed to be proactive in delivering its services, decision making, utilization of local resources, increase interface with public as well as accountability to the services rendered. A new set of roles and rules are emerging which are concrete not abstract as per the specific situation (Saksena, 2004). Police have to play a vital role as custodian of human rights. **The Universal Declaration of Human Rights (1948)** which enshrined 30 Articles for weal of human beings. The knowledge of international Conventions and Agreements, Fundamental Rights and Laws related to protection and security of all segments of society. Human rights are incorporated into laws, the police is expected to be their guardians.² The relationship between human rights and policing is characterised by three concepts: protection, respect and entitlement. The recognition of such culture where most of the people know about their rights and have tools for their advocacy is one of the most pressing task presently faced by police personages. Most of them are fundamental rights of equal access to education, work, wages, minority groups and disables. They have to treat citizens with decency and uphold their civic rights in the process while upholding the law. Public has to be treated at par to maintain their dignity. Police have to maintain a balance between individual and collective rights. There is the exigency of incorporating the Human rights into law and policing to be the real saviour of public.

- d) **POLITICAL INTERFERENCE:** The biggest gauntlet of this century is the deep rooted involvement of political machinery in the governance of police administration. Political machinery intervene in the various spectrums of police functioning (Thomas, 2012). It is also recognised most important factor militating against the efficient policing of the country in the work of law enforcement by mostly politicians and others with links to government appointees (Daily Guide Ghana, 2015). Police machinery has to encounter many issues as transfers, suspensions, pressure, repercussions of interference, issue of illegitimate and irregular orders by Governments. Political virus is degrading police system in many adverse manners. Corruption has entered the roots of our society. Police

personnel are under the pressure of ministers who want them to work in the manner they want and on the other hand the police agency is bound to give moral support and security to the public. Those who are 'yes men' to the ruling political parties may survive else get annihilated by them. When a political party comes in active work it appoints its own favourable officials who could render their services to them rather serving the public. This is a biggest challenge because the aware and educated people ant reason and response from police in their favour where as those leading the nation want the police personages serve them. They get the benediction of patronage system. The honest and loyal officers fall prey of them and have to face many complexities in their personal as well professional lives. Constitution has marked police machinery to serve the public as their guardian rather serving the political masters. They are suppose to work very carefully by synchronizing the desires of people and politicians.

- e) **MEDIA (NEWS CHANNELS AND NEWS PAPERS):** Media has a tremendous amount of power. It does not only determine what is newsworthy, they also determine the context in which the news is presented to public. It acts as a source of public advocacy, opinion formation and change as well as mobilization of public. An event which occurs at one part of society is widespread via print or electronic media spontaneously. Freedom of media is a principle that is embedded in both history and the constitution. But many a times, these Channels and papers are involved in spinning money from various avenues and misguide the public by worthless and wrong gleanings. Media has a remote reach in public and it has the responsibility to be true to its incipience. Police personnel must take harsh step to penalize the respective sources and take substantial initiative to arm against the media for misappropriation of facts and coverage of stories and information to create havoc among people and annihilate the national peace. Media is required to act positively to present the positive police image among public so that they could have faith on police. Media has the power to create, mould and present any information the way they want. It is their responsibility to depict the good, positive and right information so that public must appreciate and act in synchronisation with the police. Media also act as a watch dog and a keeper so that police personnel could deliver the best output to serve the public and nation as a whole. Police personnel practice virtue so as to form good media and public image as they are one of the imperative pillar of democracy beside legislative, executive, judiciary and media.

III. TRAVESITIES IN RENDITION TO ATTAIN GOOD GOVERNANCE:

Therefore, police connotes an organized body of officials whose particular duties are not confirmed only to the maintenance, investigation, detection and prevention of crime but also the various other functions in the contemporary modern society. With the mushrooming complexities in the societies the duties, responsibilities and functions of police are also increasing so as to serve the changing desires of public. The capability to work effectively to win over these gauntlets has added a new feather for cap in the police operations. But there are certain facts which hinder their effectual functioning i.e. police personages neglect their obligations and they lack in updated method to meet complicated crime situations. The interference of political masters acts as a stigma and the personages have to act as puppets for them as well as the higher authorities. The ever expanding social media cult, sentient public regarding their rights and duties expect from police personnel. As the effective and complete policing calls for operationalizing the administration based upon various democratic values, like participation, openness and proper output, team oriented management system and oriented appraisal criteria. Although many initiatives have been taken but there is still a gulf between public and police which is the ramification of past experiences, present scenarios and lack of initiatives on the part of public as well as department. It becomes difficult to deal with all aspects of maintaining peace and investigating and pausing crime along with that meeting people in day to day activities and disclosing the gleaning to them. This transparency sometimes proves harmful for the public as well. Yester years have witnessed the decline in moral and ethical value of service. They have neglected the spirit of service agenda far behind. Some personages deliver their services for making money only. These challenges have posed more responsibilities of police personnel to act effectively and enthusiastically to balance the expectations and services to the society.

IV. MEASURES TO ENHANCE THE EFFECENCY OF PERSONNEL TO COMBAT THE CHALLENGES IN THE CONTEMPORARY EPOCH :

Although the police may be regarded as the pillar of every nation which provides it a strong base by maintaining peace and order. But the complexities in the work patterns, tough psychology of public, ever proliferating white collar crimes, terrorism, political pressure and lack of efficiency and lack of ethical culture demands certain well knitted strategically measures to enhance the echelons of services rendered by police personnel in the modern challenging contexture for effective policing. Gore Committee (1971) underlined the need and significance of meaningful relationship between the police and the people to ensure the effective policing.⁴The measures could be categorised into three parts:

- a) Measures on the part of Public
- b) Measures on the part of Police Personnel
- c) Measures on the part of Police Department

These measures are essentials to be followed thoroughly and precisely by revamping them at different intervals of time. As with the passage of time, the demand of the situations changes and police personnel have to be updated to the mark to render effective services.

- a) **Measures on the part of public:** As the member of the community, people must help identify problems and search for solutions as share decision making with public and an integration of law enforcement with other service providers is the key for better and peaceful society(Chappell & Kaduce, 2004). People must also work as active agent of the nation who have to share their responsibility in order to enjoy their rights properly. **In the words of Chandigarh SSP Nilambari Vijay Jagadale, police-public interaction is essential to promote effective policing, promote transparency and good governance. She calls the interface as the foundation to curb crime against all vulnerable sections of society and consider it as her priorities of being a police officer** (Sharma, 2017).
- b) **Measures on the part of police personnel:** A pioneer and Political Scientist F W Riggs in his Prismatic- Sala model emphasized on endo-genic change rather exo-genic i.e. the change should be first in the knowledge, leading to attitudinal change which further lead to change in individual behaviour and ultimately changing the whole society (Bhagwan, 2007).Another IPS kishan Kumar (Ex- DGP Goa) emphasized on hardwork, dedication and professionalization on the part of police personnel in rendering better services to people (TNN, 2012).The personnel are supposed to act SMART i.e. being Sincere, Moral, Accountable, Responsible and Transparent. They must be ready to get themselves updated with the technological changes in the system so that they could respond to public needs quickly.
 - Instead of spending so much time dealing with citizens's requests and preventive patrolling, officers must mobilize by attending community group meetings and working with them as well as cooperating with other concerned organization to focus proactively and creatively on problems (Mastrofski and Willis, 2010).
 - There must be more emphasis on experimentation on methods of involving citizens in the crime problem solutions. Many such initiatives have been taken by various States such as Kerala through “JAN MAITHARI SURAKSHA PROJECT”, Rajasthan through “JOINT PATROLLING COMMITTEES”, West Bengal through “THE COMMUNITY POLICING PROJECT” and Assam through “MERA PAIBI”

especially with the involvement of women in the community (Chaturvedi, 2017).

- Personnel must work in coordination, cooperation, as a team to sort out the imperative matters and be active in terms of their responsibility.

c) **Measures on the part of Police Department:** It is the paramount responsibility of Police Department to make personnel more visionary, swift decision makers, leaders through proper supervision from higher officials and effective training techniques by trainers at Institutions. Eck and Spellman's SARA Model⁵ has proved so beneficial in the timely rejuvenation of the employees by the Police department (Eck and Spellman, 1987). In addition to this Model Police Act (2006)⁶ which emphasized on functional autonomy, encourage professionalism, accountability and improved service conditions which is entirely the responsibility of the police department (Saini, 2006). Police department has the biggest responsibility to prepare the personnel as per the needs of the dynamic circumstances. They are required to make some institutional settings such as:

- **Proper provision of regular training programmes:** The training programmes must be held constantly for polishing the knowledge and skills of their employees. The training institutions must be earmarked with special training courses which are required to be **highly specialized focussing on the key areas of attention** and with special consideration to the minor segments of the society i.e. the children, women and the down trodents. The training programmes must be planned for precise duration so that this could help in stress management. There must be focus strategic management to gratify the focal gauntlets encounter by the higher officials as well because they are the lanterns to usher the right boulevard for the subordinates.
- **Provision of regular workshops and camps:** Besides the various induction and refresher courses, it is sine quo non to hold the regular camps and workshop on some special matters of public importance such as **Awareness among personnel regarding Human Rights and Sexual Harassment at Workplace**. It helps them to keep their knowledge on current matters. Some guest faculties must be invited and **e-training** should be made compulsory which could help the personnel to work using the notified techniques. E-learning is essential as in this IT Revolution most of the work is done online and electronically. The knowledge is substantial for their magnificent working to gratify the public. It also shares their work load and they feel stress free.
- **Awareness among personnel regarding Health and Meditation:** Police personnel are more exposed to various health related annihilation due to stress and workload. They must be informed about healthy food, health supplements, need of exercise,

yoga and meditation to enhance their work concentration. A healthy mind and body helps in better services and happy environment. This also reduces frustration, proper coordination and improved interpersonal relationships among the personnel.

- **Revision of various institutional programmes:** The training institutions with well equipped with the study materials, revision of syllabus, upating the techniques of imparting knowledge, motivating the trainers and updating their own skill so that they could learn the new art of persuading the personnel. The institutions must make and revamp the proper training policies to conduct the programmes smoothly benefitting the public, the personnel and the society as a whole. There should be well scheduled modules of learning patterns for all the echelons of police as if all the ranks groom well in time in synchronization with each other then it proves to be effective indeed. So an integrated policy is must for the balanced growth of the whole police department to cope up with the development and change in the desired direction.
- Apart from this, there must be a provision of **on the job training** to enable the personnel learn diverse skills while performing their duties as new challenges demand different approaches and response towards them. This would improve the communication skills and interpersonal relationships among personnel.
- There should be strict adherence to qualitative recruitment of police personnel and effective **compliance enforcement system to make them effervescent, zealous and efficient.**

Public-police interface encompasses important tools of police governance such as provision of qualitative policing through public involvement, maintaining transparency, accountability, equal treatment of citizens and trust based relationship with them. Community policing calls for meaningful organizational change and restructuring. The involvement of community goes beyond public relationships and focus on creating unison among the police, the citizens and other active service providers.

V. CONCLUSION:

In the nutshell, police is popularly perceived as power wielder with the enforcement law. In order to develop police organisation to effectively recognise, relate and assimilate the global shift in technology, culture, workplace values, Government arrangements, policing philosophies and ethical standards; regular training and cognizance techniques must be introduced in the service to keep them update and aware of dynamic aspects of society. They should work industriously and continuously to improve their image before public. Public must show faith in their working and coordinate with them so that they could be able to render their

services absolutely. They are the capstone to national security and are suppose to become the part of new regime. They have to be clear that they have to serve the nation by battling the gauntlets by reaching an acceptable balance between individual and the society. They are required to boost up to take initiatives, injected with public centric spirit and pave path working positively to salvage their image over corrupt and barbarian practices. They are suppose to change their mentality and come forward to help people discover their actualities in the sphere of governance where as people who hesitate to involve in matters in coordination with police and lack enthusiasm are to be aware to change their prejudice mindset regarding the image of police. All citizens including police personnel must feel responsible to support the efforts for checking corruption and violation of human rights to ensure fair play to all. The guardians must be crystal clear that they are to serve citizenry by sharing their experiences and advancing g their cooperation while battling the challenges. Police personnel are supposed to become the part of new public order absolutely. It is an extremely elusive objective unless and until public and police work meticulously to be pellucid in terms of Good governance. **So, there is a strong need to inject effective training techniques and trigger for a wider debate on enhancing the quality of policing in the economy if we have to flush the system of all evils** (The Hindu, 2012).

NOTES:

1. The Police Act 1861, describes the role and responsibilities of police personnel underlying their significance in fighting, maintaining and securing the public and society.
2. From 1982, Canada has had its Charter of Rights and Freedoms embedded in its constitution. It confers on everyone freedom of conscience and religion, thought, belief, opinion and expression and the freedom of peaceful assembly and association. It also forbids discrimination on the grounds of race, national or ethnic origin, colour, religion, sex, age or mental or physical disability. These provisions have led to an expansion of government programs to ensure equality, even to the point of creating slopes in the curbs of sidewalks, and ramps at the side of steps to allow wheelchair access to streets and buildings. Since 1982, judicial interpretation has made it mandatory for the police to respect in minute detail the Charter provisions concerning the legal rights of individuals. Since these are largely exercised by accused persons, it has led to some limitations on the discretion of the police and to changes in police practices. In some cases, it has also increased the costs of investigations. For example, the requirement to disclose evidence to the accused before trial means that police spend millions of dollars in photocopying transcripts of wiretaps and reproducing videotapes, photographs and other evidence to provide to the defence.

3. Para 23,.31 of Punjab Police Rules, 1934-

Surveillance records confidential

-All records connected with police surveillance are confidential: nothing contained in them may be communicated to any person nor may inspection be allowed or copies given, save as provided in Police Rules. The rights of district and illaqa Magistrates to examine such records are governed by rukes 1.15 and 1.21, and the rules regarding their production in court are contained in Chapter XXVII.

4. Gore Committee (1971) strongly recommended a change in the attitudes of the police as well as need to take essential steps to reorient the attitudes of people towards the police. Better training, prompt attention and close supervision would help police moving away from malpractices and lead to greater public confidence in the methods of police. There is also need of sense of commitment to the welfare of weaker sections of society. available at <http://www.bprd.nic.in/content/2509--Home.aspx> and <http://www.judicialreforms.in/forums/showthread.php/tid-903>.
5. Model Police Act (2006) recommended the professional police service which is effective, responsive and accountable governed by principles of impartiality and human rights norms. Police has to be service oriented and people friendly.
6. Eck and Spellman's SARA model stands for S- Scanning that is identifying the challenges from perspectives of community, A- Analysis of the information by gathering with the involvement of public, R- Response means putting the knowledge to practice by implementing the solution and A- Assessment that is evaluation of feedback of solution.

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Is Technology A Saviour for our Criminal Justice System?



Madhurima Dhanuka*

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Abstract:

Will India's digital revolution bring in reform in the criminal justice sector? With the introduction of numerous initiatives, which use technology to make it easier for citizens to access the system and for functionaries to strengthen oversight, the real test lies in sustainability and their impact in practice. The integrated criminal justice system can help streamline processes and bridge many gaps that exist in the system today. This will not only improve coordination between different agencies of the criminal justice system, but also make the system more transparent and accountable.

Keywords:

Technology, citizens, justice, prison, police, courts, legal aid, monitoring, digital

1. Introduction

Citizen centric services are at the core of India's e-governance initiatives more popularly known as the Digital India programme.² Technology today is playing an important role in the increase of transparency in government functioning. With the increasing quantum of data being made available in the public domain, which is also in line with the mandate to proactively disclose information under the Right to Information Act 2005,³ public engagement in government functioning is more relevant and call for accountability at every facet of public administration is on the rise.

Author Intro:

1. LL.M. (Criminal Justice), LL.B (Hons.) Coordinator, Prison Reforms Programme, Commonwealth Human Rights Initiative, New Delhi. Email: madhurima@humanrightsinitiative.org
2. <http://digitalindia.gov.in/content/introduction>.
3. The Act also requires every public authority to computerise their records for wide dissemination and to proactively certain categories of information so that the citizens need minimum recourse to request for information formally.

As e-government initiatives continue to transform the nature of India's bureaucracy and enhance the quality of government services,⁴ there is hope that implementation of Information and Communication Technology (ICT) in the criminal justice system will play a central role to push reform efforts. The 31 Mission Mode Projects under the National e-Governance Plan, which was initiated in 2006, also includes courts and police as part of the wide range of domains covered.⁵ ICT in the judiciary was envisioned as an aid to 'enhance judicial productivity both qualitatively and quantitatively'.⁶ In the past decade courts at all levels have undergone 'informatisation' in their administrative and management process, with the aim to usher in transparency to the 'common public'.⁷ Technology is now acknowledged in the legal aid sector too as a vital tool that 'can enable the system to enhance outreach to the needy, and improve our skills, in handling complex legal situations, timely and effectively'.⁸

Technology promises to be atleast a significant cure for a system that sometimes seems at its last gasp. This article looks at the various technology-based initiatives and projects in India aimed at bringing justice closer to masses and vice versa. It then evaluates how these initiatives can assist in the transformation of judicial sector both from a citizen centric perspective and in removing systemic gaps, leading to long term systemic reforms within this sector. With miles to go before India achieves full implementation of these initiatives, the article advocates for inclusion of a review process to track its progress and impact.

II. ICT IN THE CRIMINAL JUSTICE SYSTEM

Of the numerous efforts to introduce technology in the justice sector, four projects stand out viz. Crime and Criminal Tracking Network and Systems (CCTNS) for the police, e-Courts project for the judiciary, e-Prisons Application Suite for prisons, and e-application processes for legal aid. Both the CCTNS and the e-Courts project are part of the Mission Mode Projects under the National e-governance plan of the government of India. The e-Prisons application suite on the other hand has been developed by the National Informatics Centre (NIC), to computerize and integrate all the activities related to prison and prisoner management in the jails. In November 2015 the government decided to create an integrated electronic system, termed as the Integrated Criminal Justice System, to link the criminal justice system functionaries by integrating the

4. <https://cis-india.org/internet-governance/blog/what-will-be-the-role-of-ict-in-indias-judicial-reform-process>.

5. <http://digitalindia.gov.in/content/introduction>.

6. National Policy And Action Plan For Implementation Of Information And Communication Technology In The Indian Judiciary, Prepared by E-Committee Supreme Court of India New Delhi 1st August, 2005.

7. <http://egov.eletsonline.com/2007/11/mainstreaming-ict-for-judicial-delivery-system/>.

8. Justice J.S. Khehar, Chief Justice of India in his speech at the 15th All India Meet of State Legal Authorities in March 2017, available at http://nalsa.gov.in/sites/default/files/document/Inaugural%20Address%20NALSA%20Annual%20Meet%2018-19.3.2017_0.pdf.

CCTNS with e-Courts and e-Prisons as well as forensics and prosecution in order to facilitate transfer of data among the various pillars of the criminal justice system.⁹ A brief summary on features under each project is provided below:-

A. Criminal Tracking Network and Systems (CCTNS)

CCTNS, conceptualised in 2009 in the aftermath of the 26/11 attacks, seeks to create a comprehensive and integrated system for enhancing the efficiency and effectiveness of policing.¹⁰ CCTNS entails digitisation of data related to FIRs registered, cases investigated and charge-sheets filed in all police stations, in order to develop a national database of crime and criminals. It is envisaged as a system to facilitate collection, storage, retrieval, analysis, transfer and sharing of data and information at the police station; between police stations themselves as well as the headquarters, and; between the police of one state and another state or the central government, including IB, CBI and the Central Police Organisations. Once fully implemented, it will lead to the creation of a central citizen portal, making several citizen-friendly services online for instance reporting a crime, tracking the progress of a case, reporting of grievances against police officials, access to victim compensation fund, police verification for passports, and legal services.¹¹ The latest data from June 2017 on implementation of CCTNS indicates a compliance rate of 67.8% across India, with Telangana topping the list at 93.1% and Bihar coming last with a mere 8.9% compliance rate.¹²

B. e-Courts

The e-Courts Mission Mode Project is monitored and funded by Department of Justice, Ministry of Law and Justice, Government of India for digitization of district courts in India. The e-Courts project was conceptualised as per the 'National Policy and Action Plan for Implementation of information and communication technology (ICT) in the Indian Judiciary – 2005' submitted by e-Committee, Supreme Court of India. In a nutshell the project aims at providing efficient & time-bound citizen centric services delivery; develop, install and implement decision support systems in courts; automate the processes to provide transparency in accessibility of information to its stakeholders and; to make the justice delivery system affordable, accessible, cost effective, predictable, reliable and transparent.¹³

9. Extension of Crime and Criminal Tracking Network and Systems Project, Press Information Bureau, Government of India, 18 November 2015, available at <http://pib.nic.in/newsite/PrintRelease.aspx?relid=131585>.

10. <http://indianexpress.com/article/explained/cctns-project-to-let-police-stations-talk-where-it-stands-and-how-it-can-help-fight-crime/>.

11. *ibid.*

12. http://ncrb.nic.in/BureauDivisions/cctnsnew/CCTNS_Dashboard/PRGATI%20dashboard%202017.06%20over%206.0%20for%20MHA.pdf.

13. National Policy And Action Plan For Implementation Of Information And Communication Technology In The Indian Judiciary, Prepared by E-Committee Supreme Court of India New Delhi 1st August, 2005.

In August 2013 the e-Courts 'National Judicial Data Grid' portal 'www.ecourts.gov.in' was launched. This portal works as a national data warehouse for case data including the orders and judgments for district and appellate courts across the country. The website purports to be accessible, compliant and available in local languages. There is provision for promoting use of mobile applications, sms and emails as platforms for dissemination of information. To enhance access to litigants, kiosks are being setup in court complexes, certified copies of documents are to be given online and e-Payment gateways are to be opened to make deposits, payment of court fees, fines etc.

As per reports prepared by the Department of Justice, in March 2016,¹⁴ 95% of the mandated activities under the project has been completed. In its last report dated December 2016¹⁵ it is reported that litigants can now access online case status information in respect of over 7 crore pending and decided cases and more than 3 crore orders and judgments pertaining to more than 16900 district and subordinate Courts. It further states that litigants and lawyers are now being provided services such as case filing, certified copies of orders, case status etc., through the *Judicial Service Centre* at the court complexes. Also that 63 lakh auto-generated SMSs had been sent to litigants and lawyers in the period between Jan-Jun 2016 and video conferencing facility had been operationalised between 500 courts and corresponding prisons.

