Promoting Good Practices and Standards

The Indian Police Journal

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The Indian Police Journal

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Editorial

The Indian Police Journal provides a perennial source of valuable information on issues related to different aspects of Police and Prison Administration in our country. We are privileged to have notable contribution from our esteemed serving and retired practitioners in law enforcement, correctional administration academia etc. on a regular basis. Owing to certain administrative circumstances beyond our control, this issue of IPJ is unusually delayed. We regret for this delay while assuring more regular issues.

This issue covers articles on, "Policing in 21st Century-Areas for Concern" written by Sh. O.P.Mishra, in which he highlights some important aspects of police functioning in the 21st century. The article on" Road Accidents & Drivers Psychology-Some Policy Implications" by Sh. B.B. Basu underlines the errors behind the road accidents and internal psychological factors behind the tendency of rash driving. The article on, "What Ails the Indian Police" written by Sh. Prashant Singh reveals as to how the statute which governs the Indian police system (Police Act of 1861) acts as a deterrent in the proper functioning or role performance of police in India..

In the article titled as "Investigation of Gaseous Poisoning Cases and their Forensic Implication" by Dr. D. Sengupta, various aspects of poisoning by toxic gases are brought out very vividly. In the article titled "Forensic Hypnosis" written by Sh. Muktesh Chander, IPS has observed that the importance of the hypnotism as a powerful forensic tool for memory enhancement of victims. Police Officers in many countries are taking advantages of this technique. The article titled "Influence of occupational stress on adjustment: a study of Police Personnel" written by Dr. Shah Alam presents his study about Aligarh police in respect of the problems of occupational stress and adjustment of police personnel. Sh. Pankaj Saxena in his article titled "Need of HR Benchmarking Strategy for Police Organisations: A study in CBI", has emphasised that the Benchmarking is an essential step for pertaining improvement in an organization on an ongoing basis.

We fervently hope that this issue of the Journal shall make significant contribution to the information level of not only the police officers but also the other law enforcement officers and in turn shall help them in a modest way in their pursuit of excellence in their respective jurisdiction.

(P.N.KHURANA)
EDITOR

Promoting Goods Practices and Standards

Abstracts & Key Words

Policing in 21ˢᵗ Century Areas for Concern

O.P. Mishra, I.P.S

Key Words :

Industrializtion, Urbanization, Formal organization, Methodology, Prevention and detention, Intelligence, Modernization, Transparent.

Abstract :

Theoretically speaking, formal organizations have evolved out of growing human needs and rapid changes in the over all social structure over a period of time. The gradual evolution of the formal organization logically adds new dimensions to the over all functioning of the organization. The adjustment and tuning of the formal organization to the changing needs is very much essential for the existence of the organization itself. This is true for the Indian Police System also. The post independence Indian Police has more become service oriented organization and is trying to touch all important dimensions of a citizen's life where his over all security is concerned. The present article examines some of the issues which needs to be taken care of by the Indian Police System in the 21ˢᵗ Century.

Road Accidents & Drivers' Psychology Some Policy Implications

Banibrata Basu, I.P.S

Key Words :

Road Accedents, Road Rage, Rash or Dangerous Driving, psychological factors in Dangerous Driving, psychometric methods of testing of the presence or absence of such factors, orientation course for offending drivers.

Abstract :

Human error is behind 90% of the road accidents. Rash Driving is one major source of such human error accounting for more than 50% of such accidents. Are there certain internal psychological factors behind this tendency of rash driving? If so, the normal punitive measures like spot fining etc. will have limited deterrent effect on such drivers. some special psychological counselling may be necessary before these drivers are allowed to drive or renew their licenses. To find out statistical significance of such psychological factors, traffic police division of Kolkata police commissioned a study with the assistance of department of psychological, University of Kolkata. The study brought out the importance of such psychological factors and made some important policy conclusions.

What Ails The Indian Police ?

Prashant Singh

Key Words :

Police, Police Act-1861, Role Performance, Political Intervention.