C. e-Prisons Application Suite

An initiative of the National Informatics Centre (NIC), the e-prisons application suite aims to provide vital information about inmates lodged in the prisons, in real time environment, to the prison officials and other entities, involved in criminal justice system. It also facilitates online visit requests and grievance redressal.¹⁶ The primary purpose of this project is to computerize and integrate all activities related to prison and prisoner management in the jail. It comprises three components viz. a management information system (MIS), a national prisons information portal (NPIP) and *Kara Bazaar*. The MIS envisages modules on management of prisoner information, visitors, hospitals, legal aid, inventory and prison administration as well court monitoring and kiosk information. The NPIP on the other hand is a citizen centric portal where one can view statistical data from prisons across the country, book visits to meet family member in prison and submit grievances on behalf of prisoners. *Kara Bazaar* is an initiative to enhance productivity and marketing for products manufactured or being prepared by prisoners in prison.

Of the numerous features of e-Prisons, the important ones are aimed at rendering the services to

14. <http://doj.gov.in/sites/default/files/Status%20of%20eCourts%20Project%20as%20on%201.03.16.pdf>

15. <http://doj.gov.in/sites/default/files/Brief%20on%20eCourts%20Project%20%28Phase-I%20%26amp%3B%20Phase-II%29%20Dec%202016.pdf>

16. <http://eprisons.nic.in/NPIP/public/About.aspx>.

the police and other investigating agencies by providing nationwide search for inmates and their complete profile; prisons by providing alerts like hearing dates, eligibility under s.436/436 ACrPC, parole jump, inventory, medicine etc. for monitoring purpose; courts by making available reports on eligibility under s.436/436A/441CrPC and alerts for jumping parole, interim bail return due dates; and to the public by making available statistical information and reports on national and state basis. As of now e-prisons covers 36 states/UTs and 675 out of 1401 prisons.¹⁷

D. e-Legal Aid Initiatives

With the e-Courts project provisioning the computerization of offices of legal services authorities at the district and taluka levels, technology has made inroads into the legal aid system as well. Over the past few years, a number of schemes, which use technology to increase the outreach of legal aid services, have been launched by the National Legal Services Authority (NALSA).¹⁸ In order to make a poor man's access to judicial justice a reality; village-level decentralisation of justice delivery system is a must.¹⁹

In order to enhance its outreach, NALSA and the Department of Justice, Ministry of Law & Justice (DOJ) have launched a number of empowerment initiatives to improve access to legal services in the past couple of years. These and some other important schemes and initiatives are discussed below.

- i) Legal Services Management System:** NALSA launched its bilingual e-portal 'Legal Services Management System to further efforts to ensure prompt legal assistance for all' in November 2016.²⁰ Using the portal, any person can apply for legal aid online, and also upload documents, track information, seek clarification or send reminders. Filing of online applications via the portal can ideally shorten the time gap between application and delivery,²¹ which at present can take anywhere from a day to a few months.

17. <http://eprisons.nic.in/NPIP/Public/Home.aspx>. Last accessed on 21 August 2017.

18. NALSA is constituted under the Legal Services Authorities Act, 1987, is tasked to monitor and evaluate implementation of legal aid programmes and to lay down policies and principles for making legal services available under the Act. NALSA's vision statement defines its role as 'to legally empower the marginalized and excluded groups of the society by providing effective legal representation, legal literacy and awareness and bridging the gap between the legally available benefits and the entitled beneficiaries'. For more see <http://www.nalsa.gov.in/content/vision-statement>.

19. Justice JSKhehar, Chief Justice of India in his speech at the 15th All India Meet of State Legal Authorities in March 2017, available at http://nalsa.gov.in/sites/default/files/document/Inaugural%20Address%20NALSA%20Annual%20Meet%2018-19.3.2017_0.pdf.

20. <http://nalsa.gov.in/lsams/nologin/applicationFiling.action?requestLocale=en>.

21. Madhurima Dhanuka and Raja Bagga, 'Is e-application the e-sasy way to go for legal aid in India', The People's Beacon, Orissa Human Rights Commission, 2016 available at <http://www.humanrightsinitiative.org/download/Is%20e-application%20the%20e-asy%20way%20to%20go%20for%20legal%20aid%20in%20India.pdf>.

- ii) **Tele Law Scheme:** Tele-law aims to facilitate the delivery of legal advice through an expert panel of lawyers stationed at the office of the State Legal Services Authorities in each state. The project will connect lawyers with clients, even when located in remote areas, through video conferencing facilities by the paralegal volunteers stationed at the Common Service Centre's run by village level entrepreneurs.²² The project has been launched across 1800 panchayats across India²³
- iii) **Pro bono legal services:** Under this scheme any person can seek free legal assistance by submitting an application online on the DOJ website. The DOJ will then connect them to a pro-bono advocate pre-registered with the DOJ who will provide them their services free of cost. The nature of legal assistance provided could be legal counselling, advice, drafting of case related document(s), appearance in the court depending on the availability of the advocates.
- iv) **NyayaMitra Scheme:** This project will operate out of district facilitation centres housed in common service centres in the rural areas or districts. A *nyaymitra*, who will be a retired judicial or executive officer will be appointed at each centre.²⁴ The *nyaymitra's* responsibilities include assistance to litigants who are suffering due to delay in investigations or trial, by actively identifying such cases through the National Judicial Data Grid, providing legal advice and connecting litigants to relevant authorities. The *nyaymitra* will also refer the marginalised applicants to Lok Adalats for dispute resolution and render assistance towards prison reforms within the district, in coordination with the district judiciary and other stakeholders.
- v) **Legal aid for prisoners:** NALSA launched a web portal to provide legal services to prisoners in June 2017.²⁵ The portal will be used by legal services authorities to document data on legal representation of prisoners. The state and district authorities can now keep close watch on whether prisoners have defence counsels to represent them in court, and where there are none, appoint lawyers. The software will then be able to generate reports showing total number of inmates, number of inmates unrepresented, number of inmates represented by legal services lawyers and number of inmates represented by private lawyers.
- vi) **NyayaSampark – Legal Aid Establishments:** This is the most recent initiatives of NALSA. Under this initiative NALSA envisions the setup of Nyaya Sampark

22. Read more about Common Service Centres at <https://www.csc.gov.in/>.

23. <http://doj.gov.in/page/tele-law-scheme>.

24. <http://doj.gov.in/page/nyaya-mitra-scheme>.

25. <http://www.nalsa.gov.in/content/launch-web-application-legal-services-prisoners-28th-june-2017-indian-law-institute-new>.

(Contact with law) at the office of the state legal services authority in each state. In these legal aid establishments legal aid beneficiaries can get

- a) information about case status pending in any of the Districts across the State,
- b) legal aid and advice and
- c) information about various schemes of Central/State Government. They will also provide facilities like a toll-free helpline number for those seeking legal aid, a video conferencing facility to connect under trials in jails to lawyers, a team of volunteers to help people seeking legal aid.

III. WHAT ARE THE BENEFITS?

Increasing use of technology, innovative ideas and systems thus developed are optimising the functioning of the criminal justice system. It is consistently being seen as a cure to many of the ills that beset the delivery of justice. For one, the ambitious plan to integrate police, courts and prison will breakdown present work silos. Technology will inform justice system reform through the use of data sets, relationship data and more complex knowledge generation.²⁶ At the state level centralised data collection will enhance accountability and reveal bottlenecks. It will also assist to inform, support and guide people involved in the justice system and make them more aware and at pace with the law. The outreach for all this would be to a much wider audience than hitherto possible.

However, all this is quite nascent. There are huge challenges in achieving complete integration of technology within the system. Infrastructure setup, maintenance and upgradations; how adept functionaries are with machines; interface with public and ease of use; safeguards against misuse, all these factors will determine how technology will ultimately aid justice reform. Nonetheless, the benefits of technology even at this preliminary stage are perceivable. These can be broadly discussed under two heads, viz. benefits to citizens and to the system. While the former is a citizen centric evaluation, the latter is a reflection on how the system can use technology to aid in monitoring of various services linked with the criminal justice system, thus making it more transparent and accountable.

A. Benefit to citizens

The foremost beneficiaries of technology integration are citizens. As more and more citizen related services and basic information are available online or through mobile applications, the difference it's making to people's perception of justice is immense. For instance, many of those who were till now dependent solely on lawyers or touts or were forced to bribe court clerks to

26. Tania Sourdin, Justice and Technological Innovation, 2015, Civil Justice Research Online, Australian Centre for Justice Innovation, available online at <http://www.civiljustice.info/cgi/viewcontent.cgi?article=1039&context=access>.

receive a copy of the court order, can now do all that through the e-courts website. Or if one wanted to meet their family member lodged in a prison, they were forced to bribe the prison guard, a process which now becomes rather obsolete with the increasing adaptation of the visitors management system or online booking facilities that is now available in many states.²⁷

While benefit to citizens can be considered at many levels, some important ones are discussed briefly below:-

- a) **Legal remedies at one's doorstep:** The establishment of service centres, facilitation desks, front office desks, common service centres in rural areas and installation of kiosks in courts and administrative complexes will turn the dream to 'ensure access to law for all' a reality. The difference this accessible and affordable advice and support is making to the lives of people previously cut off from such services is immense. It takes just a webcam, a computer to plug it into, and a connection to a free video conferencing service like Skype for a remote village to connect with a whole new world.²⁸ In this way, many are being granted social justice rights and entitlements for the first time. This is especially important for women, children, the elderly, low-income earners, and people of low social standing among India's rigid social systems.
- b) **Eradicating devious court practices:** Earlier, as a litigant, for every small bit of information one would rely on the lawyer or the court clerk, which would mean paying unnecessary and unexplained fees to those concerned. Moving a file, getting an order-sheet, filing petitions all were linked to unfair practices. All this has and will change substantially, though not completely, as now these processes are subject to being reported and recorded in the database. Today, with district courts being linked under e-Courts project one can access information pertaining to a case with the click of a button. Not only is it easier to know case listings, but also the progress on your case can be easily tracked. Indeed awareness regarding these systems is poor, but that too will be addressed by the system. As courts move towards making all court documentation paperless, citizens stand to benefit the most as this would mean eradication of the middlemen who consistently make justice elusive to the common man.
- c) **Easy 'access' to information:** A decade back if someone wanted to know about laws, access research studies, or collate and analyse data they would visit public libraries or find relevant books at a bookshop. Now with a simple click of a button or touch, on the computer or on phone, one has access to almost all basic information needed. This

27. To make a booking for a prison visit, go to <https://eprisons.nic.in/NPIP/public/MyVisitRegistration.aspx>.

28. <https://www.videoconferencingdaily.com/recent-news/can-indias-live-chat-tele-law-service-bring-justice-entire-nation/>.

applies in a similar manner to knowledge about government functioning or processes, even organisational structures and contacts. Earlier this knowledge was subject to having 'contacts in high places'. For instance, if one wants to analyse data on arrests from a particular state, it can be found on most state police websites. Or if one wants to analyse data on arrests, trials and detention rate a visit to the National Crime Records Bureau website would suffice. Even information on welfare activities undertaken by the police or legal services authorities is easily available online. With most criminal justice functionaries having websites, majority of which regularly update relevant information, accessing information is no longer as difficult as it was in the past.

B. Benefit to system

In addition to benefits for citizens', technology can also aid the system in ensuring accountability and improve its efficacy. Some of the ways by which technology can benefit the system are discussed below:-

- a) **Improving coordination among agencies:** As ICT in the different agencies of the criminal justice system picks up pace, and more data is collated and compiled leading to inter-linkage between each agency one can hope that it would iron out the lack of coordination that plagues the systems at present. An effective inter linkage would mean that the moment a person is brought to the police station his record will be entered into the CCTNS. If he has no lawyer, immediately an alert will go to the nearest legal aid authority, triggering the appointment of a lawyer;²⁹ with reduced chances of fudging up records, the arrested person will be produced before the magistrate within the mandated 24 hour period; upon remand of persons to judicial custody, basic information on the accused reaches the prison prior to his arrival, including information such as any medical ailments, lack of legal representation etc., thus assisting them in preparing for his/her admission. Even during the entire trial process regular updates on cases can be made available to inmates by the NIC proposed Information Kiosks installed inside prison premises. All this would also save time and resources lost in re-entering the information in the database and prevent duplicity of record keeping.
- b) **Conservation of time:** While there is an initial resistance to switch to technology, marked mostly by fear of making one's job cumbersome, eventually the same

29. In compliance with Article 22(1) & 39A of the Indian Constitution read with Section 41DCr.P.C. which mandates the presence of a lawyer at the police station at the time of interrogation.

functionaries learn to appreciate the benefits that technology has to offer. For instance, in an interaction with a prison official over the use of e-prisons application suite, he mentioned how the staff feared the difficulties they would face in maintaining records at two places. But these apprehensions were disputes within few months, as they realised how simplified their work had become. With reports generated in a jiffy, the benefit of technology was understood. Thus, conservation of time, resources and energies of those who run these offices is one of the biggest benefits that technology has.

- c) **Improving monitoring & oversight:** Extending the reach of technology to address gaps in monitoring and reporting, can improve accountability many-a-fold. Even with a strong legal framework, ground level implementation in India is poor due to slack monitoring. Lately, there has been a perceivable emphasis on effective monitoring; this is evidenced by the Supreme Court's recent observations in *Hussain and Another v. Union of India*,³⁰ where the court emphasised upon the role of the high courts 'to ensure that the guidelines issued by this Court are implemented in letter and spirit.' It expounded this by stating that monitoring can be done more effectively by the High Courts since it would be easy for that Court to collect and collate the statistical information in that behalf, apply the broad guidelines already issued and deal with the situation as it emerges from the status reports presented to it. A chunk of this statistical data is sourced in ICT.

Technological tools such as web portals and mobile applications further aid accountability. With the increased use of smart phones by lawyers, litigants, judges etc. documenting and reporting can be made easier and less cumbersome for all by resorting to mobile applications for tracking and reporting work of legal aid lawyers, paralegal volunteers, police officers, probation officers etc. Mobile applications can also be made to record work of oversight bodies such as board of visitors for prison oversight; under trial review committees for periodic review of detention and; monitoring committees for legal aid.³¹

Moreover, modules can also be introduced in the existing e-courts and e-prisons system to aid monitoring of prisoner cases, preventing prolonged and unnecessary detention.³² For instance, if a remand date is missed due to shortage of escorts; a prisoner is eligible for statutory bail;³³ a prisoner is granted bail but is still in detention due to inability to pay surety; a prisoner can be released under probation of offenders

30. Hussain and Anrv. Union of India Criminal Appeal No. 509 OF 2017 9 March, 2017.

31. For more see <https://www.dimagi.com/blog/how-mobile-data-collection-can-aid-prison-reform/>.

32. For more details and specification document on features required, see EPIC - Evaluation of Prisoner Information & Cases, CHRI 2016 available at <http://www.humanrightsinitiative.org/download/1475562359EPIC-%20EVALUATION%20OF%20PRISONER%20INFORMATION%20AND%20CASES.pdf>.

33. Sec 167(2), 436, 436ACrPC.

act; alerts would go to the concerned authorities, family members and lawyers already registered in the system.³⁴

- a) **Improving training & capacity building of functionaries:** Technology can also complement training and capacity building efforts of training institutes in India. Interactive and practical training methodologies are quickly replacing the age old classroom lecture format for teaching. Technology can aid in making mock scenarios become alive by use of 360 degree views of courts rooms, police stations, prisons etc. One such 360 training tool, the *Virtual Police Station (VPS)*, which has been prepared by the Commonwealth Human Rights Initiative & Rajasthan Police Department is already making inroads in the way police personnel are being trained in many states.³⁵ Similar technological tools can be conceptualised for visualization of court rooms and prisons too. The national & state judicial academies, police academies, prison training institutes, prosecution services etc. can thus benefit by use of technological innovations

IV. CONCLUSION

As rapid developments in technology continue to open up new opportunities that were unthinkable a few years ago, it is proving to be an indispensable tool that the justice system must use to restore public confidence in the legal system. Technology can and will play an influential role to ensure that the relationship between citizens and the judicial system is strong and communicative.³⁶ Universal accessibility to knowledge of legal processes, entitlements and the formal systems of justice has the potential to empower the whole nation. However, all this is work in progress. While technology is likely to do enormous good in repairing a broken system, there are many challenges before it.

The widespread reliance on technology depends on constant electricity and high speed internet services; skilled operators and accurate, timely and regular information input; regular maintenance of hardware. All this is not available everywhere, especially in rural areas, where the need is most, and outreach worst. Additionally, what is conspicuously missing from this is a review process to monitor implementation. Who is setting the markers and will review progress; what will be the assessment process and; where are the mechanisms to track progress or failure. These questions, unanswered at present, must be addressed soon. Only then would technology turn out to be the true saviour.

34. <http://www.humanrightsinitiative.org/download/1475562359EPIC-%20EVALUATION%20OF%20PRISONER%20INFORMATION%20AND%20CASES.pdf>

35. For more information see www.virtualpolice.in.

36. Intelligent use of ICT can revamp the Indian justice delivery system, Dr. Justice G.C. Bharuka, http://www.commoncause.in/publication_details.php?id=453.

Process Oriented Policing



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Ganesh Maddipatla¹
Dr. Hanif Qureshi, IPS²
Dr. Arvind Verma, IPS³

Abstract:

Crime is not a random event. Criminological research suggests that certain characteristics are associated at different levels of criminal involvement. Criminology has traditionally focused on two main units of analysis: individuals and communities. They often speculate as to why certain individuals or communities are prone to commit more crime. However, now criminological research has focused their attention to the spatial distribution, concentration of crime at particular spots, context of crime and the opportunities presented to the potential offender at that spots. Study of crime at concentrated micro place required reliable data of crime for large period of time. In this paper we use official crime data which is collected and maintained by Faridabad Police Commissionerate, which is unique in India. This paper outlines the techniques used to identify the spots with more than average crime. These spots will become central to policing strategies and will help policing administration to focus resources on these highest need spots.

Focused resources multiply one's power tremendously.

Keywords:

Policing, Criminology, Speculate, Strategies Crime Mapping, Conjunction, Jurisdictions.

Author Intro:

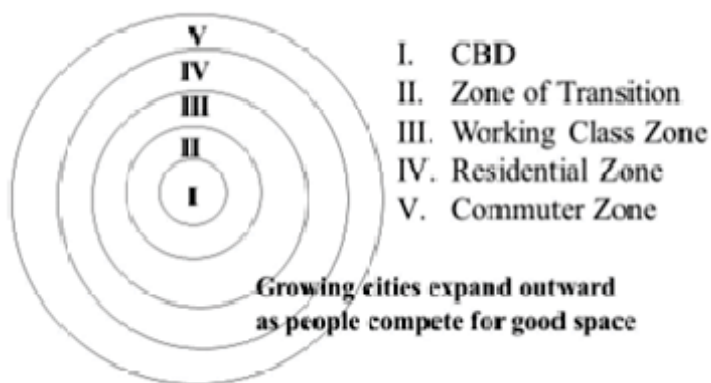
1. Indian Institute of Technology Patna, (IIT-Patna)
2. Commissioner of Faridabad Rakshak Foundation
3. Professor, University of Indiana

1. Introduction

Crime mapping is the process through which crime analysts and researchers use location information about crime events to detect spatial patterns in criminal activity. Early crime mapping efforts typically involved placing physical markers, such as pins, on maps to designate the locations where crimes occurred. Patterns of criminal activity were determined primarily through visual inspection of these maps. With the advances in computing, geographic information system (GIS) software, such as QGIS, ArcGIS etc., enables researchers to convert geographic information into coordinates used with virtual maps. Researchers and crime analysts can then use a number of analytic software packages to examine and detect patterns of criminal activity from these virtual maps.

1.1 History of crime mapping

Interestingly, the earliest efforts at crime mapping can be traced to the roots of the discipline of criminology itself. In the United States, Shaw and McKay's (1942) seminal study of juvenile delinquency in Chicago made extensive use of crime maps. Shaw and McKay borrowed Park and Burgess's (1924) ecological model and divided the city into five different zones. They found that the zone adjacent to the central business district, the zone of transition, perpetually suffered from the highest rates of juvenile delinquency and other social problems regardless of the specific ethnic group occupying the zone at the time. This research was instrumental in popularizing social disorganization theory and inspired a number of similar mapping projects in Chicago; Philadelphia; Richmond, Virginia; Cleveland, Ohio; Birmingham, Alabama; Denver, Colorado; Seattle, Washington; and other cities.



The late 1960s and early 1970s were critical for the development of crime mapping. In 1966, the Harvard Lab for Computer Graphics and Spatial Analysis developed SYMAP (Synagraphic Mapping System), one of the first widely distributed computerized mapping software programs. The Environmental Science and Research Institute was founded in 1969 and in the

subsequent decades emerged as one of the top distributors of GIS software, including the current ArcView and ArcGIS software packages. Accompanying these early efforts in crime mapping were developments in the profession of policing that provided additional opportunities for crime mapping. In the late 19th and early 20th centuries, the professionalization movement in policing encouraged police organizations to compile statistics documenting the extent of crime in their jurisdictions. In fact, one of the main justifications for the creation of Federal Bureau of Investigation was for the explicit purpose of documenting the extent of crime in the United States through the Uniform Crime Reporting program (Mosher, Miethe, & Phillips, 2002). These advances were necessary for the development of GIS programs used in crime mapping. These developments have decreased the loss of time and resources and by increasing accuracy.

Although the first instances of computerized crime mapping occurred in the mid-1960s in St. Louis, Missouri, the adoption of computerized crime mapping across the United States remained relatively slow.

Although a number of agencies, in particular in larger jurisdictions, became early adopters of computerized crime mapping technology, the large period of growth in computerized crime mapping did not begin until the late 1980s and early 1990s (Weisburd&Lum, 2005).

Research into computer-based crime mapping started in 1986, when the National Institute of Justice (NIJ) funded a project in the Chicago Police Department to explore crime mapping as an adjunct to community policing.

That project was carried out by the CPD in conjunction with the Chicago Alliance for Neighbourhood Safety, the University of Illinois at Chicago and North western reported on in the book, *Mapping Crime in Its Community Setting: Event Geography Analysis*. The success of this project prompted NIJ to initiate the Drug Market Analysis Program (with the appropriate acronym D-MAP) in five cities, and the techniques these efforts developed led to the spread of crime mapping throughout the US and elsewhere, including the New York city police departments' compstat. The rate of adoption of crime mapping among departments greatly increased as desktop computers became cheaper and more powerful and GIS software became easier to use and more powerful.

1.2 Crime Mapping using GIS data

A large number of studies claimed that criminal events are spatially concentrated over a limited area. These limited areas with more than average number of crimes are termed as 'hotspots'. These hotspots vary in shape and size. Hotspots are categorised by some analysts as point hotspots, line hotspots, and polygon hotspots.

The hotspot can be limited to a point or street or block or can be entire city. These hotspots can be identified by using many techniques. The factors responsible for hotspots also varies, the factors that give rise to hot spot places are different from the factors that give rise to hot spot streets, hot spot neighbourhoods, or hot spot cities. Further, the actions one takes to deal with a hot spot place will be different from the actions needed to address a hot spot street, hot spot neighbourhood, or hot spot city.

The approach differs according to the level of analysis, area of analysis and crime type. The level of analysis is determined by the expectations of output. Small number of hotspots will be responsible for major part of crime in the administrative boundary. So detection and analysis of hotspots are the major concern of crime mapping.

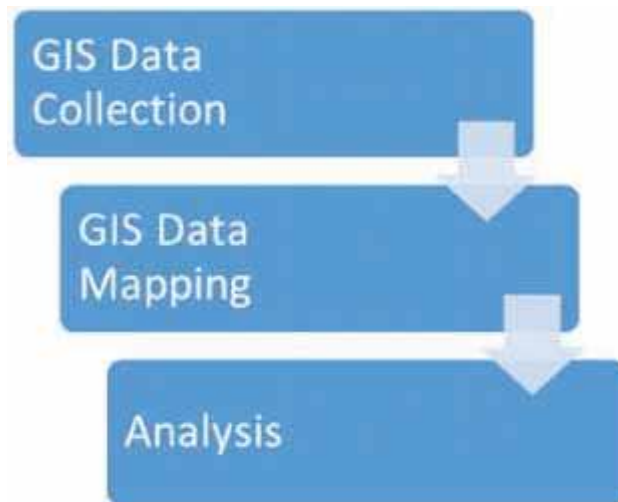
For detection of hotspots one should have reliable and accurate information of location of crime, this information is termed as Geographic Information System (GIS Data). Each level has basic units of analysis, the things being examined. One can think of units as corresponding to the geographic areas being depicted on maps: points, lines, or polygons. These can be decided by scholar with basic knowledge of type, trend and pattern of crime. The next step in detection of hotspot is mapping of crime using GIS data compiling software. There are many applications available; researchers can choose any of the geo spatial analysis application as per their standards.

1.3 Crime Mapping in India

Crime mapping and hotspot analysis is being adopted by many nations in their policing. Unfortunately, India has not yet begun any serious use of this convenient perspective. Of course, many police officers know where the crime hot spots are, but most are unwilling to use any data driven methodology. Ultimately, it is not merely the hotness of spots, but the reasons of the hotness in which we should be interested. Only then, hopefully, we can begin to think of ways to address the underlying causes. Unless we are willing to learn what is good for us and reap the benefits of technology, we will have to make do with personal experiences without the benefit of evidence based policing.

Efforts were made by some police administrations of Delhi, Chennai, Hyderabad, Bangalore and Mysore to work on crime mapping and detection of hotspots and their analysis. This 'Crime Mapping and Hotspot analysis' project by Dr. Hanif Qureshi, CP Faridabad is an innovative and unique in India.

1.4 Methodology Followed



In this paper we are using official GIS data which is collected by Commissionerate of Faridabad for all the crimes registered in the boundary of Faridabad police administration. The data is collected for a period of one year. It is unfortunate but we have to accept that police department in our country lack knowledge of technological developments, this has made the process of data collection a bit difficult in initial stages. But as the project is progressed, most of the officers worked productively in data collection. This project used whatsapp location sharing option for collecting geographic information of location of crime. This geo graphic information is attached with details of first information report (FIR) and is recorded in spread sheets. These spread sheets contain information of FIR number, FIR date, Date of crime, Day and time of crime, sections imposed for that crime, type of crime decided as per hierarchy laws of national crime record bureau, spatial information of crime and general location of crime by name. This data is filtered and modified as per the requirement of analysis using different techniques.

For our research work, in this paper we are using Quantum Geographic Information System (QGIS), which is an open source desktop geographic information system application that helps in analysing geo spatial data. This application helps in detecting hotspots, doing KDM analysis and in generating heat maps. This paper explains the techniques followed and the parameters selected for spatial analysis. The hotspots can be concluded by the results of GIS data compiling. The exact location of hotspots is noted by using techniques like coordinate capture and these hotspots are traced. Different hotspots are concluded as per type of crime and average number of crimes per hotspot parameter depend on the size of data, general trend of that crime and importance of crime.



Sample of hotspots located

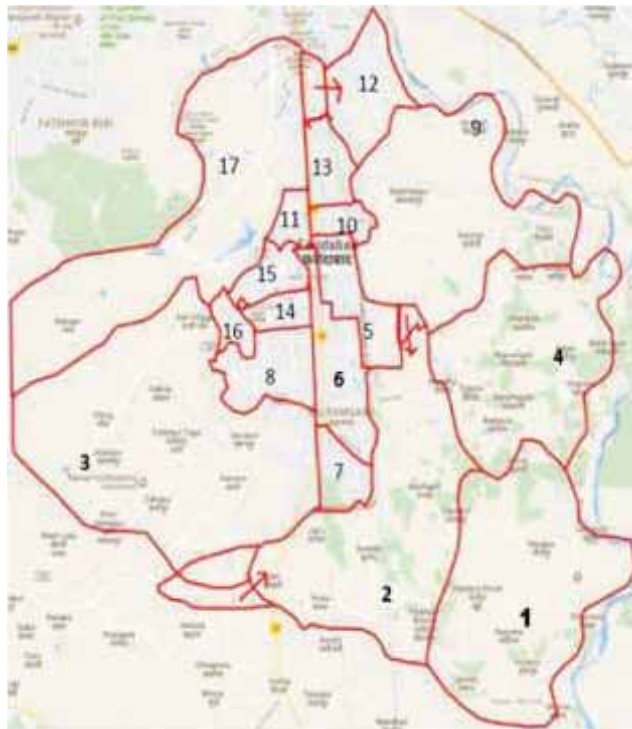
The next step is to analyse and address the underlying causes for those hotspots, this can be done by analysing the etiology of crimes at that hotspots. The reasons for crimes at these hot spots are analysed and systematic strategies to overcome the causes of crimes are made at police station level and administrative changes and improvements are made by commissionerate administration

2. GIS Data Mapping

2.1 Study area

Faridabad is located towards south of Delhi. In its north is Delhi, west district Gurgaon, in East Uttar Pradesh and in South District, Palwal. Its terrain is generally plain area except some area towards Surajkund and Palli which is hilly. Faridabad district is mixed with urban, semi urban and rural areas and culture. Based on historical, political, economic, educational, administrative and nodal attributes, Faridabad has witnessed tremendous growth in size, population and Per Capita Income which in turn has simultaneously led to the growth in crime.

For police purpose, Faridabad is a Commissionerate with Police commissioner as head of the unit and for Police district Faridabad is divided in three parts i.e. NIT, Central & Ballabgarh Division. Each Police district is further divided into two subdivision each headed by an ACP. NIT Faridabad division has 7 Police Stations whereas Central Faridabad & Ballabgarh Division has 5 Police Stations each.



- Boundary of 17 police stations under Commissionerate of Faridabad
 1. Chhainsa
 2. Sadar Ballabh Garh
 3. SEC55
 4. Tigaon
 5. Central
 6. Sec7
 7. City Ballabh Garh
 8. Mujesar
 9. Bhupani
 10. Old Faridabad
 11. NIT
 12. Sarai
 13. Sec31
 14. Kotwali,Traffic
 15. SGM Nagar
 16. Saran
 17. Surajkund
- List of police stations as per boundary denoted in the map

2.2 Data and Unit analysis

The specific focus of study is micro places, defined as hotspots in the boundary of Faridabad police commissionerate. In this paper, we are using computerised record data referred as data of registered first information report (FIR) along with geographic information of place of occurrence of crime over a period of one year. This data is recorded by concerned officer in the police station once an FIR is registered. This computerised data is further filtered as per our requirement. We classified crimes of FIR with multiple sections registered as per the hierarchy law by National Crime Record Bureau (NCRB) of India. This data is far accurate than standard accepted level of accuracy, 85%. For our analysis we preferred FIR data than data of arrested offenders because FIR data is more inclusive. Even though most of the crimes are concentrated in high density urban and semi urban areas, Faridabad commissionerate is a mixture of urban, semi urban and rural areas and cultures.

The geographic unit for analysis in this paper is a grid of varied sizes depending on the type of crime. We chose the grids because of the unevenness in the distribution and plan of the region.

The choice of grids will minimise the errors registered while recording place of occurrence of crime. The size of the can be a square of side equal to one third of length of block. The standard followed by many crime research as $8 \times 4.8 \text{ km}^2$ will have $0.03 \times 0.03 \text{ km}^2$ grid, will also give productive results.

2.3 Describing distribution of overall crimes in the administrative boundary

Figure1 provides the spatial distribution of all crimes in Faridabad commissionerate over a period of one year. The most common crime was theft followed by public drinking and gambling. The other crimes mostly registered are of crime against women, kidnap, snatching, causing hurt, traffic incidents, dacoity, robbery, riots, crime against children and involving arms. Other crimes are noted as unknown.

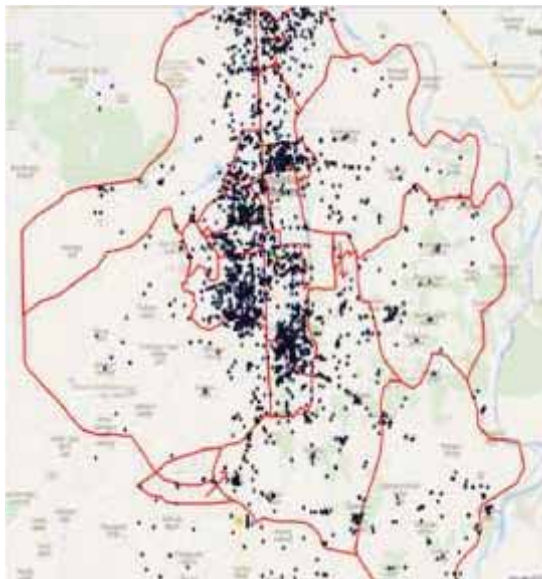


Figure1

As mentioned earlier, most concentration of crime is in high density populated urban area. This high concentration of crime supports the existence of hotspots for various crimes.

Figure2 shows the heat map of overall crimes in the commissionerate.

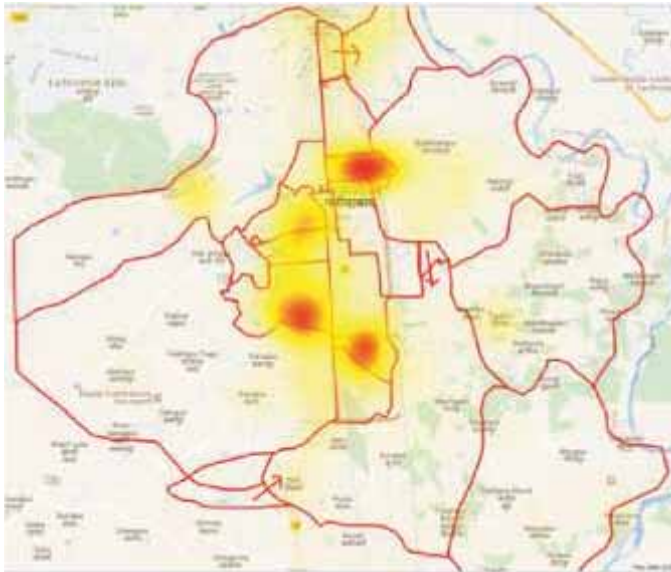


Figure2

This heatmap visualizes the areas with higher density or cluster of crime activities occurred. This suggests the location of hotspots of crime. GIS data, which, if filtered and arranged with crime type, date, day and time of crime can be used to plot hotspots of varying size and shape as per requirement of type crime. The information of date, day and time can be used to analyse patterns, trends of crimes seasonally.

3. Hotspot Analysis

As mentioned earlier, Areas of concentrated crime are often referred to as hotspots. Researchers and police use the term in many different ways. Some refer to hot spot addresses (Eck and Weisburd, 1995; Sherman, Gartin, and Buerger, 1989), others refer to hot spot blocks (Taylor, Gottfredson, and Brower, 1984; Weisburd and Green, 1994), and others examine clusters of blocks (Block and Block, 1995). Like researchers, crime analysts look for concentrations of individual events that might indicate a series of related crimes. They also look at small areas that have a great deal of crime or disorder, even though there may be no common offender. Analysts also observe neighbourhoods and neighborhood clusters with high crime and disorder levels and try to link these to underlying social conditions.

Though no common definition of the term hot spot of crime exists, the common understanding

is that a hot spot is an area that has a greater than average number of criminal or disorder events, or an area where people have a higher than average risk of victimization. This suggests the existence of cool spots—places or areas with less than the average amount of crime or disorder. It also suggests that some hot spots may be hotter than others; that is, they vary in how far above average they are. Even though hotspots are areas of high crimes, their terminology can be varied as per the shape, size and other characteristics of area.

3.1 Hotspot analysis of vehicle theft

The GIS data of vehicle theft over an year is filtered and compiled to a map over a grid of 0.8km^2 . Figure3 shows the spatial distribution of vehicle thefts on 0.8km^2 grid.

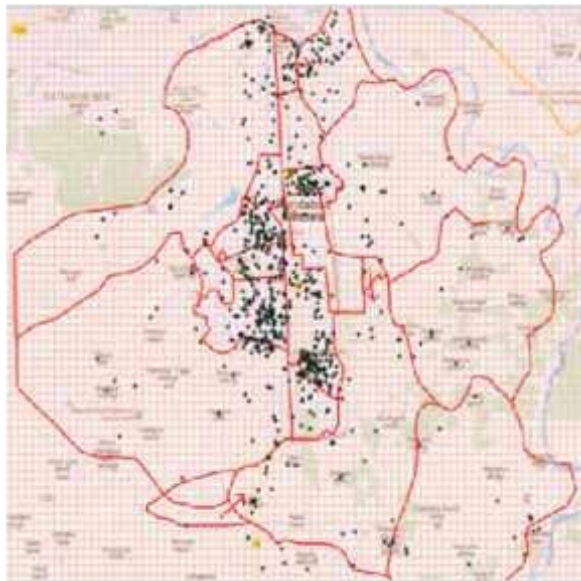


Figure3

This shows, like all crimes vehicle theft is found to concentrate at certain locations. In this context we consider four crimes as average as this data represents over a period of one year only. Therefore the grids with four or more than four is considered as hotspot. Using point density techniques we can filter the grids with four or more than four crimes. These grids are acting as hotspots of vehicle theft crime.

In the boundary of Faridabad commissionerate, 38 Grids out 2600 are acting as hotspots for theft. This concludes that 1.4% area is responsible for 100% theft crimes in faridabad commissionerate.

Figure4 shows the spatial distribution of hotspots on map



Figure4

Using techniques of coordinate capture the centre of hotspots can be noted and this helps in locating the hot spot.

Vehicle theft is the most common crime in Faridabad commissionerate. Even though most of the thefts are of economic purpose, some investigations have thrown light on joy riding and method of transport. Most of the offenders with economic purpose target the areas, where large quantity of vehicles are routinely left unguarded. These unguarded areas which lack place managers are acting as targets for offenders. Coming to the etiology of theft, the most hotspots are the places with cluster of vehicles, that lack place management. Hotspot areas mostly include parking areas of parks managed by faridabad municipality, Government buildings with minimal occupancy parking or no parking facilities.

3.2 Hotspot analysis of excise act

As mentioned priorly the faridabad is mixed with people of different cultures, economic conditions.

Government has framed separate department for controlling the activities of excise. But there is requirement of police intervention in controlling excise activities like public drinking and chain or flow of crimes that are promoted by drinking or public drinking.

The filtered GIS data of excise act over a period of one year is compiled into a map. Figure5 shows the distribution of crimes recorded under excise act over a grid of 0.8km^2 .

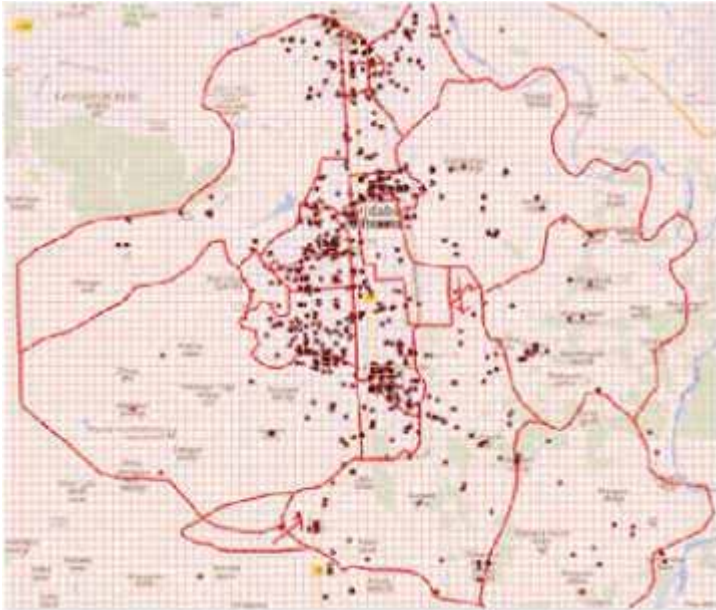


Figure5

Like all other crimes, the crimes under excise act is concentrated and visualizes the possibilities of existing of hotspots. 32 out of 2600 grids which are 0.8km² are responsible for major part of crime. Means 1.23% area is responsible for most part of the crime. Figure6 shows the center of hotspots of crime noted under excise act, this is done by using the feature of coordinate capture.

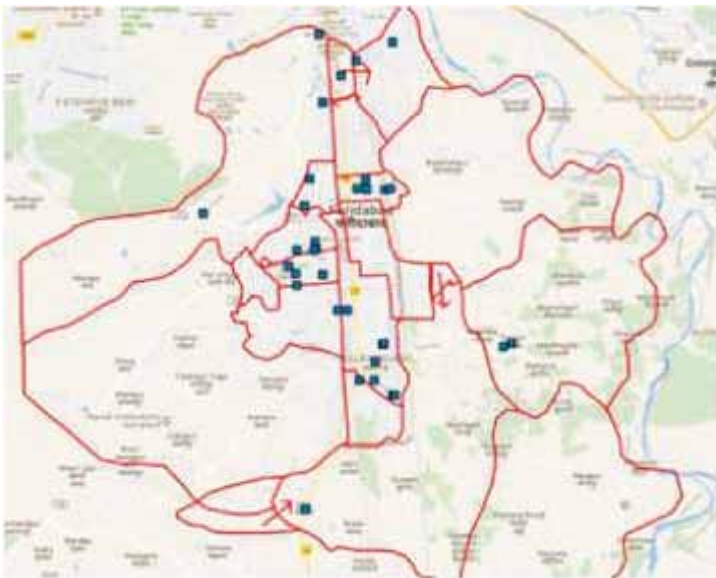


Figure6

The presence of government leased shop or illegally running wine shops might be one of the reasons. The negligence of place guardian has also contributed in some Public drinking crimes at a particular hotspot. Crubing the causes that are promoting excise crime, emphasis has to be on flow of excise crime in to other crimes like hit, traffic accidents, crime against women and person, public nuisance etc. After analysing hotspots in faridabad, only a few hotspots are responsible for flow of crime and emphasis were made to address those causes of flow of crime.

3.3 Hotspot analysis of Fatal accidents

Fatal accidents costs lives of people, which is valuable and so there is need to analyze fatal accident hotspots and to decrease hotness of spots. Figure7 visualize spatial distribution of filtered GIS data of fatal accidents on grid of 0.8 km² with the faridabad boundary over a period of one year.

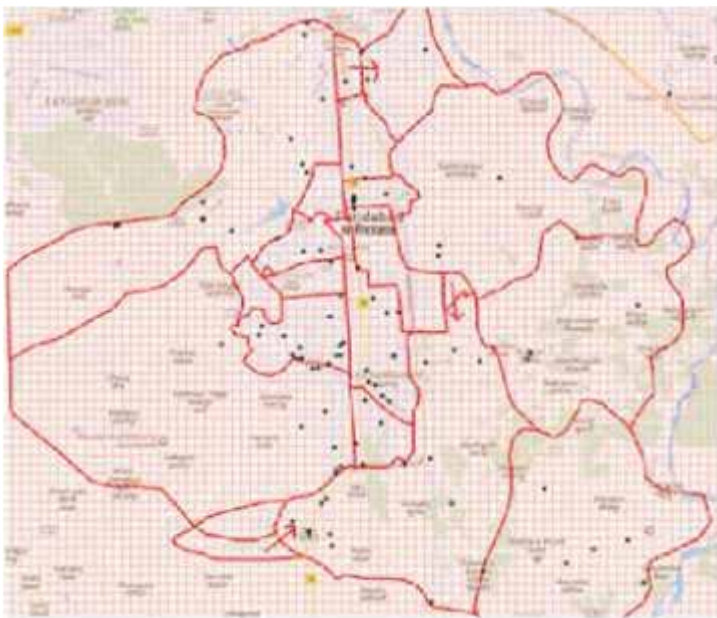


Figure 7

This shows the possibilities of existance of hotspots. Out of 2600 grids, grids with two or more than 2 grids is considered as hotspots. Out of 2600 grids 11 grids are responsible for major part of crime. Which is 0.4% area.