Abstract :

The aim and objective of this paper is to highlight, how the statute which governs the Indian police system (Police Act of 1861) acts as a deterrent in the proper functioning or role performance of police in India. A complete analysis of the Police Act shall be made and it shall be the effort of the researcher to try and reveal how the various sections of the Act are deteriorating the role performance of the police. Also, the focus shall be on how in the present scenario, the police in India is performing its functions and to what extent has it been challenged by the political intervention and existing political structure. The aim of this paper shall also be to focus on the various kinds of political interventions which the police have to face which in effect lead to improper and interest driven functioning of the police.

Comparative Study of Synthesized and Human Speech - Forensic Significance

S.K. Jain and R.K.Mishra

Key Words :

Synthesized Speech, Wave Morphology, Prosodic Features

Abstract :

The involvement of speech in the criminal offences such as kidnapping for ransom, telephone threat, obscene calls, drug pedalling, cross border terrorism

and match fixing is not uncommon. In such cases, the recorded voice is one of the vital clues for fixing the identity of the culprit by comparing recorded voice with known samples of the suspect(s). Due to development in speech technology, it is possible to generate human like speech through machine. The machine-generated speech is very similar to human speech in audition. The machine-generated speech could be used by the criminals in commission of such criminal offences for maintaining their anonymity. It may pose misleading interpretation during crime case examination if expert is not aware of the characteristic features of machine generated or synthesised speech. Therefore, it is felt necessary to conduct such study to generate some experimental data for forensic inference. In the present paper, the synthesised speech in three different languages such as Hindi, Telugu and Bangla have been compared with human speech in respect of their linguistic, acoustic and phonetic characteristics. It has been observed that speech wave morphology and prosodic features are some of the important parameters for distinguishing between synthesized and human speech. It is hoped that this information would be helpful in case interpretation related to forensic speaker identification whenever such situation occurs.

Study of Speech Characteristics due to Pitch Shift by Time Warping Method and its' Impact on Forensic Speaker Identification

C.P. Singh, Manisha K. and S. K. Choudhury

Key Words :

Pitch Shift Telephone, Time Warping, Formant Frequency and Fundamental Frequency.

Abstract :

Alteration of audio/video recording is no more restricted to the type of alteration like physical splicing, addition, deletion, obscuration, transformation, and synthesis. Due to the advanced technology, available to the reach of general public, alteration also could be in the form of changing overall pitch of the recorded speech in order to hide the identity of the speaker and also to create confusion in an attempt to identify the speaker by auditory and spectrographic methods. The problem has been compounded due to the availability of Pitch Shift Telephone. In order to cope up with this problem, study on the speech samples for pitch shift situation have been conducted for fifteen speakers. The overall pitch of an utterance of each speaker has been changed by the technique of time warping at 90%, 95%, 105% and 110%. Effects on some of the speaker dependent feature parameters namely, Formant Frequencies (F1, F2, F3) and Fundamental Frequency (F0) measured at a particular location, due to the pitch shift condition have been found to be in linear fashion as compared to the features of normal speech sample. On the basis of this study, a method for analysing such samples for speaker identification has been formulated. This technique is named for time being as "Reverse Time Warping Technique" and found to be effective for pitch shift due to time warping technique.

Forensic Hypnosis

Muktesh Chander, I.P.S

Key Words :

Forensic Hypnosis, Animal Magnetism, Electroencephalogram, Hypermnesia, Post traumatic stress, Amnesia, Narcoanalysis, Confabulations

Abstract :

Mankind has known hypnotism since ages under different names. Hypnosis has already evolved from a mystic phenomenon to an established science and is being used all over the world for various therapeutic purposes. Its importance as a powerful forensic tool for memory enhancement of victims or witnesses has been recognised in the last few decades. After observing certain procedural safeguards and legal procedures, Police Officers in many Countries are taking advantages of this technique. There is a need to understand forensic hypnosis and the benefits it offers before we start experimenting it in selective cases.

Influence of Occupational Stress on Adjustment: A study of Police Personnel

Dr. Shah Alam

Key Words :

Organisation, Territying Pandemic Stressful job occupational stress, Sophisticatod weapons, Autocratic management.