Figure 8 visualizes the position of hotspots of fatal accidents. Most of the hotspots are restricted to a point rather than a line or bounded polygon. The hotspots concluded by GIS data analysis is traced and is analysed for reasons like



Figure 8

low lighting, curves, misplaced speed breakers etc that are responsible for accidents at different hotspots.

4 Discussion

The basic, most important and difficult task in this project, data collection is done by whatsapp location sharing. The basic accuracy of this feature is 10m which is acceptable and can be believed that this generates very little error in the concluding analysis. Known and unknown human errors might have prevailed in some units of data collection. The hierarchy law that is followed to classify units of crimes with multiple section of IPC is the standard followed across India, which is fixed by Nation Crime Record Bureau. The boundary map of faridabad is done almost exactly. The boundary map of individual police stations is done with as much accuracy as possible and there might be some assumptions considered as there are few inputs. When we come to accuracy of QGIS, There is no such thing as the perfect GIS data. It is a fact in any science, and cartography is no exception.

However, the imperfection of data and its effects on GIS analysis had not been considered in great detail until recent years. In the last decade, GIS specialists started to accept that error, inaccuracy, and imprecision can affect the quality of many types of GIS projects.

The methodology of cross checking hotspots after analysis helped us to assess the accuracy of GIS data. When we come to accuracy of QGIS, an assessment plugin is available to know the accuracy and standard of any project. Even cross checking the results with concern officers of

that area made the project more standard. This software also allows us to analyse GIS data temporally (as data is recorded along with time, date and day of crime). This temporal analysis will also help police in patrolling and responding according to temporal analysis.

The hotspot maps concluded from hotspot analysis using KDM theory, its' principal theme is that crime hot spot maps can most effectively guide police action when production of these maps is guided by theory. With the appropriate crime theory, crime maps can communicate vital information to police officials and community members efficiently and effectively. These crime theories depend on the pattern of crimes happening. These heat maps gives productive results if they are run with standard crime theories and will mislead if they are analysed with wrong theories.

5 Results and conclusion

Crime analysis transformed from analyzing attributes from individuals to crime occurrence or offending to spatical location of crime occurrence. The purpose of this paper is to make system aware the possibilities of adopting advanced crime analysis like hotspot analysis in a developing country like India.

Although the history of crime mapping can be traced to the beginnings of the field of criminology, even in some developed countries it is only recently that researchers and crime analysts have been able to engage in extensive mapping efforts, primarily due to the development of the desktop computer and GIS software.

The emergence of the problem-oriented policing model, along with advances in the theory of criminal events, created an easy way to adopt for crime mapping in police agencies.

Some argue the possibilities of movement of hotspots to another place if we are able to solve and decrease the hotness of one hotspot. But the offender cannot find a place with this huge cluster of reasons promoting him to commit offence like in present hotspot and by which the probability of crime will be less when compared to now.

Finally, this research paper aimed to elaborate on some of the major findings in crime mapping and spatial crime research of Faridabad commissionerate boundary, with particular attention to locating hot spots and designing strategies to decrease hotness of spot. This paper concluded with interesting statistics of percentage of areas contributing to major part of crime in the boundary of Faridabad commissionerate. These statistics laid emphasis on importance of adopting crime mapping in policing in our country.

Even though the results of hotspot analysis are working partially in reality, results will be more

accurate if GIS data is recorded over large period of time with accuracy and using advanced analytics software with more inputs including social and geographic attributes.

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A Study of Genuineness of 2000 Banknote and Related Contemporary Issues



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Ketan Patil¹

Navjot Kaur Kanwal²

Manish Malhotra³

Abstract:

Money is anything that is generally accepted as a payment for services and goods & repayments of debits in form of currency and coins. Indian currency is called Indian Rupee (₹). The Reserve Bank of India manages currency in India by issuing bank notes of different denominations as legal tender for currency and ensures the counterfeiting of currency by introducing various security features from time to time. Old bank notes were of King George IV series till 1947 and after that it were replaced by Ashoka Pillar watermark. The bank notes of Mahatma Gandhi series were introduced in 1996. Recently, Government of India demonetized the 1000 note and 500 note on 9 November 2016. This is done to prevent the counterfeiting of Indian currency and to eliminate black money. Present work is an elaborate effort to articulate about the knowledge of various security features in new 2000 bank note of India using VSC-40. The study undertaken surely be helpful to investigating agencies, document expert to encounter challenges being posed during the examination of bank notes.

Keywords:

Bank note, Currency, demonetization, denominations, Indian money, Reserve Bank of India, security features.

Author Intro:

1. Student- M.Sc. Forensic Science, kbpatil11214@gmail.com
2. Corresponding author, Assistant Professor
3. Research Scholar (JRF- UGC)

Department of Criminology and Forensic Science, Dr. Harisingh Gour Central University, Sagar (M.P.).

Introduction

The rupee is named after “rupiya” which was nothing but a silver coin. It was first issued by a sultan Sher Shah Suri in the 16th century and later Mughal Empire continued it. “Rupee” word was derived from the Sanskrit word “rupyakam.” The Prime Minister of the first Mauryan emperor Chandragupta Maurya was Chanakya. He mentioned silver coin as “rupyarupa.”

The first paper money was introduced in 1770 by Bank of Hindustan. Government of India introduced its first paper money in 1861. Various denomination notes were introduced sequentially by Indian government i.e. 10 note in 1864, 5 note in 1872, 100 note in 1900, 50 note in 1905, 500 note in 1907 and 1000 note in 1909. Reserve Bank of India issued bank notes in January 1938. Before that the bank notes were issued by private banks and presidency banks. As the bank notes of denominations of 5, 10, 50, 100, 500 and 1000 were issued by Reserve Bank of India it also issues bank notes of denominations of 5000 and 10,000. According to the RBI Act, 1934 you cannot have bank notes in higher denomination than 10,000 rupees. Rupees 1000 and 10,000 bank notes were demonetized in January 1946. In the year of 1954 bank notes of denomination of 1000, 5000 and 10,000 were reintroduced and from that bank note of denomination of 5000 and 10,000 were demonetized. The pre independence notes embedded with portrait of King George IV which continued till 1947. After that, this series was discontinued and new series was launched with Ashoka Pillar watermark. The bank notes with Mahatma Gandhi series were introduced in 1996. Recently, Government of India demonetized the 1000 note and also change the 500 note on 9 November 2016 embedded with new security features and design.

Currency in India is managed by the Reserve Bank of India. On the advice of the RBI, Indian government decides various denomination of bank notes for people. The central government of India approves the designs of bank notes, including security features. The bank notes which are received from banks and currency chests are examined and those fit for circulation are reissued and others are destroyed to maintain quality.

Production and Circulation of Government Currency Notes







Government of India has its bank note press which is located at Dewas, Madhya Pradesh and currency note press which is located at Nashik, Maharashtra. Reserve Bank of India has its “Bhartiya Reserve Bank Note Mudran Pvt. Ltd.” at Salboini in West Bengal and at Mysore in Karnataka. The special type of paper was used for printing notes which was purely made of cotton linen rag. This paper is manufactured at the “Security Paper Mill” which is located at Hoshangabad in Madhya Pradesh.

As mentioned above the Reserve Bank of India manages currency in India. The currency operations are managed by Reserve Bank of India through its 18 issue offices. The fresh bank notes from banknote printing press are received by these offices and they forwarded to the selected branches of commercial banks. The bank notes are stocked at currency chests through which bank branches receives the bank notes for further distribution among the public.

Printing Techniques

The bank note press located at Dewas Banknotes are printed by intaglio printing technique and in currency note press Nashik, the currency notes are printed by offset printing technique. The offset printing is a Plano graphic process which do not leave any indentations of printing on the paper. In the intaglio printing, the linked areas were in relief. They can be felt by hand. In this technique, the lines which want to printed were cut into a metal plate by using engraving process or chemical etching and that lines holds ink which then transfer on the paper.

Some Information About Old Currency

Image		Dimensi ons	Main colour	Description	
Front Side	Back Side			Front Side	Back Side
		117 × 63 mm	Green	Mahatma Gandhi	Tractor
		137 × 63 mm	Orange- violet		Rhinoceros, elephant, tiger
		147 × 63 mm	Red- orange		Mount Harriet, Port Blair

		147 × 73 mm	Violet	Parliament of India
		157 × 73 mm	Blue- green	Himalaya Mountains
		167 × 73 mm	Orange- yellow	Salt March
		177 × 73 mm	Amber- red	oil rig, a satellite and a steel foundry

Source: <http://www.banknotes.com/>

MATERIALS AND METHODS

bank note of denomination 2000 was selected for present study. The bank note was obtained from government banks during personal transaction. Non-destructive instrumental analysis was done using Video Spectral Comparator-40 at Department of Criminology and Forensic Science, Dr. Harisingh Gour Central University, Sagar, Madhya Pradesh. Physical examination was first done in visible light which was further analyzed by using VSC-40 which provides non-destructive examination of documents. By using various instrumental parameters, it provides instant results with easier use. It is an imaging device which allows an examiner to analyze various documents for security features, inks, alterations, obliterations examination. The instrument also has various options for magnification to view micro lettering and filters to select some desired range of illumination.

VSC-40

Instrumentation

Instrument used in the work is the Windows TM based software version 6.6 (Build 161) embedded in VSC-40 (Foster+ Freeman). It provides an illumination by flood light, UV-365, UV-312, UV254, transmitted light, spot lamp, coaxial light, anti-strokes and light from right

and left side. The instrument uses visible incident light, UV incident light at 365nm, 312nm and 254nm, UV transmitted light 365nm, visible transmitted light and coaxial light revealing various information by giving fluorescence.

Principle

The VSC-40 consists of two parts 1)

- 1) A desktop computer which runs on software.
- 2) Imaging device.

Imaging device consist of black and white charge coupled device (CCD) video camera, 7s colour CCD video camera, radiant sources such as tungsten filament lamp, halogen lamp, fluorescent lamps and excitation filters. Various lightning conditions such as infrared, visible, ultraviolet, infrared luminescence, oblique and coaxial can be used alone or in combination. An automated spectrometer is embedded in VSC-40 that uses camera band pass filter and video camera. The camera band pass filter is used to analyze the light originating from some region of interest (ROI) in the document. To reveal differences in IR absorption, transmittance, luminescence, etc. the variety of illumination and filtering devices are fixed in VSC. The features which are invisible to naked eye can be revealed by selecting various illumination modes. The instrument allows viewing and recording the response of documents on light exposure of various wavelengths. This availability of VSC is useful for the examination of security features of various documents such as bank cheques, currency, driving licenses, passport, visa, etc. Also it is useful for examination of obliterated, altered and erased entries on documents and different types of inks. It allows examination of entire security document. VSC also facilitate colour measurement and chromaticity display charts.

Preliminary Examination of bank notes

In preliminary examination of bank note was examined by naked eye and visible light source and the features if seen then noted in systematic manner which has been considered valuable for the further analysis which is done in VSC-40. Aim of this preliminary examination is the detection of some security features which are easily detected by naked eye.

Bank note examination using Video Spectral Comparator

The VSC-40 is used for examination of security documents. The various security features embedded in bank note was examined under various lightning conditions such as visible incident light, UV incident light (365nm, 312nm, 254nm), UV transmitted light(365nm), coaxial light, etc.

Table 1: feature of bank note in different light conditions

S. no.	Light conditions	Features
1.	Visible incident light	Micro lettering, latent image
2.	UV incident light	
	365nm	Security thread, security fibers, bank note number giving fluorescence of yellow colour, new rupee symbol.
	312nm	
	254nm	Security thread, security fibers, bank note number giving fluorescence of greenish colour, new rupee symbol Security thread, security fibers, bank note number giving fluorescence of yellowish colour, new rupee symbol
3.	UV transmitted 365nm	Security thread, security fibers
4.	Visible transmitted	See through features, watermarks and security thread

RESULT AND DISCUSSION

Present study was undertaken to study various spectral revelations in new 2000 bank note using Video Spectral Comparator-40 and following results were seen:

Figure 1: Micro lettering (Light: Flood, Longpass: VIS, Mag: 16.92) in ₹2000 note



Figure 2: Security Fibers (Light: UV, Longpass: VIS, Mag: 16) in ₹2000 note

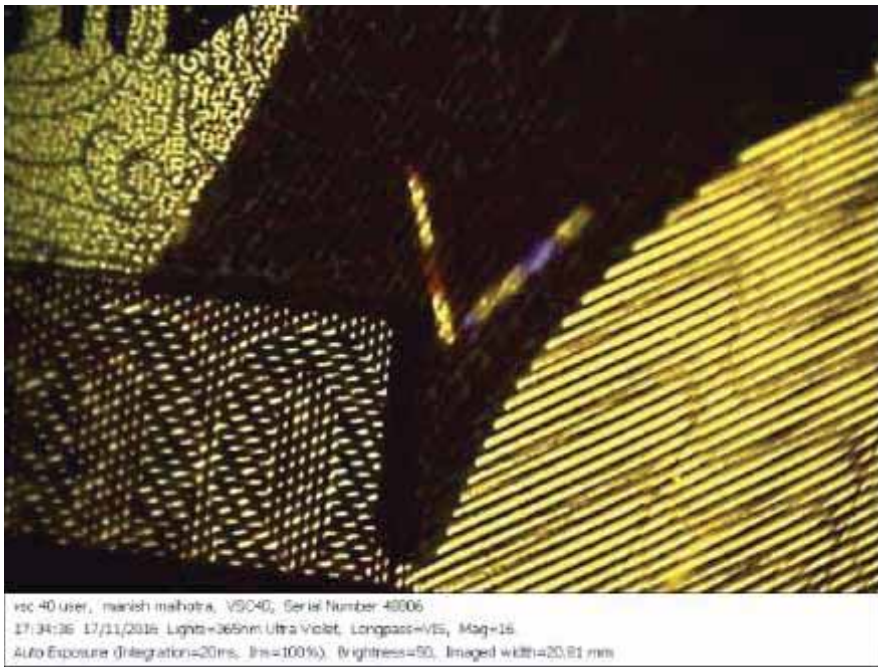


Figure 3: Latent image (Light: Transmitted, Longpass: VIS, Mag:4) in ₹2000 note



Figure 4: Security thread (Light: Transmitted, Longpass: VIS, Mag:4) in ₹2000 note



Figure 5: Micro lettering (Light: Flood, Longpass: VIS, Mag:12.51) in ₹2000 note

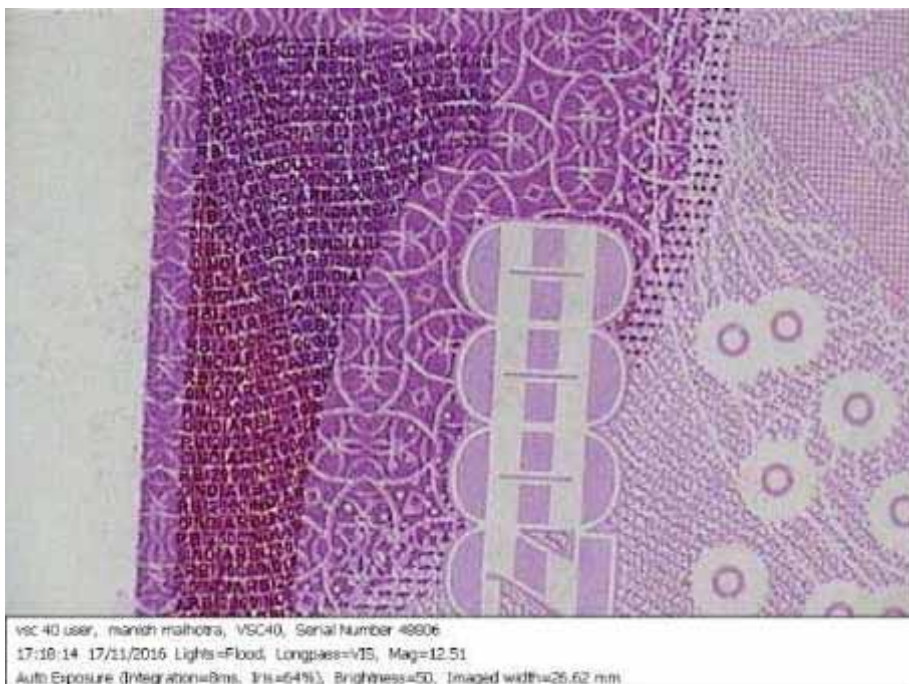


Figure 6: See through image (Light: Transmitted, Longpass: VIS, Mag:4) in ₹2000 note



Figure 7: Fluorescent image (Light: UV 365, Longpass: VIS, Mag:2.26) in ₹2000 note

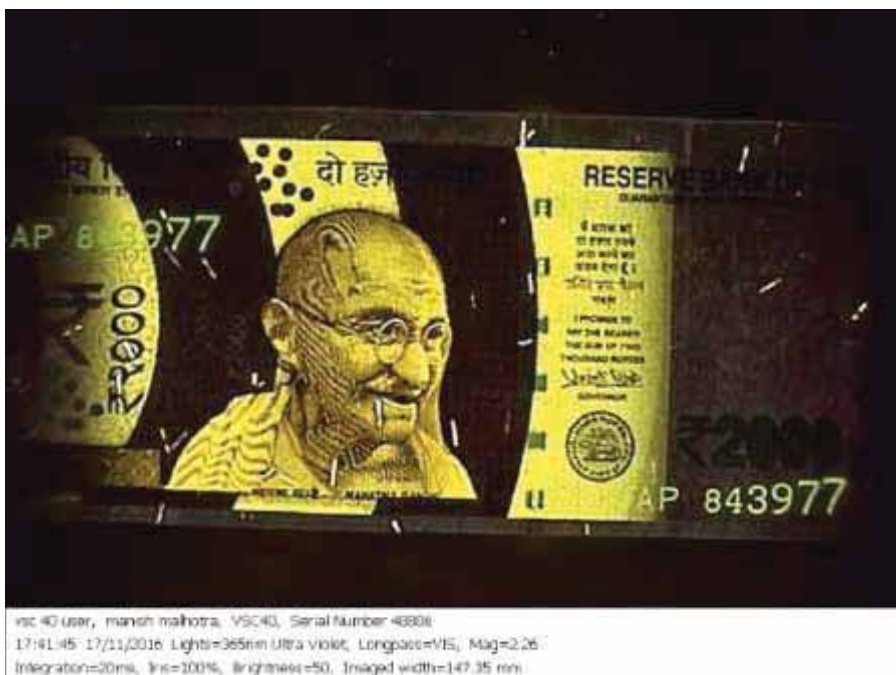


Figure 8: Security thread (Light: UV 365, Longpass: VIS, Mag:2.26) in ₹2000 note



Figure 9: Serial number (Light: UV 312, Longpass: VIS, Mag:4) in ₹2000 note



Figure 10: Serial number (Light: UV 365, Longpass: VIS, Mag:4) in ₹2000 note



Figure 11: Watermarks (Light: Transmitted, Longpass: VIS, Mag:2.26) in ₹2000 note



Figure 12: Security thread (Light: Transmitted, Longpass: VIS, Mag:8) in ₹2000 note



Figure 13: Optical variable ink (Light: OVD Viewer, Longpass: OFF, Mag:2.26) in ₹2000 note

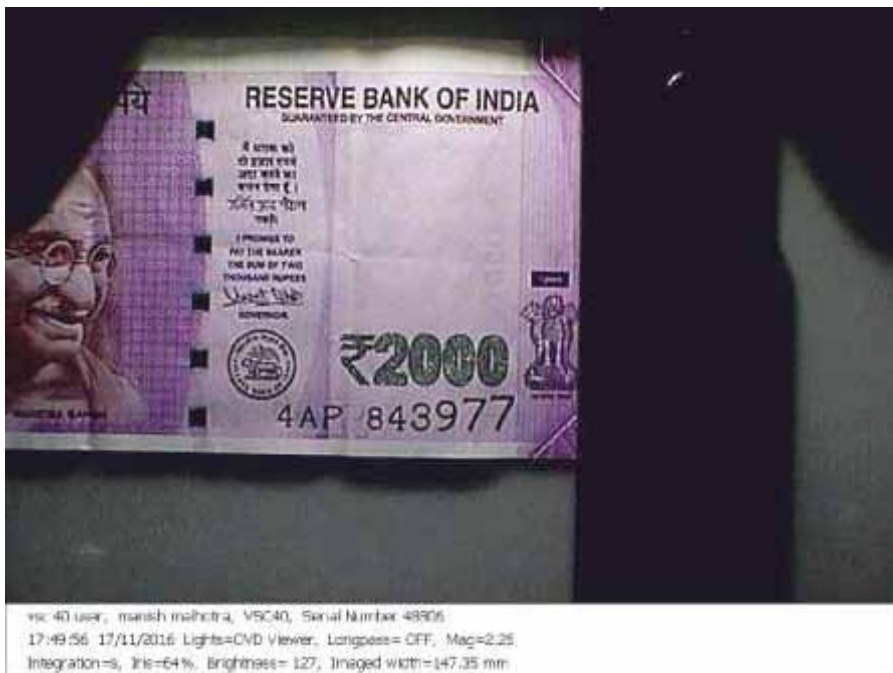


Figure 14: Optical variable ink (Light: OVD Viewer, Longpass: OFF, Mag:2.26) in ₹2000 note



Contemporary issues related with ₹2000 banknotes

The authors of present paper have tried to find out various contemporary issues related with new 2000 banknotes. The information cited here is purely taken from print media, electronic media and social media.

1) **Headline: GPS chips in ₹2000 notes: Facts and fictions**

Fiction- According to the rumors, Nano-GSM chip are embedded in 2000 banknotes which are actually “signal-reflectors” and help to track the notes location.

Fact- The world’s smallest fully integrated GPS receiver was developed by OriginGPS NanoSpider. It measures 4x4x2.1mm. Comparably, this device is so small and track clothes, watches, electronics and more. But stating that a Nano-GSM chip can track a banknote, it is bit too far and fetched. Such type of device will cost minimum 50 to manufacture. If government embedded, it in every note then the cost of manufacture will be too much high. Such theories are considered as rumors. [6]

2) **Headline: Reserve Bank of India’s new ₹2000 notes does not have a NanoGSM chip**

“Indian government has demonetized 500 and 1000 banknotes from midnight of 9/11/2016 and replaced them with new 500 and 2000 banknotes. There are some messages spread by

rumors on WhatsApp that higher denomination notes come with a Nano-GSM chip installed in it. According to this message there is a Nano-GSM chip embedded in these new banknotes. The chip act as signal reflector and will give precise location coordinates of the banknotes. The chip is so strong that one can track the notes even they are kept below the ground level. The limitation of depth is 120 meters below. If so much notes are kept at certain place the chip will help to detect the location of the notes. This was planned to stop corruption and bring out the black money. The Reserve Bank of India mention any such information about the Nano-GSMo chip in banknote. Also RBI's officials has dismissed these as false. [7]

3) Headline: After Nano-GPS chip, new rumor has it that ₹2,000 banknotes have radioactive ink. Is it true?

According some messages spread by rumors new banknote of 2000 has made of radioactive ink. The radioactive isotope of Phosphorous-P32 is used which is spreading like wildfire. The rumor is being considered true about the radioactive ink because of the number of successful raids by the Income Tax department at various places. According to the rumors P32 is inserted in radioactive ink at the time of printing. This strategy was developed to trace of large amount of cash present at a particular place. That ink signals the IT department to check for large amount of currency accumulations in places apart from banks, if present in large amount. [8]

4) Headline: Radioactive ink in New ₹2000 notes! After Nano Chip, rumors of more high-tech & bizarre radioactive ink technology go viral

After the news of GPS enabled Nano Chips in the new 2000 currency notes rumors says that the radioactive ink is used to make new notes. This radioactive substance helps to income tax department to raid successfully across the country. This news has spread like wildfire on the social networking sites and messaging apps. These latest 'reports' of Indian currency notes being made up of high on technology seem has awakened everyone's curiosity. According to the WhatsApp messages, radioactive isotope of Phosphorous (P32) is used in 2000 note. The isotope has 15 protons and 17 neutrons. This became the favorite topic among rumors I present days. There is no such approval by Reserve Bank of India that such radioactive ink is used for preparations of 2000 note. [9]

5) Headline: ₹2000 note's colour fading? - Know the truth

There are some complaints about fading of ink of 2000 note when it come in contact with water or rubbed by wet cloth. Shashikkanta Das, Economic Affairs Secretary of India while addressing a press conference had confirmed about the losing of ink from the 2000 note. He says that "the new currency notes, just as the old ones, will lose colour if rubbed with a piece of cloth wet because that's the nature of the dye used. If your note does not lose colour, it's one of the signs that it may be fake." [10]

6) Headline: New ₹2000 note: Does it fade? Can you wash it? Video experiments go viral (video)

The new 2000 currency notes come out in market even though it hasn't found widespread

acceptance across marketplaces yet, social media is active with photos and selfies. Even the fake ones are out! Several videos of experiments with ₹2000 banknote are coming out from rumors which shows the fading of ink from banknote after rubbing it with wet cloth. Also various stories of wrong printing on new notes have come out. So other decided to check the quality and permanency of the note. The paper quality of ₹2000 is really of an inferior quality. [11]

7) Headline: This Android app shows PM Narendra Modi's speech on new ₹2000 notes

The use of mobile wallets and net banking transactions increases from demonetization of ₹500 and ₹1000. Various stories are coming out by rumors about new banknote of ₹2000. During these circumstances Barra Skull Studios of Bangalore prepare an app named 'Modi Keynote.' The app is developed for android smartphone users with operating system Android 4.4 KitKat and above. The app was downloaded 7,867 times till date. The app will display Prime Minister Narendra Modi's speech on demonetization and black money. For this the person want to scan the note in app. Reports further says that the app will also work on ₹500 notes when launched. BGRIndia tried using the app and found the app to be little sluggish. Well, please note that the Modi Keynote app will not let you find out original or fake notes. [12]

8) Headline: Scan ₹2000 note; listen to PM Modi's speech

After some days of demonetization there is an app come out for smartphone users which will help people to listening the Prime Minister speech after scanning ₹2000 banknote. The app was developed by Barra Skull Studios, Bengaluru and was uploaded in Google Play Store on November 11, 2016. named 'Modi Keynote' developed by Bengaluru-based Barra Skull Studios was uploaded in Google Play Store on November 11. [13]

Conclusion-

Present study was initiated to study various spectral revelations in new ₹2000 bank note using Video Spectral Comparator-40 which is a best non-destructive and fast technique to analyze various security features in selected bank note. The security features are examined and identified are micro lettering, security fibers, security thread, Mahatma Gandhi portrait, optical variable ink, watermarks, serial number in increasing order, etc. The micro lettering is visible under the various magnification ranges from 16 to 32 in VSC-40. Security fibers and security thread gives fluorescence under UV light at different ranges. Watermarks of Mahatma Gandhi portrait, RBI, denomination are visible under visible transmitted light. The optical variable ink shows colour change when held at different angles. Present work is an elaborate effort to articulate about the knowledge of various security features in new ₹2000 bank note of India using VSC-40. The study undertaken surely be helpful to investigating agencies, document expert to encounter challenges being posed during the examination of bank notes.

Various contemporary issues related with new ₹2000 bank note were also studied from different sources of print and electronic media and it was found that most of these facts are just hype and misleading.

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Awareness about White Collar Crimes Among Professionals



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Kacker, P.*

Abstract:

The current paper focuses on the crucial and very important aspect of white –collar crimes that is awareness of white-collar crimes. It has been observed that some rewarding professions open up enough scopes of unethical and criminal practices for people who are morally crooked and tend to resort to unscrupulous practices simple seeking personal gains. It is to create more detailed evaluation on causes, impact and reason of white collar crime so that the information can be gathered about the WCC happening in corporate sectors and whether the employee have any awareness about this global crime. For this study. 200 employees were randomly selected from various corporate sector and were given expert validated questionnaire to measure employee's awareness about white collar crime. After analysis of data it was found that there was lack of awareness amongst the sample population. 70% employees scored very low in questionnaire. Especially, response of the medical and engineering student were very poor in respect to the awareness about white collar crimes, it was also found that there are core reasons behind WCC like there is back of law and order, lack of proper education, inability of understanding and fake information etc. On the basis of these finding it can be said that proper awareness program is required which has to be given public so that they can keep themselves away from White Collar Criminal and do not get into serious problem just because of lack of awareness. Also Certain policies and laws must be created to maintain law and order and to punish White Collar Criminals.

Keywords:

White Collar Crimes, Professionals Awareness.

It has been observed that some rewarding professions open up enough scope of unethical and criminal practices for people who are morally crooked and tend to resort to unscrupulous

Author Intro:

* Assistant Professor,
Institute of Behavioral Science, Gujarat Forensic Sciences University, Gandhinagar, Gujarat.

practices simply seeking personal gains. These practices get frequently ignored by the general people in the society and hence are continually on the growth. This tendency has been termed by Edwin H. Sutherland, the Criminologist and Sociologist as 'white collar crimes'. Prior to 1939, a criminal's family background and his financial were considered to be the determinant factors responsible for crime. But later on Sutherland's studies popularised the term by defining it as crimes- "committed by a person of respectability and high social status in the course of his occupation." (Nagarajan & Sheriff, 2012) 'White collar crimes' are essentially a bi-product of "the development of the competent economy of the twenty-first century", where the criminals are shamelessly carrying out the immoral and unethical practices often under safe cover of giant corporations. (Nagarajan & Sheriff, 2012) Sutherland's concept of white collar crime was criticised on account of ambiguity related to concept, methods, practicality, policy, and legality.

Friedrichs (1992) indicated that occupational crime and corporate crime are considered as the two main types of white-collar crimes. Social scientists and criminologists have defined white-collar crime in several ways. These are- i) it is a moral or ethical violation; ii) it is the cause for social harm; iii) it violates criminal law ; iv) it is a violation of civil law ; v) it violates regulatory laws ; vi) it is an aberration of the workplace normalcy ; vii) it is a definition created by businesses and researchers ; viii) it is a violation of trust ; ix) it is an occupational crime occurring in an occupational system. The first records of white collar crime has been documented in the 15th century, when an agent assigned with the responsibility of transporting wool tried to steal some from it, leading the Star Chamber and Exchequer Chamber of the English Court of Law to adopt the 'breaking bulk' doctrine, it being a crime of larceny. With the establishment and expansion of industrial capitalism, oppression and robbery became integral to it. Marx termed the condition as 'primitive accumulation' while Adam Smith as 'previous accumulation', and William Bonger contended that the conditions of misery amongst the working class was responsible for the development of criminality in them whereas the bourgeoisie developed the criminal mentality due to excessive material greed nurtured by capitalism. The United States of America adopted in year 1890 legal measures by passing the Sherman Antitrust Act which was an attempt to do away with monopoly in trade. Great Britain also had her own laws to curb and ban the tendencies of white collar crimes through legal actions by levying heavy penalties upon the usurper, though that was not as much effective as the Sherman Act. Other countries also took up legal measures to curb white collar crimes through competition or antitrust law, while in the US a strong anti-white collar feeling grew up amongst the masses during the late 19th and early 20th century where a group of journalists raked up the fraudulent practices in the stock market, insurance and corrupt practices of monopolistic companies. This sentiment was further enhanced and used by the Congress in US against the labour unions with the introduction of the Clayton Antitrust Act which was much stricter than Sherman Act, and made monopolistic practices, the root cause of white collar crimes, illegal (Nagarajan & Sheriff, 2012).

Implications of WCC in Indian scenario: In the Indian scenario, white collar crimes and fraud are major challenges and as per the Annual Global Fraud Survey conducted by Economist Intelligence Unit in 2010-2011, 75 % of the companies are reported to have experienced fraud, which was less by 13% compared to the year before. 84% of the Indian companies have reported fraud which is quite alarming for India, which is presently considered second in rank after Africa, jointly with China. The common street crimes snatching and theft of motor vehicles have come down comparatively as it was in 2010 and interestingly it was observed that there was a huge increase in white collar criminal activities, where 148 people got arrested for being involved in white collar crimes, which in 2010 was only 71. These crimes mainly constituted of- fraud with lottery, fake recruitment rackets, fraudulent property deals, ATM fraudsters, fake travelling agents, agents promising and issuing fake court affidavits and death certificates, and operation of fake friendship clubs by men and women, fake job rackets etc. (Nagarajan & Sheriff, 2012) The emergence of white collar crimes in India date back to the arrival of the British in India and laying down the foundation of the industrial capitalism. Before that record of white collar crimes was restricted to pilfering of district treasury money kept under one's safe custody or the practice of bribery amongst the government officials. But presently, white collar crimes have percolated to every strata of the Indian society be it the Legal, Medical, Engineering profession, or the Educational, Corporate, Society in general or people commit such crimes Universally in an organised manner. In the legal sphere, there are a large number of lawyers who have taken the oath of serving the society, but forget their oaths and resort to looking for every possible unscrupulous means of serving the rich entrepreneurs by taking care of their illegal practices and helping them escape the law, helping them evade taxes at the cost of the nation's and the people's suffering. Practitioners in the medical field frequently get themselves involved in issuing false certificates and selling sample drugs and medicines while sometimes they happen to sell patients drugs and medicines that are adulterated. They also carry out illegal abortions. Engineers on the other hand who are responsible for preparing the infrastructural support for the nation are often found to be involved in corrupt practices, and accept bribe from contractors and suppliers for passing sub-standard materials and work and forwarding fake reports of labour performance. Their greed gets them to gain financially from the contractors for passing their low quality work at the risk of the lives of thousands of people. In the education sector rackets operate in large numbers providing students with manipulated certificates. It has also been observed that teachers and staffs of the institutions get involved with illegal and unfair practices for making money. Students are often blackmailed and forced to take tuition from the teachers to the extent of threatening to destroy their future. The corporates carry out white collar crimes and often draw out illegal contracts, carry out unfair labour practices, sell adulterated foods and drugs, bribe public officials to get their work done. Businessmen and politicians mostly play a major role in the organized white collar crimes committed in India, where they remain beyond reach due to

their money and political power, while the law is able to reach out and take actions only against those who operate at the lower levels. All the scandals exposed so far in India clearly indicate how the greed of such men motivates them to commit white collar crimes against the nation laundering crores of money taking advantage of cover of the corporate mask. Such corporate criminals carry out illegal contracts, conspiracies concerning trade restrictions, illegal labour practices, besides others mentioned above. Such white collar crimes are often the brain child of technocrats who taking the advantage of technological advancements carry out organized crimes such as scams, frauds, forgery with currency, illegal narcotic and drug peddling that negatively impact the security and governmental operations of the country leading to serious social, economic and political crisis in the country. The middle class society that generally represents the strong social morale and values also remains involved in white collar crimes like evading taxes, which is the outcome of the complex laws of taxation and engineers, doctors, advocates, business tycoons as well as small entrepreneurs and traders master well the techniques of tax evasion which results in the circulation of lot of black money. This is negatively impacting the revenue earnings of the government as well national growth (Nagarajan & Sheriff, 2012).

The following data presented in the International Journal of Social Science & Interdisciplinary Research (Vol 9, Sep 2012) lists the types of fraud conducted that fall in the category of white collar crimes. Also highlights their relevant percentage globally and in India in 2011 :

No.	Types of Fraud	Global 2011(%)	India 2011(%)
1.	Management conflict of interest	21	19
2.	Internal financial fraud	19	23
3.	Corruptions & bribery	19	31
4.	Vendor procurement	20	22
5.	Physical theft of assets	25	23
6.	Information theft	23	27

The report highlights that companies globally suffer a 2.1% loss in their revenue earning, and in India this percentage is a little over 2.4%. 18% of the companies reported over 4% loss in revenue and one fourth of these affected companies suffered losses over 10%. The lack of proper investigation methods, infrastructural support and awareness is causing the companies suffer huge losses. In India only 50% companies have “adequate background screening, third-party due diligence and other fraud prevention measures” to combat efforts of white collar crimes.

Various researches were conducted on white collar crimes from various aspects. The following reviews of literature would highlight these :

Edelhertz H. in the article *White-Collar and Professional Crime: The Challenge for the 1980s*, discusses the behavioural aspect of white collar criminals, and indicates that the term 'white collar crime' is an insufficient term used for defining the criminal activities carried out by one on the other. The article indicates that there is hardly much unanimity regarding what constitutes the general behaviour of white collar crimes as individual cases may vary pertaining to what is to be considered as a criminal behaviour, as one part of the law that may have identified a certain behaviour as a crime and made it punishable under law, may have a substitute offering remedies to that. It depends on the particular legal body comprising of individuals to judge whether an act of a behaviour that as per the definitions of white collar crime should be considered a crime at all or not. Hence the concerned agency may refrain from taking actions related to this chosen decision as it is dependent on the amount of proof available and how the concerned agency of judgement chooses to balance frequently found 'conflicting enforcement objectives' as mentioned by Steir(1981). The article categorises the various kinds of white collar crimes on the basis of the victims, schemes of the crime committed, and the amount and type of harm done, ie., whether the criminal activity has been done against an individual, a corporation or the government and concludes with the note of an urgency to identify the necessary methods to combat this menace. Shapiro Susan F (1980) in the research work-*Thinking About White Collar Crime: Matters of Conceptualization and Research* has hypothesized white collar crime as a social construct, and has approached the topic from the social point of view, analysing the role of organizations concerning illegality. It studies how offences are discriminated in the organizational contexts in terms of individuals, organizations and their social locations, studying the characteristics of behaviour in deception and concealment, fraud, self-dealing and corruption, regulatory offences and the other kinds of discriminations made about 'white collar crimes'. The article discusses the enforcement of norms proscribing white collar illegality and how enforcement organizations can be developed, what could be the strategies, policies and impact of enforcement, and the cost towards developing enforcement. Rebovich D.J, Layne J, Jiandani J. and Hage S. in their work –*The National Public Survey on White Collar Crimes* provides an uncommon preview of public attitude towards fraudulence and crimes related to the economies. The conclusions highlight how the US citizens often become victim to white collar crimes and what preventive measures should be adopted to reduce the ever growing tendencies towards white collar crimes. Liew S.WS, Puah CH, and Entebang H in their work *White-collar crime: a statistical study on its common causes* have conducted a statistical study to find out the common factors responsible towards the increase of white collar crimes. The study identified that some organisations resort to white collar crimes to compete with the competition to win

business contracts as their competitors also resort to similar practices. The survey was conducted in Malaysia and the respondents were academically highly qualified. The White Paper On Crime Consultation Process, Discussion Document No. 3 on Organised And White Collar Crime(2011), covered a detailed study of the following types of crimes in detail, namely- white collar crime , regulatory crime, bribery and corruption, serious armed gang crime money laundering, fraud , drug trafficking, money laundering ,human smuggling and trafficking, cybercrime and intellectual property crime where the discussion was based on a number of questions that were related to the best methods of fighting these crimes. It was observed that many respondents in respect to white collar crimes opined that the criminal laws pertaining to white collar crimes should be reviewed to define criminal offences categorically. There were many opinions that indicated that proper investments should be made towards training of special police squads and expanding them and developing the native knowledge base. It also mentioned flexibility and length concerning periods of prosecution and investigation of white collar crimes as well as lessening the possibility of withholding papers necessary for investigation on grounds of professional and legal advantage and generating awareness amongst the masses.

Awareness on white-collar crime & its truth:

Even before Sutherland conducted his research on white collar crimes, multitudes of research work had been carried out on the topic, where most researchers have focused the discussion of the problem on violation of existing laws namely tax laws, environmental law, antitrust laws, laws on consumer protection, and fraud. However, it has been indicated obviously that an awareness about white collar crimes amongst people would be of greater advantage and more beneficial in preventing the criminal act from actually happening than carrying out the lengthy process of identifying the truth after investigation of an actual white collar crime that may have happened. Awareness on the nature and type of white-collar crimes would actually create a resistance against it and prevent it from happening. Sometimes the corrupt police departments also contribute to the increased number of white-collar crimes. Hence awareness amongst the general people can tremendously impact in the reduction of white-collar crimes. Unfortunately, there is hardly any or very little awareness amongst the people about white-collar crimes. Sometimes the victims of white-collar crimes are not even aware that a crime has been committed on them and they have been compromised or victimized by it. Since they are unaware about the level or nature of the crime, they hardly ever report to the proper authorities, though there is a possibility that their grievance is not appropriately addressed even after they are being reported. There can be many reasons behind lack in awareness. They are as follows.

Possible Reasons for Non – Awareness of White Collar Crimes

Following could be the possible reasons behind non-awareness of occurrence of white-collar

crimes. In the Indian context, the reasons mentioned below are highly appropriate amongst the general people for them not being aware of white-collar crimes.

Education:

Lack of general education in India leads to developing false perceptions amongst people that they cannot be scammed and turns a victim of white-collar crimes. The education system of any country directly impacts the political system, religious system, social system, social services system and occupational system, economic system, regulatory system, civil justice system, Corporate system and technological system, each of which contributes to the backdrop of white collar crimes occurring in any country. It is again education, which with support from all the other systems can generate mass awareness against white-collar crimes and create appropriate measures with mass support to combat it. Students may play major role in generating awareness amongst the masses. They might be involved in white-collar crimes in the following ways: 1) they may have been past victims without realizing it and can generate stronger awareness by narrating those in broader platforms. These white collar crimes may have ranged from being a victim of corporate misconduct or be charged extra for being a student. 2) They may have been past offenders of white collar crimes or be current offenders 3) They may have been current or future victims 4) They could be offenders in the near future 5) They could be future crime fighters 6) They could be future policy makers 7) They could be current research subjects 8) They could be future white –collar crime researchers. Therefore, education has a relative to occurrence of white-collar crimes or is a mode of fighting it. (Sage Publication, n.d)

Negligence:

Negligence is the most important reason of all white-collar crimes causing personal injury and one of the common reasons behind a civil litigation. The laws of negligence mention that any failure to act or achieve a task giving it the equal level of attention and care that might be provided by a person of reason in a definite circumstance will be termed as negligence. Medical malpractices are common examples of white-collar crimes. The general people's negative and negligent attitude towards white-collar crimes is causing it to spread like wild fire.

Laws & its awareness among common people:

People in general are not much aware about the laws of the nation in detail, and lack of minimum education causes problems towards required understanding and interpreting them. Hence they do not realize instantly unless someone brings to their notice that they have become victim to white-collar crimes. This lack of knowledge amongst people in general leads to non-awareness of white-collar crimes. Corrupt practitioners of Law take advantage of people's ignorance and financially exasperate them. Legal agencies and NGO's as well as the

government should take proper initiatives to generate legal awareness amongst the people.

Initiatives by government or private sectors/society /NGO etc.:

Neither the government nor the private sectors comprising of societies or NGO's have taken much initiatives in generating awareness towards white collar crimes. The students studying Law and juridical sciences are also not much focused towards the research, practice or application of appropriate laws for combatting white-collar crimes. Lack of awareness about this field has resulted in lack of confidence amongst people and they hence prefer to remain quiet and suffer as a victim rather than fight back their own cause and protest against violation.

Preventive measures: Tremendous damage is caused when people or organizations become victim to white-collar crimes. Many families or individuals who had been victim to white-collar crimes have literally starved or have committed or tried to commit suicide. However, if only all takes some preventive measures, such crimes could have been avoided. Following are a few suggestive measures towards prevention of White Collar Crimes.

1. Incorporating CPTED (Crime Prevention Through Environmental Design), a useful strategy of prevention by making an environmental design of possible crime happening and taking preventive measures against it in reality if it happens. Businesses can be ready to combat WCC or White Collar Crimes by remaining highly aware and going through the procedures designed through the implementation of CPTAPD (Crime Prevention Through Awareness and Procedural Design).
2. A white-collar crime can occur when they're the four components namely-Money; Greed, Trust and Opportunity are there. If access to any of these is removed, the chance of WCC striking a victim decreases significantly.
3. A crime gets committed when the criminal is led to believe that the benefits are more in the criminal act compared to the risks taken. Using the same method, if enhancing awareness about what happens to those who become criminals can generate belief, this tendency can be absolutely removed, and will gradually become the corporate subculture.
4. To check consumer frauds it is important for companies to issue a process for that person responsible for the entire purchase, to secure approval from the board before finalizing the contract with the vendor. Proper investigation should be carried out before the company decides to purchase from new suppliers. Awareness against fraud should be generated amongst all employees in the organization.
5. Businesses should take utmost care before placing trust on the employees where the employees have access to personal data as these could be used to carry out white-collar crime as information is considered to be the most valuable asset in the present millennium so as to prevent identity theft.