Abstract :

Police force is one of the largest organization in India. Today stress has become not only the biggest killer in the world but a terrifying pandemic as well. The phenomenon of occupational stress and adjustment are very important in the police occupation all over the world like in many other professions. This study focuses on Aligarh police to get an indepth insight into these issues. For the present study a sample of Police personnel (N= 50) was collected from Aligarh District. Two scales namely Occupational Stress Index and Mohsin-Shamshad adaptation of Bell Adjustment Inventory was used. The data were analyzed by applying multiple regression analysis. The results reveal the fact that occupational stress influencing adjustment of police personnel. Further it was found that two dimensions of occupational stress viz; unprofitability and role ambiguity influencing home and emotion respectively. The results have been discussed in detail.

Investigation of Gaseous Poisoning Cases and their Forensic Implications

Dr. D. Sengupta

Key Words :

Investigation, Gaseous Poisoning and Forensic.

Abstract :

Gaseous poisons or toxic gases are ultra short acting, most potent and may cause death immediately depending on time of exposure and concentration of gas. When deaths occur in a mass scale, it turns to a disaster. The investigations are difficult as the primary clue materials are likely to be lost due to the physical nature of sample and require proper scientific knowledge for noting specific observations for reconstruction of cases and locating clue materials for collection, preservation and onward forensic examinations. The aspects of poisoning by toxic gases have been discussed in the present paper for conveniences of the I.O. s' and forensic experts.

Incidents of Self Immolation & Suicide in Ancient India

(Early Times to 1200 A.D.)

Umesh kumar Singh, I.P.S

Key Words :

Melancholiac suffering, Suicidium, Metaphsical obsurity, Epigraphic-records, Self-destruction, Indian-Antiquary, Aggressiveness, Chronicles, Slaugher, Purusamedha and Sarvamedha, Atmaghataka, Mortification, etc.

Abstract :

Incidents of suicide due to various unpreventanble reasons were occurring since a very long primitive phase of human civilizations of the world. Irrecoverable loss of human life on a very large scale in ancient India was being caused since long. In the present paper, I have tried to enumerate some important incidents of suicide right from the time of the Rig-Vedic period onwards up to 1200 A.D. The article furnishes sufficient information about important cases of suicide of very important persons of history including some kings and our so called reverent godly figures of the Ramayana and the Mahabharata such as Rama, Bharata, Luxman and Shatrughana etc. We also learn from historically reliable sources that even the Buddhist monks and Jains had also committed suicides in good numbers due to inherent frustrations in furtherance of various causes of penances and due to abnormal delays in achieving their religious missions. Through importat ancient law gives such as Kautilya, Manu, yajhavalkya, Brihaspati, Narada, Parasaram and Vashistha had severely condemned the evil consequences of suicide and had not only strictly forbade to perform the last funeral rites of the deceased but also prescribed punitive measures for such defaulting relations of suicidal victims; which was mainly intentioned to discourage the suicidal tendency of youngsters.

To have a deterrent effect it was advised to keep such dead bodies on thorough cross-roads in the full view of the passers-by to realise the mal-treatment of the dead even after death. Surprisingly the ancients had allowed the old and the aged ascetics to commit suicide at the religious place and in religious rivers of Prayaga and Kashi (Vanaras). Consequently Prayaga attracted a large number of such people for committing suicide by drowning in the river Ganga by jumping in the river from a Bargad tree on the bank. Besides such revealing tales of suicide adequate care has been taken to explain then underlying reason and various ways and methods of such sad and silent gruesome crime whose delinquent authors in most of the cases were dead, not even left to experience the brunt of punishment. This small write-up is academically very intersesting, curiously enlightening and for every one to know his such gloomy past with a warning alert for the youngsters of today.

Need of HR Benchmarking Strategy for Police Organisations : A Study in CBI

Pankaj Saxena, IPS

Key Words :

Benchmarking, Performance Indicators, Best practices, Gap analysis, processes, Human Resource Performacne Indices, Human Resource subsystems, Surplus Cell, Promotion, Deputation, Outsourcing, Efficiency, Organisational objectives, Austerity measures, Recruitments rules etc.

Abstract :

The aim of this paper is to examine the scope of the process of reengineering in the HR Sector of Government from the perspective of benchmarking. Benchmarking is an essential step for improving processes in an organization. It is a continuous process of measuring products, services and practices against the toughest competitors or management practices, including strategic planning, quality management and employee involvement/empowerment.