6. To prevent embezzlement of accounts in a company, it is advisable that accounts are closely monitored or supervised and the employee's work is double-checked. Running background checks on employees before hiring them is another effective measure of combatting possible WCC through embezzlement.
7. Companies involved in securities fraud get to suffer the consequences of it. The most effective method to check this is by preventing the management and the lower levels of the employees in the company from being corrupt. (Gunter.W.D.IFPO, 2004)

Methodology

Objective:

The research was conducted to determine two major objectives: firstly it sought to identify the awareness in the society in various sectors; and secondly it also aimed at assessing the apprehensions amongst people about discussing it openly.

Sample:

200 random sample was collected from industries with the permission of the managers and the participants.

Diagnostic tool:

On the basis of the expert's feedback modifications were made.

The questions were made simple and easy to understand. It had three parts, where one part consisted of subjective questions (question nos.5 and 26), the second part consisted of three questions with alternate choices (question nos.9-11), and the rest of the questions (question nos.1-4, 6-8,12-25,and 27-30) were questions with a yes- no answer.

The study on white-collar crime requires an in-depth research on the subject for understanding its history with changing times and the psychology of the people concerned. So the method adopted for understanding and identifying awareness of white-collar crime amongst the present generation of people concerned both secondary and primary research methods. A research survey was conducted amongst the employees of various organizations in the corporate sector and amongst engineering and medical students to examine the awareness of white-collar crime amongst the educated masses.

Procedure:

Before preparing the questionnaire, group discussions were conducted amongst peers and after

receiving a feedback from the professors on the possible areas of questions this research questionnaire was designed and shared with the experts for validation. The research questionnaire was distributed for a face-to-face data collection from employees in the corporates houses, business centers, banks, educational institutes like engineering and medical professionals along with a briefing on how to attempt the questionnaire. Once the questionnaire was filled the feedback was taken and noted.

Results and Analysis:

From the research survey findings it was observed that there was lack of awareness amongst the sample population. Majorly the corporate sample reflected awareness as per the questions responded to out of a sample of 200 people. The responses of the medical and engineering students were very poor with respect to the awareness about white-collar crimes. Many of the respondents were very apprehensive about attempting the questionnaire. Which clearly highlights that negligence & stigma in society is the most important determinant, which creates an unsaid fear in society. According to the employees participated, the increasing white collar crimes has extended its domain beyond the business arena. It has been stated that basics of the white collar crimes have percolated to every strata of the Indian society be it the Legal, Medical, Engineering profession, or the Educational, Corporate, Society in general, people commit such crimes Universally in an organised manner.

In relations to enhance awareness among the individual, research analyses that most of the participants proposed that consumer fraud needs to be considered. As increase in business has increased fraud and fake cases against the customers, it has evaluated that it is one of the probable crime that need to be informed. To check consumer frauds it is important for companies to issue a process for that person responsible for the entire purchase. The business professional's greed gets them to gain financially from the contractors for passing their low quality work at the risk of the lives of thousands of people. In the education sector rackets operate in large numbers providing students with manipulated certificates. In the analysis it is addressed that human desires, needs and achievement apatite are also among the forming factor of these crimes.

Statistical representation of data analysis

Range	Total no participants	Percentage of People having awareness
0 - 10	23	11.50%
11 -20	140	70
21 - 30	36	18
31 - 40	1	0.05
Total	200	

The greatest challenges of awareness about the WCC awareness to combat WCC is to think through an effective method of generating awareness as majority of the people are very casual towards it or accept a WCC done against them as their fate and resign to it.

Conclusion:

Awareness on the white collar crime will result into lesser number of crimes as more and more people will become alert and develop a resistance against it. The research study, has provided a proper and critical analysis of the implications, impact causes and provisional measures to be taken to reduce the white-collar crime. In the conclusion, it has been evaluated that research findings addresses involvement of more prevention and awareness actions to be taken to monitor measure and reduce such crimes.

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SUICIDES IN INDIA: “The Alarming Threat” to be intensely studied



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Dr. Rufus. D¹

Laksheeta Choudhary²

Abstract:

Suicide is a widely prevalent social problem, no doubt to say, all over the world. It is noteworthy to state the estimation of WHO that number of people dying every year from suicide is more than the deaths in the entire world's arm conflicts. WHO estimated 8,04,000 suicide deaths occurred worldwide in 2012, an annual global suicide death rate is 11.4 per 100 000 population, and many suicides completed after several suicide attempts (Mental Health and Substance Use, 2015). In the case of India, the age-standardized suicide rate per 1,00,000 population is 21.1 in the year 2012 as estimated by WHO (www.who.int), while a publication by National Crime Records Bureau (NCRB) on 'Accidental Deaths and Suicides in India (ADSI, 2015)' reported the suicide rates as 11.2, 11.0, 10.6 & 10.6 per 1,00,000 population during the years 2012- 2015 respectively. The total incidences of suicide reported in India for the year 2014 & 2015 were 1,31,666 and 1,33,623, increased by 1.5% from 2014.

Undoubtedly, suicide is an alarming and serious public policy concern in India irrespective of variation in suicide rate published by different organizations. Around 15 suicides have taken place every hour during the year 2014, as published by ADSI report of NCRB, Government of India. Suicide studies usually seek attention of sociologists, psychologists, physicians and psychiatrists, social workers, criminologists, government officials, and politicians etc., as it is understood 'a very severe- public and mental health problem'. Hence, this article tends to give an overview of suicide by combining its pertinent phenomenon such as concept of suicide,

Author Intro:

1. Assistant Professor, Course Coordinator- M.A/ M.Sc Applied Criminology, Department of Criminology & Police Studies, Sardar Patel University of Police, Security and Criminal Justice, Jodhpur, Rajasthan.
2. Guest Faculty, M.A/M.Sc Applied Criminology, Department of Criminology and Police Studies, Sardar Patel University of Police, Security & Criminal Justice, Jodhpur, Rajasthan.

incidence and prevalence of suicide, underlying causes for suicide, and specific categories of suicide victims in India. For the purpose of this study, secondary data from varied sources have been used. At the end, a pointed suggestion is mentioned to combat the growing rate of suicide in India.

Keywords:

Suicide, Children, Farmers, Police, Victims, Women

Introduction

The term 'Suicide' is a combination of latin words: 'Sui' + 'Cide' where 'Sui' stands to mean himself/herself/itself, and 'Cide' denotes 'the act of killing'. Thus 'suicide' denotes a person's act of intentionally causing his/her own death. Suicide, also known as completed suicide. Certainly, such persons reactions to life at the particular event is extremely uncommon, can't be found in many normal human beings. Though such persons and their actions of committing suicide appear to be very few, they are found all in societies of every nation. However, suicide, besides being personal, is also a social event and is profoundly affected by social influences. That is why, it has been universally considered a social problem (Sharma, 2016). We understand, every human being naturally wants to live and maintain his/her body for a prolonging life by all means available. But, in the case of suicide 'the wish to die must be strong and pervasive in a man who commits suicide', as firmly argued by Menninger (1938), who was a well renowned American psychiatrist contributed 'tripartite expression of Thanatos', the Death-wish.

The approach to understanding suicide must be multidisciplinary, involving psychologists, psychiatrists, toxicologists, physiologists and physicians, because suicide is a multi-faceted and complex event (Kumar, Verma, Bhattacharya & Rathore, 2013. The word suicide was first used by Sir Thomas Browne in his "Religio Medici" in 1642 and subsequently by Walter Charleton in 1651. Before to that, 'self destruction, selfkilling and self murder' were in practice. Eminent Sociologist Emile Durkheim quoted that 'suicide is applied to all cases of death resulting directly or indirectly from a positive or negative act of the victim himself, which he knows will produce this result. This excludes those who survive the attempt (Pooja & Kochar ,2010)'. His definitions provoked two major objections by the then contemporary social scientists -one is that clarity with respect to degree of victims foreknowledge is missing in definition; and the second argument that was insisting suicide as a matter of psychology rather

than sociology. In fact, Durkheim never denied that suicide could be studied by the methods of psychology, but he did insist that suicide could also be studied independent of its individual manifestations, as a social fact *sui generis*. According to psychologist Geberth(1996), 'the rationale behind suicide, which is defined as the intentional taking of one's own life, can be as simple or as complex as life itself'. The person who commits suicide may see his or her actions as some sort of solution to a severe physical or psychological dilemma. The Psychology of the suicide is rooted in depression, as a mood disturbance which is characterized by feelings of sadness, despair, and discouragement resulting from and normally proportionate to some personal loss or tragedy.

In its glossary, Crime in India report of NCRB interprets suicide is a deliberate termination of life. The essential ingredients of a suicide are: (i) It should be an un-natural death, (ii) The desire to die should originate within him/herself, (iii) There should be a reason for ending the life (ADSI,2014). Interestingly, the term 'suicide' is not defined in the Indian Penal Code. On the other hand, attempt to commit suicide is punishable u/s 309 of the Indian Penal Code. Thus, it is a subject of controversy. Section 309 of the Indian Penal Code thus reads as: "Whoever attempts to commit suicide and does any act towards the commission of such offence shall be punished with simple imprisonment for a term which may extend to one year or with fine or with both."

WHO pointed out that Suicide is the act of deliberately killing oneself. Risk factors for suicide include mental disorder (such as depression, personality disorder, alcohol dependence, or schizophrenia), and some physical illnesses, such as neurological disorders, cancer, and HIV infection. Centre for Disease control and Prevention describes Suicide as Death caused by self-directed injurious behavior with intent to die as a result of the behavior. And, Suicide attempt is a non-fatal, self-directed, potentially injurious behavior with intent to die as a result of the behavior; might not result in injury. Suicidal ideation includes thinking about suicide, and considering, or planning suicide (www.cdc.gov,n.d.). American psychological association (www.apa.org) says 'Suicide is the act of killing oneself, most often as a result of depression or other mental illness'.

Suicide Notes

Suicide notes are direct communications indicating intent to commit suicide. Letters and notes addressed to relatives and friends may be left at a death scene, which indicate severe depression and or anger. Suicide notes oftentimes have mixed emotional content including "positive" and "negative" feelings. Many notes reveal what are referred to as "suicide ideations." These are the formation and conception of ideas in the mind of a person, which present suicide as a viable option. References to an "after life" or once again being with a loved one, or "looking down" are quite common (Geberth, 1996).

Warning Signs of Suicide : Following are the symptoms as Warning signs of suicide (2001) listed out by The American psychological association its newsletter 'Monitor on Psychology' and also cited by other sources, suggested to be concern when finding a person who:

Talks about committing suicide / Has trouble eating or sleeping / Experiences drastic changes in behaviour / Withdraws from friends and/or social activities / Loses interest in hobbies, work, school, etc. / Prepares for death by making out a will and final arrangements / Gives away prized possessions / Has attempted suicide before / Takes unnecessary risks/ Has had recent severe losses / Is preoccupied with death and dying / Loses interest in his or her personal appearance / Increases his or her use of alcohol or drugs (Source: American Association of Suicidology) Has persistent sadness, feelings of emptiness, and anxiety/ Has Hopeless or pessimistic attitude / Has irritable moods / Expressing guilty feelings (www.everydayhealth.com). Keeps unusual neglect of personal appearance / Collects pills, razor blades, knives, ropes, or firearms / Pursues risk or thrill-seeking stimulation/ Self-destructing of self-mutilating acts / Verbal or written remarks about sense of failure, worthlessness, and/or isolation (<http://www.education.udel.edu>).

These all are not the ultimate cues to concern about, but have to be really considered as signs of risk. Many varying symptoms are also present according to the nature of individuals, in terms of their psycho, socio-cultural, economic characteristics, etc. Thorough studying of those is an essential need to proper intervention of the problem, and to diminish the suicide rate in India.

Limitations of the Article

The present article discusses the incidences of Suicide by giving emphasize to share the extent of suicide in India, with respect to four specific categories of victims, and not discusses the extent of suicide of many categories of victims. Also, the legal aspects of suicide are not discussed under the purview of this article. Suggestion part of the article doesn't carry a comprehensive approach on 'prevention of suicide', as it is widespread in many research collections, and instead the need of 'researches' is emphasized.

Incidences and Prevalence of Suicide

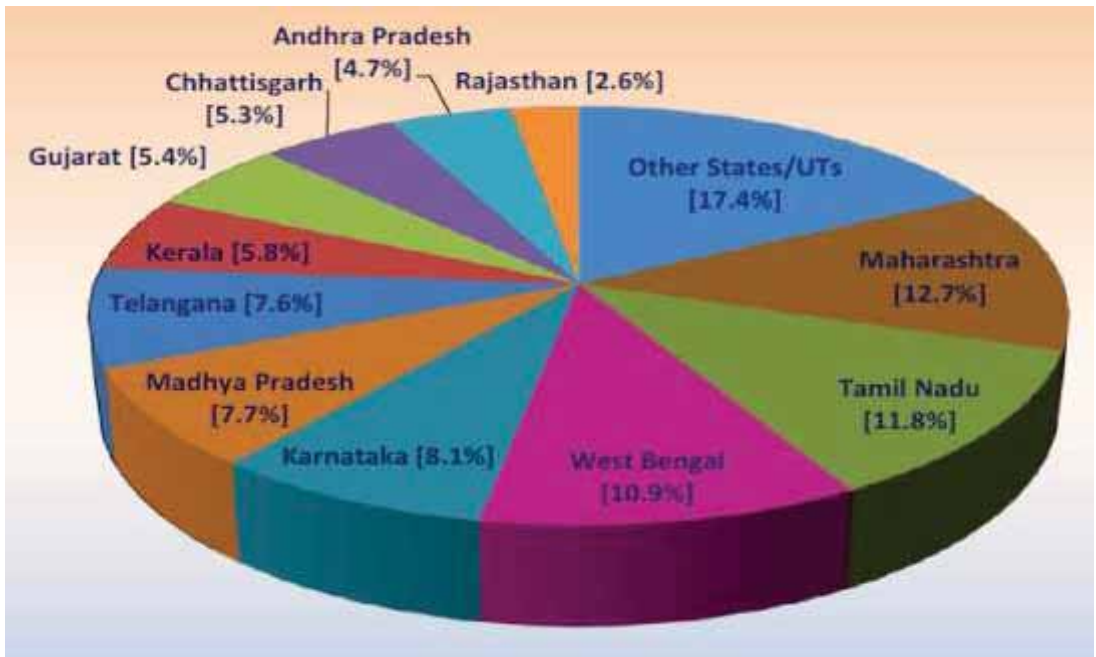
a). Global Scenario of Suicide in Nutshell: WHO estimate that every 40 seconds a person dies by suicide somewhere in the world (Preventing Suicide, 2014). Suicide has been ranked among the top 13 causes of death for individuals of all ages worldwide by WHO (Robert & Marshall (2009) and the National Safety Council rates it sixth in the United States (Kumar et al, 2013). Depression and suicide take a major toll on the health of the population. Nearly one in 10 people in the world suffer from a mental disorder. An estimated 804000 deaths due to suicide occurred worldwide in 2012. In fact, suicide rates varying considerably by region and by sex. Suicide is

one of the major reasons to increase the premature mortality level of persons with mental disorder twice than of persons without mental disorders.

Data shows that there has been a 9% decrease in the number of global suicide deaths from 2000 to 2012, while the global population has increased. The global age-standardized suicide mortality rate has fallen 26% between 2000 and 2012 and rates have fallen in all regions except in the African Region, among men in the Eastern Mediterranean Region and women in the high-income OECD countries (Mental Health and Substance Use, 2015).

Just over 75% of all suicide deaths occur in low- and middle-income countries. In some countries, suicide rates are highest among the young, and globally suicide is the second leading cause of death. In some countries, suicide rates are highest among the young, and globally suicide is the second leading cause of death in 15–29-year-olds. In high-income countries, three times as many men die of suicide than women; but in low- and middle-income countries the male-to-female ratio is much lower at 1.5 men to each woman. Globally, suicides account for 50% of all violent deaths in men and 71% in women. With regard to age, suicide rates are highest in persons aged 70 years or over for both men and women in almost all regions of the world. The ingestion of pesticide, hanging and firearms are among the most common methods of suicide globally, but many other methods are used with the choice of method often varying according to population group (Preventing Suicide, 2014).

Figure : State wise parentage share of suicide in India during 2015



Source: ADSI (2015), NCRB-MHA, New Delhi

b). Suicide Scenario in India: WHO estimates, India takes the 11th position among the countries to have higher suicide rates in the world in general, 6th highest for women and 22th position for men in the world, in terms of age-standardised suicide rate (Suicide Rates Data by Country, 2012). Out of the Worldwide annually reported suicides, nearly 20% are Indians, for 17% of the world population (Kumar et al,2013) . In India, 15 Suicides took place every one hour during the year 2015. Just about more than 1 lakh persons commit suicides every year in India during the decadal period from 2004 to 2014. During this decade, suicide has increased to 15.8 %. As per the statistics published in ADSI (2015) report of NCRB, the total incidences of suicide reported were 133623. Of which the highest incidents of 16,970 suicides were reported in Maharashtra ,and with a difference of 1193 Tamil Nadu has reported 15,777 suicides, followed by 3rd position taken by West Bengal where 14,602 suicides reported , thus accounting for 12.7%, 11.8 % and 10.9% respectively of total suicides. Karnataka (10,786 suicides) and Madhya Pradesh (10,293 suicides) accounted for 8.1% and 7.7% respectively of the total suicides reported in the country. In fact, generally 5 States together accounted for 51.1% of the total suicides reported in the country. Out of these States, Maharashtra, Tamil Nadu, West Bengal and Karnataka have registered consistently higher number of suicidal deaths during the last few years. Delhi has reported the highest number of suicides (1,845) among UTs. All Seven UTs together accounted for 2.2% of total suicides in the country for the year 2015. Total of 20,621 and 19,665 suicides were committed in the 53 mega cities of the country respectively during the years 2014 & 2015.

While rate of suicides was 10.6 during the year 2015 in all India, Puducherry reported the highest rate of suicide (43.2). The states Sikkim (37.5), A & N Islands (28.9), Telangana and Chattisgarh (27.7 each), and Dadar and Nagar Haveli (25.4) are following the next places in rate of suicide. In fact Puducherry continues to report high suicide rates for the last 4 years. It has recorded suicide rates more than 3 times of the national average during the last three years.

c). Factors of Suicides

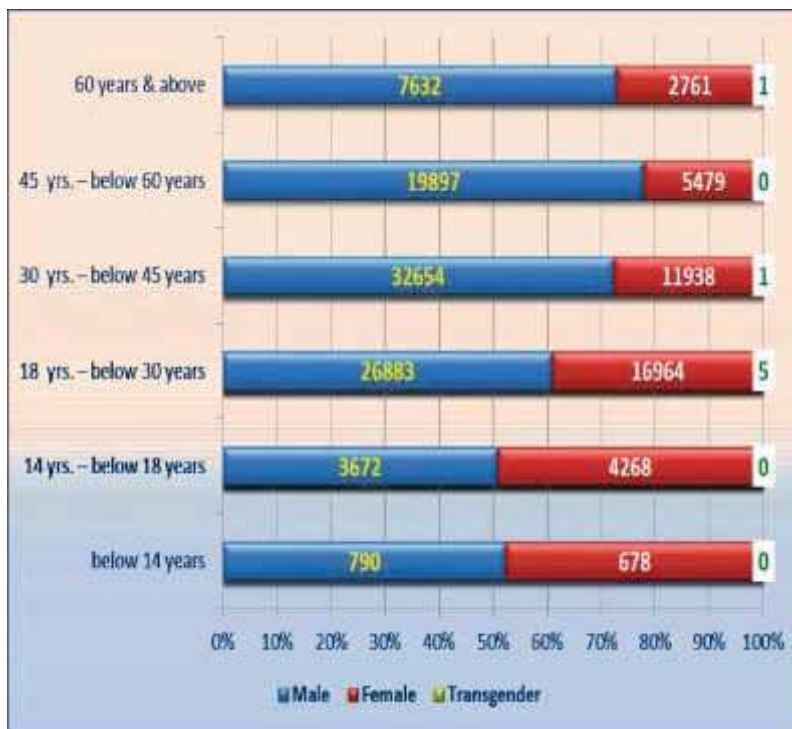
Suicides are characterised by a prior history of difficulties and, in most cases, mental illness that renders the person vulnerable to suicidal behaviour, for which having a deeper understanding of factors is must that trigger and contribute to suicides among different demographic categories (Ravi,2015). In P. Rathinam vs Union of India, AIR 1994 SC 1844, Supreme Court of India pointed out that "the causes of suicides are many and varying in as much as some owe their origin to sentiments of exasperation, fury, frustration and revolution; some are the result of feeling of burden, torture, and sadness. Some are caused by loss of employment, reversal of fortune, misery due to illness, family trouble and thwarted love."Through the ADSI report of NCRB 2014, it is well understood that 'Family Problems-21.7%' and 'Health Illness-18 %' are

the major causes of suicides among the reported causes of total suicides in India. other reasons given were 'Marriage related Issues' (5.1%), 'Love Affairs' (3.2%), 'Drug Abuse /Addiction' (2.8%), 'Bankruptcy or Indebtedness' and 'Failure in Examination' both accounted for 1.8% each, 'Unemployment' (1.7%), 'Poverty' (1.3%), 'Property Dispute' (0.8%), 'Death of Dear Person' (0.7%) (Also, cited by Ravi, 2015).