HR is generally viewed as a collection of loosely associated functions rather than an integrated system. The success of a human resource function in an oraganisation is dependent upon the ability to do the job well, to excel in the right areas and to take measures of performance and use them strategically and persuasively to get the desired outcome. Developing a unified approach to measuring HR performance is essential if benchmarking is to be successfully undertaken across the government organisations. Further, functioning of government departments, particularly of police organizations is largely monopolistic. In such circumstances it becomes difficult to identify Performance Indicators and implement benchmarking. However, an effort has been made to study the scope of Benchmarking on Human Resource Management for Central Bureau of Investigation and draw conclusions. It was found that systems in government are generally procedure oriented, elaborate and contain lots of checks and balances but they compromise on cost effectiveness and at times are not result oriented. The top-down approach and the massiveness of the system, imparts it an inertia which in normal course is difficult to overcome. However, with the opening of Indian economy, hitherto largely monopolistic organisations are getting exposed to competition. With umbrella of protection gradually getting removed and need for a service centric approach gaining momentum, it is time to reorient towards efficiency and cost effectiveness. It is also essential to start our search for excellence and learn from the best practices being followed in other top organisations.

POLICING IN 21ST CENTURY : AREAS FOR CONCERN

O.P. Mishra*

The actual form, structure and areas of responsibility for any formal organization is always time and space specific. The overall change in the society in its various dimensions necessitate subsequent changes in the over all methodology and functioning of the organization. As a matter of fact, it is a logical outcome of the process of change itself. Tuning of the formal organization to the needs of the changing society and subsequent changes in its work culture is very essential for the survival of the organization itself. Such adjustability assumes prime significance in democratic societies. The Indian Police like other formal organizations has witnessed several changes historically over a period of time.

Before we define the new dimensions and priorities for the police in 21st century, it is better to understand the role and responsibilities of police over a period of time and the crucial areas which require specific emphasis in the new millennium.

For a meaningful understanding of the police working historically, it can be divided into three phases:

1. Pre-Independence
2. Post Independence
3. New Millennium

1. **Pre-Independence** : The pre-independence Indian Police has been in the hands of foreign rulers who ruled this country for centuries from time to time. The central focus of police organization in this period has been to evolve its methodology and functioning according to the needs of the alien rulers. They had to play a very important role in the continuance of a particular rule. Thus, police had to imbibe and tune its work culture as per the whims and fancies of the ruler. In nutshell, they served the interest of the minority rulers at the cost of majority of the people. Though the concept of "rule of law" was introduced by the British regime, law enforcement was subjected to the ultimate objective of protecting the British Crown and sustaining the British Rule. The entire functioning of the police created a hiatus between police and the public. Police was considered as an instrument of state oppression despite the fact that maintenance of

Key Words :

Industrializtion

Urbanization

Formal organization

Methodology

Prevention and detention

Intelligence

Modernization

Transparent

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Abstract :

Theoretically speaking, formal organizations have evolved out of growing human needs and rapid changes in the over all social structure over a period of time. The gradual evolution of the formal organization logically adds new dimensions to the over all functioning of the organization. The adjustment and tuning of the formal organization to the changing needs is very

law and order was an essential dimension of the police functioning. The negative dimensions of police working and culture had a very deep impact on the minds of general people. This further deepened with the introduction of new status quo and oppressive laws by British Government.

2. **Post Independence** : After the independence, the police functioning went through radical changes. All the oppressive laws were abolished. Maintenance of law and order in the society and security of people emerged as a fundamental dimension of police organization. Police had to tune itself not only with the changed socio-economic development in the country, but also had to design strategies and methodologies to combat crime. While prevention and detection of crime in the society, maintenance of law and order had over-riding emphasis on the police functioning, special emphasis was laid on the security of common man in the society. Over a period of time positive attitude of police towards the general security needs of the common man emerged as central. This was in tune with the evolution of Indian State as a Welfare State. In such societies recognition of the protection of the citizens fundamental rights constitutes an additional objective for the police where rule of law prevails.

Moreover, in such societies, the police would be described as "Police Service" of the public, the success of which largely depends on the consent of the public. This logically meant that the police should not be kept separated from the public but shall be rather integrated in the community. This is a radical paradigm shift in the police functioning in the post independence period.