Majority of the published researches on suicide have pointed out the social, psychosocial (Vijayakumar, 2010) and some other research works pointed out neurological, genetic, economical and other factors of suicide attempters and those who have completed suicide. An earlier research identified lack of social cohesion (Rao, 1965), disturbed interpersonal relationship & extramarital affair (Rao, 1974; Modi & Singh, 2012) as risk factors of suicide, and even now it is observed as an associated social reason among the victims who attempted or completed suicide. Some motives behind suicide found through the studies are marital disharmony (Gupta & Singh, 1981; Midha, 2001; Phillips, 2002; Vijay kumar, 2003; Modi & Singh, 2012) and shattered family relations, unhappy love affairs and depression (Kuo, Gallo & Eaten et al, 2004; Pooja & Kochar, 2010; Modi & Singh, 2012). Breakdown of the joint family system is believed to be one of the social causes of suicide, as joint family systems in India is assumed to ensure emotional support, stability

(De Leo, 2003) and regular monitoring of individuals behaviour and reactions to varied circumstance.

Mental illness, psychiatric disorders, depressions and abnormal personalities are also accounted as factors of suicide (Rao, 1974; Bagadia et al, 1979; Gupta et al, 1992; Jain et al, 1999; Srivastava and Kulshreshtha, 2000; Khan et al, 2005; Vijayakumar et al, 2005). Modi & Singh (2012) pointed out that antisocial personality disorder and Borderline personality disorder are the two major personality disorders associated with suicidal behaviour. In their earlier case study based research Vijayakumar & Rajkumar (1999) stated that 25% of completed suicides in Chennai were found to be due to mood disorder and more than 60% of the depressive suicides had only mild to moderate depression. Figure : Suicide Victims by Sex and Age Group in India during 2015 Other factors are 'being young (Rao, 1974; Lal & Sethi, 1975; Badrinarayana, 1977; Ponnudurai et al, 1986; Midha, 2001; Suresh Kumar, 2004;)', unemployed status (Bagadi et al, 1976; Jancloes, 1998; Sureshkumar, 2004) and Substance abuse or alcoholism (Ponnudurai et al, 1986; Gupta et al, 1992; Jancloes, 1998; Behere & Behere, 2008; Pooja & Kochar, 2010; ADSI, 2014). Modi & Singh (2012) articulated that loss of control over emotions and actions due to the effect alcoholism and drug addiction is a reason for suicidal behaviour of such addicts. The majority of persons who commit suicide have experienced serious difficulties with their parents during childhood. More than half have been rejected, abandoned or physically or psychologically abused.



Source: *ADSI(2015) NCRB-MHA, New Delhi*

The overall male: female ratio of suicide victims for the year 2015 was 68.5:31.5, showing a marginal increase of male and marginal decrease of female ratio as compared to year 2014 (67.7:32.3). Thus male: female ratio of suicide victims for the year 2015 in India shows males are two times of females, in terms of committing suicides. The proportion between Boys & Girls' suicide victims (below 14 years of age) was 53.8:46.2. The proportion of female victims were more in 'Marriage Related Issues' like 'Non-Settlement of Marriage', 'Dowry Related Issues', 'Extra-Marital Issues(also reported three decades earlier by Rao,1974)', 'Divorce' and 'Physical Abuse (Rape)'. Apart from this, 'Failure in Examination', 'Impotency/Infertility' were also major causes of suicides among females than among males. 'Other Family Problems' (2139), 'Failure in Examination' (1360), 'Illness' (904) and 'love affairs' (814) were the main causes of suicides among children who below 18 years of age. Over all observation on recently reported suicide cases gives a picture that the female victims proportion gets decreased when age categories goes above 18 years old category. Conversely, the female victims' proportion is nearly equal to male victims with a marginal difference under 18 years category (ADSI Report, 2015). De Leo (2003) in his article articulated that the high rate of suicide among young adults in India can be associated with greater socioeconomic stressors that have followed the liberalization of the economy and privatization, leading to the loss of job security, huge

disparities in incomes and the inability to meet role obligations in the new socially changed environment.

d). Modus Operandi of Suicides

Literatures by many researchers (Vijayakumar, 2010; Pooja & Kochar, 2010; Modi & Singh, 2012; Kumar et al, 2013) discussed the various means adopted by the victims of suicide. In *P. Rathinam vs Union of India*, AIR 1994 SC 1844, Supreme Court mentioned that 'different methods are adopted for committing suicide, for example, use of firearms, poisoning especially by drugs, overdoses, hanging, inhalation of gas'. NCRB listed out the methods of suicides, broadly, as consuming sleeping pills, drowning, Fire/self immolation, by firearms, by hanging, by poison, by self- inflicting Injury, by jumping, by falling under running vehicles/ trains, by touching electric wire and by other Means. However, recent report by ADSI (2015) found that 'Hanging' (45.6%), Consuming 'Poison' (27.9%), 'Self-Immolation' (7.2%) and 'Drowning' (5.4%) were the prominent modes of committing suicides during 2015.

Specific Categories of Suicide Victims in India

The incidences against four specific categories of suicide victims are discussed below by taking 'women, children, farmers and police suicides' into account, as there is a need to understand the phenomena of suicide category-wise.

a). Women and Suicide

The overall ratio between male and female is 68:32 which indicates number of female victims is relatively equal to half of the male victims. But, the proportion between boys' and girls' suicide victims (below 18 years of age) was almost equal as 52:48. A total of 42,088 females committed suicides during 2015 in the country. 22,293 females who committed suicides were housewives followed by students (4,247) and daily wage earners (3,388). 1 out of every 6 suicides was committed by a 'housewife'. Out of the female victims of suicide, nearly 69.5 % were married (ADSI, 2015). In conformity with this, Ravi(2016) has pointed out in her article that the largest share of suicides is committed by housewives, whose concerns can also be addressed through improved access to mental and physical healthcare.

In general, the major reported causes of women suicides cases were family related problems (12,885), illness (6,944), marriage related problems (3,915) and prolonged illness (3,698). While comparing females with males with regard to the item wise reported causes given in NCRB data, the followings are causes in which women shared more than 50% of total suicides: Dowry related issues, Marriage related issues, Non-settlement of Marriage, Extra Marital Affairs, Divorce, Suspected/Illicit Relation, Illegitimate Pregnancy, Physical Abuse and other family problems(ADSI,2015)

In a population-based study on domestic violence, it was found that 64% had a significant correlation between domestic violence of women and suicidal ideation (World Health Organization, 2001). In Compliance with this, Chowdhary, Brahma, Banerjee & Biswas (2009) found that women exposed to domestic violence as a vulnerable group to suicide. In their study belonging to a state of India on non fatal deliberate self harm attempters, they found vulnerable women were generally below 30 years of age, married and with low education. Marital conflicts and conflicts with in-laws were the typical stressors to them. Majority of them have experienced more than one form of domestic violence.

b). Children and Suicide

Though there is a huge difference between male and female suicide victims ratio (68:32), a minuscule difference is found between male and female children(i.e. below 18 years old) victims as 51:49 and 52:48 respectively during the years 2014 & 2015 (ADSI,2014;2015) The proportion of Boys: Girls suicide victims (below 14 years of age) were 53.8:46.2 in 2015 as compared to 52.3:47.7 in 2014(ADSI,2015). This reveals that vulnerability level is almost equal in both the sexes in case of statistics of children committed suicide in India. It is noteworthy to mention that 6.1 % victims of suicides are students and in which many of whom obviously would fall under the category of children. A very few factors which dominate among thirty (30) reported causes of the children in India to commit suicide are: family problems, followed by failure in examination, illness including mental and prolonged illness, and love affairs. These four factors contribute for nearly half(50 %) of total suicides by children.

Many literatures have pointed out 'the depressed children and youths are vulnerable to become victims of suicide'(Gupta & Singh ,1981; Galaif, Sussman, NewComb & Locke, 2007; Pooja & Kochar, 2010). In other side, incidences of mass/family suicides due to familial or financial problems are sporadically reported in India through news media which claims the lives of innocent children. In evident to this, The Indian express (2016) recently reported that 'a woman committed suicide by consuming pesticide in Nabarangpur district of Odisha, minutes after killing her two minor daughters and her toddler son by lacing their food with insecticide'. The same source reported that another woman belonged to Puri in Odisha in a similar incident attempted to commit suicide after poisoning her 9-year-old and 12-year-old sons over a family quarrel. In another incident, five members of a family committed suicide including a 16 year boy after leaving a suicide note , at their house in Meerut's as the family was struggling with debts of over Rs 1.5 Crore (Times of India, October 8, 2016).

c). Police Suicide

While considering the suicide by police professional through the close observation of media reports, it is evident that Suicide of police personnel is a rising problem faced by the law enforcement agencies across the states in India. Crime in India (2015) publishes that a total of 167 police personnel committed suicide in the country during the year 2015. Tamil Nadu has reported the highest number of such suicides accounting for 19.7 % (33 out of 167 suicides) followed by Maharashtra (25 suicides), Karnataka (15 suicides) and Chhattisgarh & Madhya Pradesh (11 suicides each). Nearly 38.9% (65 out of 167 suicides) suicides at all-India level was reported in the age group 30- 45 years, followed by 30.5 % (51 suicides) were reported in the age group 18- 30 years. Out of the 167 police personnel committed suicide during 2015 while in their service , 125 were (75 %) civil police , 37 were (22 %) from state armed police force and remaining 5 were other Police Personnel (CID, Intelligence, Radio Wing, Computer, EOW). In the case of Central armed police force, ADSI (2015) reported a total of 60 personnel have committed suicides during 2015. The cause-wise analysis of suicidal deaths of CAPF personnel reveals that 45.0% (27 out of 60 suicides) and 20.0% (12 out of 60 suicides) of suicides in CAPFs were due to 'Family Problems' and 'Financial Problems/Indebtedness' respectively. A total of 4 and 3 suicides in CAPFs were due to 'Property Dispute' and 'Marriage Related Issues' respectively. 1 suicide in CAPFs was due to 'Service Related Matters (Mental Depression)'.

Though maximum portion of society stays alive with the stereotypical belief that police professionals are rigid, rude, rough and hard, there are certain issues which might prove that police are vulnerable to become victims of suicide. In his article in Deccan Herald, Thomas (2016) has pinpointed that how certain psychological factors and the nature of job contribute for the suicidal ideation and suicides among police personnel. He described that factors such as occupational stress, anxiety, trauma, violence, grief, danger, time pressure, work-shifts, low self-esteem, frustration, depression, family problems, odd-working hours, courtroom appearances, etc. determine the increased level of suicide ideation among the personnel. In the same line, Dr Harish Shetty (2013), a Mumbai based psychiatrist had commented that long working hours, poor working conditions, VIP protection duty, festivals and lack of structural reforms had increased stress levels, and hence long-term stress causes depression and suicided tenderises.

In fact the very nature of their job leaves them depressed, frustrated and stressed. Though Police officers play a significant role in maintaining law and order in the society despite all the shortcomings and limitations in the Police Department, the police force in India does not have an ideal image. Unique nature of this profession such as lack of consultation and lengthy

internal and external investigations on criminal/civil cases, political interference, insufficient staff, absence of technical aids, frequent transfers, lack of cooperation and constant criticism by the media and public also instigate police officers to commit suicide. Difficulties through overburdened with operational level of policing such as mob control, beat duty, crime scene visits, VIP protection duty, festival duty and frequent exposure to scenes of violence and crime(Thomson,2016), even after acclimatized to lack of staff- strength in police, play a role in generating stressful situation which might also be a factor of suicides in Police . According to a 2014 report from the Bureau of Police Research and Development, 68 per cent of police report working 11 hours a day, and 28 percent report 14-hour work days. Nearly half of them report that they are called to duty between eight and 10 times a month during offs (The Hans India, 29th July 2016).

Need of Understanding Factors Triggering Suicide among varied People

Undoubtedly, 'Suicide is a real, crucial, growing threat to mental and public health of Indian population', in turn, would adversely affect social development. Alleviating this trend under control is the need of the hour for welfare of society. In India, the NCRB reports convey that suicide occurs almost four times as often as murder, and about one third times as often as accidental deaths. The figures reflected through statistics of suicides may not be precise, because 'dark figures' of suicides are also possible. The notion of social stigma, family honour, difficulty in identification of cause of some unnatural deaths, etc pave a path to get the distorting figure of suicide numbers and pave the way for 'dark figures-under/un-reported incidences' of it. But, researchers have to rely only on official reporting causes of suicides. Suicides are characterised, generally, by a past history of personal, psychological, social difficulties. Mostly, mental illnesses render the persons vulnerable to suicidal behaviour. Hence, one needs to have a deeper understanding of various factors that trigger and contribute to suicides among different demographic categories.

Conclusion & Suggestion

The authors of the present article have it in mind to disseminate an overview of what is suicide in general, its causes and its prevalence among various specific category of victims, such as women, children, farmers and police in India. As a result, it is understood that suicide is an alarming issue of the hour and it requires proactive approach at the individual, government and social level to safeguard the human resource. It won't be a surprise to know the fact that worldwide very prominent personalities have also reportedly killed themselves. The list of such personalities includes celebrities -icons of politics, sports, history and actors, musician, writers, etc. What made them to kill themselves?. Generally, they are not poor, immature by age, and overburdened with work as like how we usually believe about the victims are. Obviously,

depression, fear, failures in life situations, exploitations, harassments, experiences of disloyalty by the trusted one, humiliation, embarrassment, self destructing behaviours, etc made them commit suicide. In fact, a well number of factors can be identified through analysing the individuals' histories and suicide notes.

However, one thing will be clear that there might be a relationship between particular category of victims of suicide and the causes behind their decision to end their life. Current trend of suicide in media shows that there are several special categories of victims of suicides such as housewives, children, policemen, farmers, elderly, actors, students, (girls/ boys who commits suicide inside and out of campus), prisoners, government servant, mother with child, mass/family suicide, etc. Therefore, preventing and shrinking suicides of people belonging to specific category require the deeper understanding of that category's nature, problems, strength, weakness, opportunities and threats. With all these understandings, the authors suggest that growing problem of suicides shall be prevented well through studying the causes, risk factors, modus operandi, symptoms, techniques for prevention of suicide, and identification & treatment of suicide ideation, with respect to the category wise victims, in various dimensions such as 'psychological, biological, personal, familial, social, economical, legal, professional, and institutional'. It is also suggested that the in-depth and intensive research studies (also cited in Habibur Rahman,1988;Landsberg & Morschauer,2003; Bohanna,2013; Kumar et al, 2013) on 'suicides and its preventions' by the researchers who are from the disciplines such as criminology, sociology, police studies, psychology, psychiatric, forensic science and medicine, law, education, women studies, agriculture, gerontology, etc., should be encouraged and supported by the relevant ministries and departments of the central government and state governments of India. Thus, realization of 'preventing suicide' and minimizing 'suicide-rate' will become significantly possible in India.

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End Notes

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Rate of suicides i.e. the number of suicides per one lakh population, has been widely accepted as a standard yardstick for comparison .(Accidental Deaths & Suicides in India,2015.p.196..NCRB, MHA,GoI-Government of India)

'Farmers/Cultivators' include persons whose profession is farming and who either cultivates his/her own land or who cultivate lease land with or without the assistance of agricultural labourers. 'Agricultural Labourers' are those persons who primarily work in farming sector (agriculture/horticulture) and whose main source of income is from agricultural labour activities.(Accidental Deaths & Suicides in India,2015.p.235.NCRB, MHA,GoI)

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The strength of police personnel per unit area in the country i.e., per 100 Sq. Kms. was 54.7. Nearly 1/4th of Civil police strength (i.e. 24.5 per cent) is vacant in India. The strength of police personnel for every 1,00,000 of population was recorded as 141 during 2013(Crime In India,2013, NCRB). There should be an officer for every 547 Indians, according to a government-mandated ratio -- called "sanctioned strength" - but the number is one for every 720. This is among the lowest police-population ratios in the world. In the US, there is an officer for 436 people, Spain one for 198, in South Africa, 347. In a ranking of 50 countries, India's police strength was second from the bottom, better only than Uganda, according to a 2010 report from the United Nations Office on Drugs and Crime (The Hans India, 29th July 2016).

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Quality of Life and Work Life Balance amongst Police Personnel in India



Dr. Harish Kumar*

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Abstract:

India is a country with huge population and diverse cultures. The crime rate appears to be high. The reasons that can be arguably assigned for crime rate in India can be socio-economic and cultural changes, increasing rate of urbanization, falling of ethical standards, weak sense of national character, unemployment, and so on so and forth. This leads to uncertain, complex, volatile and ambiguous law and order situations and puts augmented work pressures on police personnel. Police personnel seldom leave stress at workplace before going to home. A survey conducted by the author for the purpose reveals that the scenario with regard to WLB prevailing in Police Department is not so peasant. Lack of balance in work and life of police personnel consequently affects their performance and the organizational effectiveness. The paper in question is a modest attempt to understand the worth of WLB, its consequences, practices in real life, way of converting work life imbalance into work life balance and learning the measures to be taken to strike a balance between work and life. The contents of the paper have general applicability and are pertinent to different natured organizations including police.

Keywords:

Work, Life, Balance, Stress, Checklist

If you don't design your life, someone else will design it for you and you just might not like their idea of balance.” – Nigel Marsh

Author Intro:

* Professor, Business Administration,
Guru Ghasidas Vishwavidyalaya, (A Central University) Bilaspur, Chhattisgarh, India

Prologue

As people are spending more and more time in the office, the issues of employee retention, productivity and overall well-being of the employee continues to be an HR challenge. Employee life space management, thus, is an inevitable task on the part of employee and the organization in order to ensure meaningful individual and organizational performance. Premeditated efforts do wonders in striking a balance between work and life and vouch for organizational growth and excellence. Friedman and Greenhaus (2000) in their highly acclaimed book, *Work and Family—Allies or Enemies* bring forth new evidence to help us understand choices we make as employers and individuals regarding work and family. According to David Zerfoss, an expert in the field, “Life is made of a series of choices. Your own hectic professional and personal life can be a result of your own choice.”

The working conditions of police personnel are highly demanding and make their job stress prone. Traumatic situations, sudden change in work schedules and elongated working hours literally constrain them to lead a life which has an imbalance in their work and life domains. Work Life Balance (WLB) is inevitable for professionals so as to lead a meaningful life. WLB is also vital for police personnel to fight on both the fronts work and life justifiably. A contented employee is a productive employee. Sense of freedom gives and employee perhaps the utmost happiness. Employees want to have freedom for a variety of reasons as to think, change, decide, take risk, be socially networked and remain flexible at work.

Subha and Devika (2014) mention that it is important for the women police professionals to maintain balance in their work and personal life so as to achieve their personal and professional goals. The reasons responsible for poor work life balance can be individual and situation specific. Many of the respondents admitted the fact that the jobs are creating stress and they are suffering from a variety of health problems as heart ailments/cardiovascular diseases, sleep disorder, depression, irritability, insecurity, nervous breakdown etc. The family-friendly approaches to work can encourage the women police personnel to strike a balance between their work and life. The employee satisfaction and performance level can also be uplifted by improving quality of work life through effective reward systems.

The working couples can wish that they should not drift apart. But the experiences vouch for their sufferings on account of stress and unrest. Home becomes a battle ground to rush around and any how complete the tasks rather relaxing and caring for spouse. The children get overlooked and the dependents get unattended. Work-family conflict or interference refers to simultaneous pressures from the work and family domains that are mutually incompatible in some respect such that meeting the demands of one role makes it difficult to meet the demands of the other role. Sometimes referred to as negative spill over, work-family conflict can take

different forms and can originate either in the work domain or the family domain (Edwards & Rothbard 2000). In turn, all this makes a dual career couple gloomy and sad. There is no doubt that 'dual role' of women as workers and care takers can affect their participation in the labour market. Thus maternity rights, flexible working arrangements and childcare facilities are of fundamental importance to women in combining paid employment with family commitments (McRae & Kohler 1995).

Savitha G. (2016) observes that police personnel (respondents) are not able to strike the balance between their work and life. Most of the respondents scarcely get time to meet family and social obligations. The respondents suffer from health related problems as stress, headache, high blood pressure, anxiety etc. owing to work life imbalance.

What WLB is?

WLB is a broad concept and includes apt equilibrium between work and life. (Guest, 2001) gives the subjective definition of work-life balance —“a perceived balance between work and the rest of life”. There are some parallel terms as life space management, life management and so on. WLB is a balance between work responsibilities and aspirations of other areas of life. Work-life balance, in its broadest sense, is defined as a satisfactory level of involvement or 'fit' between the multiple roles in a person's life (Hudson, 2005). Approach to WLB differs from one person to another. WLB is individual specific.

WLB is striking balance between work and non-work schedules. WLB warrants for achievement as well as enjoyment, achievement through work and enjoyment through life. The difference between home and office is increasingly getting blurred. With more women becoming the part of the workforce, complex technologies, number of dual career and nuclear families increasing, work life balance has become a key to survival. The concept of work-life balance came in to light in the year 1986 and permeated the business community in order to respond to the growing concerns about the impingement of work on personal and social life and vice versa. Companies have responded to work-life programs to address the issues raised by their employees (Roberts, 2005).

It can be safely argued that paying heed to WLB can fetch favorable outcomes both for the individuals and for the organizations. Work/life programs have the potential to significantly improve employee morale, reduce absenteeism, and retain organizational knowledge, particularly during difficult economic times. In today's global marketplace, as companies aim to reduce costs, it is up to the human resource professional to understand the critical issues of work/life balance and champion work/life programs. (Nancy R. Lockwood, 2003)

Work or life which should come first?

The following text contains a story that emphasize the fact that work is very significant but the other aspects of life as self and family can also be not ignored. Rather they need to be put ahead of work. The story is as follows: A Philosophy professor was explaining his students the meaning of life and the relationship between life and work with the help of an empty jar, rocks, pebbles and little bit sand. Professor filled the jar with the rocks and asked the students if the jar was full. Students got agreed that it was. The professor then put pebbles in to the jar and shook it gently. The pebbles rolled into the open areas between the pieces of rocks. He then again asked the students if the jar was full. They again agreed that it was. Professor picked up a small sack of sand and poured it into the jar. He then asked once more if the jar was full. The students answered in yes without hesitation.

Professor started comparing the jar with life. The pieces of rock are the significant things as your family, your wife, children, your health and your friends. Even you lose everything but if they remain, your life is still full. The pebbles are the other things as your job, house and other valuable properties. The sand represents other things not so valuable.