In the post independence period, with rapid industrialization, urbanization and radical change in the socio-economic set up, several new dimensions were added to the police functioning. Since members of the police force are the most conspicuous and visible representative of the Government, it had to tune itself with the new responsibilities and work dimensions added. Historically speaking, new job responsibilities and orientation of the police towards changing needs logically made an attempt in reducing the gap between police and pubic. However, this change was evident more in the Metropolitan and State Capitals only. The positive response of police in such places has developed a sense of respect for police and people now approach the Police Stations and Police Officers in times of distress with a sense of hope for justice. Timely redressal and quick response to the complaints of the public

reflected an attitude towards police as "friend in need".

However, the post independence Indian Police has to face a peculiar dilemma while attending to the day-to-day problems of people. Theoretically speaking, an ideal police force is supposed to maintain law and order in society and ensure a crime free environment for all the citizens. This is an attempt which takes care of the needs of 80% of the people in the society. Despite our best efforts in delivering the goods, a majority of these 80% people are not very happy with the functioning of the police. A microscopic scrutiny of police functioning is also done by this 80% section of people. But why? This is an issue which needs to be addressed very seriously by policy makers and Field Officers in the new millennium. I personally feel that apart from all other reasons, there are two very important reasons for such an attitude which has developed amongst the people towards the police working –

a) It has been explained earlier that the scope of police functioning was very limited in the pre-independence period. The under stretched police force of a pre-independence period was over stretched and flooded with new responsibilities in the post-independence period. Since police is the most conspicuous and visible representative of the administration, people started approaching the policemen for all kinds of problems. There were problems which had quick solutions in the formal system of the police redressal, which made people happy. On the other hand, there were also problems posed to policemen which had no direct linkage with their system of delivery. As a matter of fact, these problems were related to other agencies of the administration and they were the right persons to act. Since the police does not have a formal solution to these category of problems, the grievances were not redressed. As a result, the approaching complainants got disillusioned over a period of time. This is a very major problem faced by the police organizations in the cities particularly Metropolitan Cities today.

b) While we had a section of people who were not satisfied with our work because their problems had no linkage with police functioning, others got disillusioned because of our partial and ineffective disposal of genuine police related problems. While some of such allegations against the police functioning were motivated and biased still the *iota* of truth could not be ruled out in other complaints. Even after 55 years of independence, statements like "I am afraid of going to Police Station", " I have come to the Police Station for the first time", "I don't

much essential for the existence of the organization itself. This is true for the Indian Police System also. The post independence Indian Police has more become service oriented organization and is trying to touch all important dimensions of a citizen's life where his over all security is concerned. The present article examines some of the issues which needs to be taken care of by the Indian Police System in the 21ˢᵗ Century.

want to involve myself in any police problem", need to be taken seriously and indeed requires a deep self-introspection by each and every policeman in the new millennium.

Police in the new millennium : It is an undisputed fact that police personnel comprise a special class of public employee. This is one of the very few organizations which work on a 24 x 7 basis. Police can be called any time in crisis and the presence of policeman in such situation is expected. People do not expect a better response from any other organization than police. Taking into account the functioning of police over a period of time, I personally feel that following areas of policing require special attention and a positive attitude in the new millennium :

a)   A uniformed Police Officer is the most visible representative of the Government and to the majority of people, is a symbol of integrity, stability and authority upon whom they can rely. A Police Officer, his fundamental duty is to serve mankind, to safeguard ,lives and property, to serve innocent against deception, weak against oppression or intimidation and peaceful against violence or disorder and to respect the democratic rights of all men to liberty, equality and justice. Every policeman must make a sincere attempt to live up to these expectations of general public. Every policeman must remember these words of W.L. Melville which although uttered in the context of England, still holds good universally.

"In every court of Alley, the policeman stands for good citizenship. He is a reality to comprehend and upon his impartiality, efficiency and intelligence depend the estimation in which law is held by the masses." 1.

b)   A policeman today confronts a complainant in the Police Station who is literate, alert and conscious of his rights. He is also in a position to react in case his rights are infringed upon and he is subjected to undue harassment. Police Officers need to develop a sympathetic and empathetic attitude towards the problems of the people. In day-to-day dealing, we have to make a distinction between our behavior towards peace loving citizens and persons who violate the law of the land. Both can not be treated equally. A little bit of sympathy, empathy and fair dealing with the members of public in day-to-day life may reduce our negative points.