Moral: If you put the sand in the jar first there will not be any room available for pebbles and rocks. The same stands true for life.

Why WLB?

The cutthroat competition across the professionals has put tremendous pressure in terms of quotas and deadlines on the employees and workers. It is wondered as WLB is corporate social responsibility to employees or competitive advantage to employers. Employees in the present time prefer jobs that entail the content of flexibility. Working people including dual career couples require availability of time at different points in different stages of their career to meet different personal and social needs. Resultantly, working people struggle to strike balance between working hours and personal obligations. Organizations in abroad appear to be quite alarmed about WLB.

Organizations have started realizing the urgency of the need of WLB and taking the needed steps. Consequences of good WLB benefit the organization in a variety of ways as improved performance, increased productivity, augmented employee satisfaction and happiness, sound well-being, enhanced organizational image, improved employee retention, improved quality of life and so on. Achieving work-life balance yields benefits for both the employee and the employer. Exceptional organizations have leaders that create work environments where people can achieve work-life balance and wellbeing as they define it for themselves (Spinks, 2004).

Likewise, the consequences of poor WLB can be low level of morale and motivation, increased number of grievances, work-family conflict, poor wellbeing, low- employee retention, low performance and productivity level, poor organizational image, poor quality of work life, poor quality of life and so on.

Mokana Muthu Kumarasamy et.al (2016) opines that work-life balance is a main concern for employees and employers alike as work-life imbalance can cause stress and health-related problems among workers and lower down their performance and productivity level. There is significant and positive relationship between emotional intelligence and work-life balance and organizational support is an impactful variable to moderate this relationship. To achieve work-life balance, police officers must be emotionally intelligent.

Consequences of WLB

WLB can lead to the consequences as per the treatment given to it. Good treatment good consequences, bad treatment bad consequences. There may be the following consequences of WLB. Organizations that attach value to WLB and focus on effective implementation of WLB initiatives reap the benefits as improved performance, increased productivity, augmented employee satisfaction and happiness, sound wellbeing, enhanced organizational image, improved quality of life, improved career planning and development, work-family conciliation, improved organizational effectiveness and efficiency, augmented employee engagement, reduction in absenteeism, upsurge in employee motivation and commitment, enhanced employee retention, positive work culture making the employees feel valued, loyal and delighted, less competitive pressures and improved business upshots.

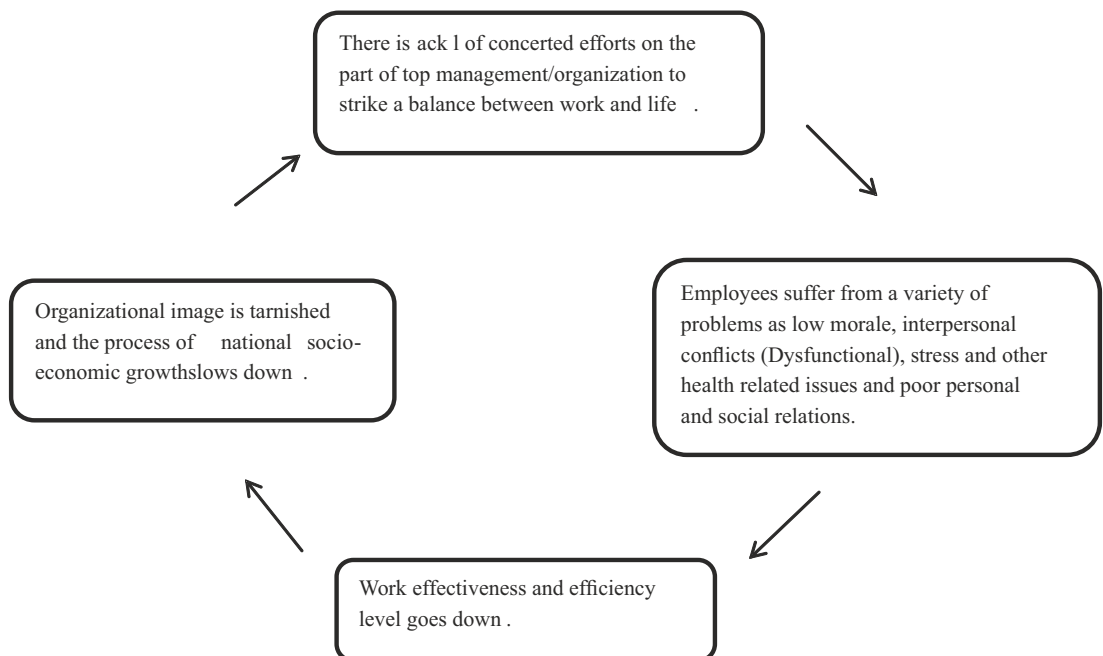
An organization suffering from poor work life balance can experience the following problems as low level of morale and motivation, increased number of grievances, work family and family work conflict, poor wellbeing, low- employee retention, low performance and productivity, bleak organizational image and poor quality of life. Problems slow down the progress of WLB initiatives in an organization. Organizations experience a gamut of problems in publicizing and practicing WLB practices owing to end number of reasons. Efforts made by top management and employees in a combined manner in resolving these problems can help in promoting and implementing WLB practices. OM Ashtankar (2016) in his research study published in the form of a paper infers that police personnel experience more work-family conflicts. They are less satisfied with their work and family life. They suffer more from psychological distress. Evolving a culture that encourages WLB is the need of the police department.

Organizational Support and WLB Interplay

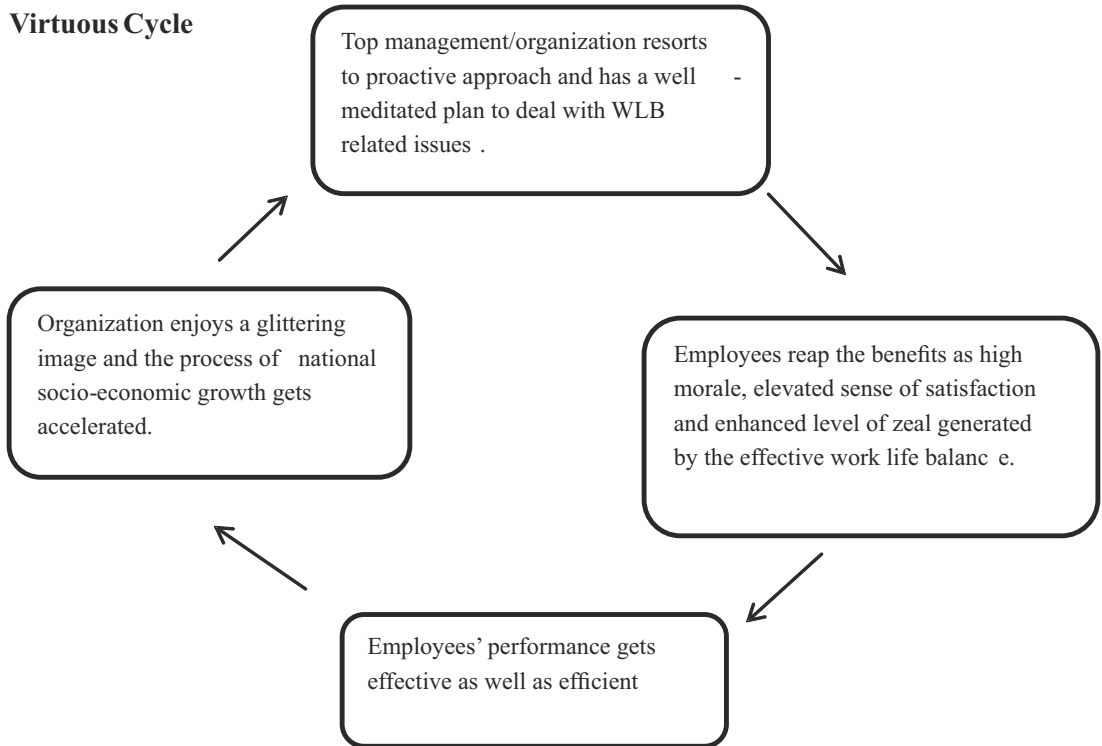
The said interplay is highly intervening in making it sure that WLB is not presumed to be a vicious circle rather it is accepted as a virtuous cycle by the organization. The vicious circle carries the negative connotation and worsens the situation with the passage of time, whereas, the virtuous cycle results into the increasing beneficial effect of a phenomenon. We will see both the situations in terms of WLB separately to learn about them in a better manner through the figure-1.

Figure-1

Vicious Circle



Virtuous Cycle



WLB and Police Personnel: A Study

A study was conducted to comprehend the interplay between organizational support and WLB. The reactions and opinions of the respondents were collected, analyzed and interpreted so as to reach the findings. The following facts surfaced:

1. The level of awareness about WLB among employees in police department is low. The employees do not understand the nuances and technicalities related to WLB.
2. The concern for WLB on the part of the organization/top management in police department was found below the required level. Efforts on the part of the management/organizations to promote the concept and practice of WLB appear to be sporadic.
3. There is dearth of well chalked out policies and initiatives in relation to WLB. Measures are hardly taken to resolve the work-family and family-work conflicts.
4. The performance and productivity level of employees is low owing to poor work life balance as the personnel do not enjoy sound physical and mental health and are deprived of the sense of satisfaction and happiness. Thus the organizational effectiveness is also

adversely affected.

5. There are less number of opportunities and platforms available where both organization/management and employees can get together to discuss WLB related issues in police department.
6. A good number of WLB related grievances exist in the police department and they consequently result into the lack of fusion in individual and organizational goals.
7. Employees in police department confront with health related problems as stress, high blood pressure, depression, lack of concentration and so on.
8. Police personnel are deprived of the time needed to devote towards their families and dependents.
9. Women employees as compared to male employees experience more imbalance in work and life as their family/household responsibilities are manifold.
10. No specific concern in terms of provision related to WLB for dual career couple could come in sight.
11. The researcher could not come across specific measures being taken by the management/organization related to the promotion of concept and practice of WLB.

The respondents put forth the following suggestions so as to strike balance between work and life:

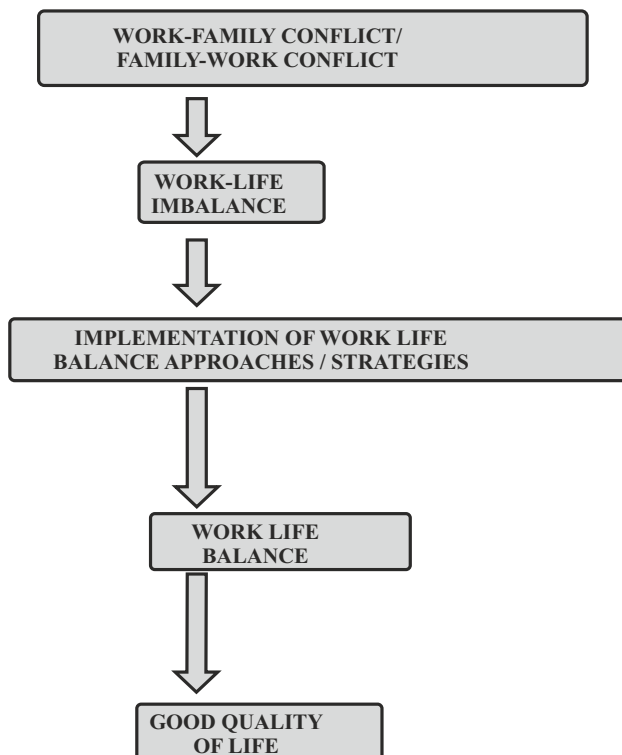
- I. Awareness about concept and practice of WLB needs to be spread among employees by educating and training them to understand the utility of WLB.
- II. Opportunities and platforms ought to be created for management and employees to deliberate on the issues related to WLB in the department.
- III. Health checkup campaigns should be organized on a regular basis so as to find out association between health related problems and poor WLB.
- IV. Employees should be provided with the needed time for personal care in terms of health and spiritual activities.
- V. Employees need to be provided with the required time to take care of family/dependents and meet social obligations. For instance, there can be a weekly off.
- VI. Manpower ought to be met so as to have sufficient workforce. This will help in curtailing excessive working hours for existing staff and have quality time.

- VII. Improved work life balance will certainly result into augmented level of satisfaction, happiness, morale, performance, productivity and ultimately the organizational effectiveness.
- VIII. Salary of police personnel needs to be hiked so as to compensate the excessive working hours. This will also lead to a kind of work life balance.
- IX. The jobs of police can be analyzed so as to rewrite the job description and job specifications and to do job evaluation.
- X. Employee satisfaction survey along with the employee family happiness survey ought to be conducted regularly.

Converting poor WLB into good WLB

Harish Kumar (2013) by way of figure-2 depicts as how work life imbalance can be converted into work life balance. The work family and family work conflicts can lead to work life imbalance. This situation warrants for the implementation of WLB initiatives. The effective implementation of WLB practices may result in to work life balance and resultantly, the state of good quality of life can be attained.

Figure-2 Converting Poor Work Life Balance into Good Work Life Balance



What can be done?

Balanced work life recompenses in a variety of ways. The means suggested in the ensuing text can be instrumental in striking balance between work and life:

How do the working people do it?

The observations made by people belonging to India Inc. in connection with WLB are given below. The information can be of literal use for those who have a strong desire to manage the total life space meaningfully. These observations are as follows:

- Saikat Chatterjee, Manager HR South East and South West Asia, Intercontinental Hotels Group give few tips to be a good working dad. These are- eat together, help with their studies and share stories.
- D Sattaiah, COO, BASIX Group observes, “I think the guilt that we working dads go thoroughly can be minimized by engaging children deeply at home in house hold core jobs, meeting the agreed expectations and exposing them to the realities of work life appropriately. Follow these tips- block days for attending school functions, block children's' birthdays for avoiding last minute obstacles, plan for exposing your child once to your work place, be curious to know your child's tastes, likes and dislikes, help/support child to overcome apprehensions, fears etc., show all the affection when the child is not doing well, encourage dependence for small help from family members.
- According to Saravana Kumar Ananthan, Chief Investment Officer, Tata AIG Live Insurance Co. Ltd., “Work life balance is an essential mix to unleash your full potential at work. It is crucial to spend quality time with the family, which contributes to the all-round development of one's kids. I make sure to find time to be a part of their special occasions, which mean a lot to them”.
- Nitin Bahl, Country Manager, India Natuzzi Group (A Italian Group) observes, “Given my hectic time schedule that includes frequent travel to Italy and all over India, I try to keep as much quality time as possible for my family when I am in town. For me achievement and enjoyment go hand in hand. I think time management is the key towards attaining a better work life balance. Balance is a must in all aspects of life. The moment you get one sided it starts your life affecting negatively. I love playing with my three year old daughter. My biggest stress buster is to read her bedtime stories. I also try to catch up golf and polo during the weekends when I am not travelling.”
- Dr. Pradeep Chaubey, Director, Minimal Access, Metabolic and Bariatric Surgery, Max Healthcare opines, “I think it is important to have a balance between both the spheres of

life, work and otherwise, as both these aspects need to work together for a happy living. Besides work, I spend time with my family travelling, shopping, viewing art and indulging in anything, which is disconnected with work. It occupies a very important place in my life as it rejuvenates me. Even though my work timings run into late hours, we make it a point to take dinner together to talk, laugh and share the events of the day. Isolating both worlds (work and home) is important as they do not tend to overlap at times.” Times of India, June 16, 2010

- “Companies that can help their employees navigate both their professional and personal lives are likely to see strong employee engagement and enjoy an advantage as they recruit and retain high performers,” Accenture managing director – global inclusion and diversity Nellie Borrero says. Business Line, March 7, 2013
- Raghevendra, an executive further adds, “Employees should define a clear purpose and meaning to their life. When one aligns the work with the overall life purpose, they would not have to think that they have to balance their work and life as it is already balanced and aligned with their life purpose.” Hindustan Times, February, 19, 2013
- Meera H. Sanyal CEO and Country Executive, rbs India observes, “When I am at work, I immerse myself in it and when I am at home, I completely shut out work.” Hindustan Times, January, 29, 2013

Work life balance compliance checklists

Harish Kumar (2013) has advocated the following checklists related to the WLB stakeholders will undoubtedly stand helpful in striking balance between work and life in organizations.

Work life balance compliance checklist for organizations

Answers to the following questions in affirmative may determine the amount of focus an organization puts on WLB:

1. Do the Mission and Vision Statements reflect the essence of quality of life?
2. Does the organization put emphasis on employee welfare in general and WLB in particular?
3. Does the organization evolve and sustain an organizational culture/work culture that encourages WLB?

4. Does the organization take stock about the state of affairs with regard to WLB at regular basis?
5. Are the employees aware about the conceptual and empirical value of WLB?
6. Does the organization put forth efforts to orient employees towards WLB in terms of awareness programs, motivation and so on?
7. Does the organization ensure about the willingness of employees to be interested in striking balance in their work and life?
8. Do the governmental rules and regulations in connection with WLB are duly followed in the organization?
9. Does the organization benchmark its WLB practices against the practices prevailing in world class organizations?
10. Is there reciprocal support of employees and management in boosting up the concept and practice of WLB in the organization?
11. Does the organization believe in total employee involvement? Does the management bothers about the family of the employee as it bothers about the employee?
12. Does the organization practice family friendly practices so as to maintain work life balance?
13. Are there specific rules for dual career couples with regard to WLB?
14. Are there specific rules for working women?
15. Does the organization concern about the returns of WLB?
16. Does the organization regard WLB as a tool of employee retention?
17. Does the organization use WLB as a tool of employee attraction?
18. Does the organization seek opinions from employees as how to strengthen WLB?
19. Does the organization possesses a sound feedback and follow up system to ensure that the efforts made for striking balance between work and life have been fruitful?
20. Does the organization take corrective actions?

Work life balance compliance checklist for employees

Answers to the following questions in affirmative may determine the amount of focus

employees put on WLB:

1. How much concerned the employees are about the quality of life?
2. Are the employees in the know of the fact that the onus of publicizing and practicing WLB needs to be shouldered by them too along with the employers?
3. Do the employees ensure that they are not the sufferers of poor WLB practices?
4. Are the employees self-motivated to raise their voice for guaranteeing WLB at work place?
5. Do the employees make it sure that they knowingly participate in designing WLB initiatives?
6. Are the employees willing to be known to the criticality of the need for WLB at work place?
7. Do the employees ceaselessly endeavor to update their knowledge about the emerging trends and issues related to WLB?
8. Does the organization get the needed support from employees in the formulation and implementation of WLB practices?
9. Do the employees ensure that they participate wholeheartedly in the training programs organized by the organization?
10. Is good WLB treated by the employees as a legitimate right rather a benefit by the employees?
11. Do the employees consistently file their requests/complaints to the top management to initiate world class WLB practices to experience a balance between their work and life?
12. Do the employees look for support from consultants/councilors/trainers so as to be comfortable and competent enough to make the best use of the initiatives/policies/plans related to WLB?
13. Are the employees in the continuous conversation with the employers to promote WLB arrangements?
14. Do the employees, through collective bargaining boost up provisions that support WLB?
15. Employees are provided adequate support by the organization to initiate and apply WLB initiatives chosen by the employees individually suiting their personal requirements as setting priorities, meeting schedules and deadlines, availing leaves and breaks and so on?

16. Are the employees willing to work on the tips as- make it a point to be happy, learn how to say no, do not gratify everyone, let the trivial things go, evade from getting solely identified with work, manage the time judiciously, work while you work and play while you play and so on.

Work life balance compliance checklist for government/NGOs and social activists

Answers to the following questions in affirmative may determine the amount of focus the government, Non-governmental organizations and social activists put on WLB:

1. Do the governmental agencies make endeavours to spread awareness and education about the benefits of maintaining a healthy balance between work and life at work place?
2. Does the government develop specific websites to provide information to policy makers, employers, employees, unions, NGOs related to the significance of improving work-life balance?
3. Does the government make a policy which signifies that the working time needs to be in line with other demands on time generated by people's personal and social lives?
4. Does the government promulgate that, it is the legal duty of the employer to minimize work related stress and to strictly adhere to the minimum health and safety standards?
5. Does the government actively endorse work-life balance as a clear policy goal? Is work-life balance put on government policy agenda and seen as one way to improve balance between work and other responsibilities of the people involved in the corporate sector?
6. Does the government adopt individual pieces of legislation or policies that address some aspects of work-life balance? Does the government make certain WLB practices as binding in name of the acts/laws/regulations to be followed by each and every private and public sector organisation coming under its jurisdiction?
7. Is the government interested to develop a legislation that may help to reduce work-life conflict, especially for women employees?
8. Is there a tribunal prescribed by the government for taking remedial actions in favour of employees with regard to WLB?
9. Does the government recognize and reward the organizations which are identified with certain commended WLB practices?
10. Does the government have a policy to promote programs/courses on WLB in educational

institutions in general and business schools in particular?

11. Do the non-profit organizations promote the concept and practice of WLB in name of employee assistance programmes?
12. Are the WLB awareness campaigns organized by the concerning governmental agencies, NGOs and social activists?
13. Are the training programs with the theme of work life balance conducted by non-governmental organizations on a consistent basis?
14. Are the issues related to WLB raised by NGOs and social activists at various platforms to underscore the need of resolving work-family and family work conflicts?

Epilogue

WLB is striking balance between work and non-work schedules. Repercussions owing to poor WLB can be as physical and psychological strains, poor health, low birth rate, lengthy working hours, increased rate of absenteeism, increased rate of occupational accidents, low productivity, low employee satisfaction and so on so forth. The personal traits besides, other factors as value set, needs, preferences, likings, disliking, workholism are also held responsible for poor WLB. Employees who possess a strong sense of emotional intelligence very well know how to strike balance between work and life conveniently. Still lot of support is needed from the top management/employers. Work life balance is need of the hour. It is the concern not only of Police organisations but also of the society. This is an unfailing instrument that helps in ensuring employee as well as employer happiness. There needs to be a tremendous scope for improvement in the work life balance of the police personnel. The proposition is duly endorsed by conceptual and empirical substantiations. A sound physical and mental health as a resultant of good work life balance can keep the morale of police personnel high, motivating them to contribute to the accomplishment of the organizational mission meaningfully.

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