c)   The rapid industrialization, urbanization, globalization, consumerism, rapid growth in population, inequitable distribution of income has given rise to new crimes and category of criminals. We are supposed to deal with these changing patterns of crime also, very effectively. The gap between limited resources and increasing problems will always remain. There is a need to establish a balance between growing needs of people, the police response towards them, increasing awareness among citizens towards their security and a logical relationship between means and ends. We have excellent examples of private and public participation in various spheres of police working across the globe. We are still lagging much behind in this sphere.

d)   Transparent working and transparent behaviour in the police functioning is very important today. We have to reflect a people-friendly attitude while dealing with their day-to-day grievances. Our basic aim should be to make friends and not enemies. At any cost, if we are not able to make any friends; we should not make enemies because our style of working.

e)   Police has to modernize and tune itself with the new information technology and take lessons from developed countries in this direction. Computers must replace our archaic and age old tools.

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1. W.L. Melville – 'A History of Police in England. London. Metheven, 1901 (Reprint 1970)

f)   While we expect every policeman to deliver the best, his welfare needs to be taken on priority. The welfare of our policemen is still not attended to, in a holistic manner as compared to other formal organizations. It would not be out of place to mention that the efficiency of a policeman also depends on how effectively his professional welfare is taken care of, through institutionalized means. This has a direct bearing on his work culture, motivation and commitment to the organizations.

g)   Police is the most visible organ of the administration. So conduct of its members is closely scrutinized and when it is found to be excessive, unwarranted or unjustified, criticism is more severe then it would be for similar conduct of persons in other walks of life. An organization which has to constantly deal with people can not afford to be corrupt and partial. A corrupt policeman projects disrespect in the minds of general public. The new millennium should attempt to have a police organization which is free from corruption. Solid and positive efforts are required at psychological, ideological and organizational level in this direction. Identification of root causes for corruption in police and creation of a healthy and clear atmosphere is the need of hour.

h) Even after 55 years of independence, the police stations and the supervisory officers are not very accessible to members of public, particularly in States. Despite the fact that positive changes have taken place in the functioning of police in metropolitan cities, cases of complaints, harassment and victimization still persist in rural and backward states. Such cases are highlighted by media. Negative image of police in other areas puts a dent on the positive image earned by other police organizations. The new millennium must usher an era where every aggrieved person approaches police stations with a sense of confidence and hope of justice. Our image can improve only with better contact with the masses. Lack of communication acts as a stumbling block for the positive image building of any organization.

i)   The Indian police system has often been accused of politicization for partisan purposes and acting at the behest of vested political interests. The National Police Commission has very critically highlighted this problem in its reports. There is a need to insulate the police working from undue political interference in its day to day working. This will go a long way in instilling a sense of confidence in the masses towards police and will provide transparent image of the police. The law enforcement agency has to practically demonstrate and translate the ethos of " Equality before law " enshrined in the Indian Constitution".

j)   The basic duty of police is maintenance of law and order in the society. There has been a paradigm shift in maintenance of law and order dimension of police today. Historically speaking, the police has had to maintain law and order disturbed by protesters, small time criminal gangs and occasional mobilization by violent mobs. As compared to this, the Indian Police force is confronted today with violent protest by secessionist groups, anti national groups. Above all the international dimension of terrorism has added new dimensions to law enforcing agencies in the 21st Century. Keeping in view these changing dimensions of law enforcing agencies, there is a need for creation of specialized units to tackle specialized criminals so that the focus of a local police unit at grass-roots level remains with the general masses and redressal of their day-to-day problems.

k)   The new millennium should be a millennium where people approach police with confidence and respect rather than with hatred and abhorrence.

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ROAD ACCIDENTS & DRIVERS' PSYCHOLOGY SOME POLICY IMPLICATIONS

Banibrata Basu, IPS*

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Introduction:

Road accident, at 1.27 million deaths per year on the average, is the fourth most important contributor to annual fatalities in the world, today. More significant is the fact that while in the developed world the accident rate (i.e. total accidents per 10000 vehicles) has fallen over the last decade (1990-2000) by about 10%, mostly due to strong measures taken by the governments; in developing countries like India, China etc, the trend has been precisely the opposite, registering increase between 30- 100%. While road accident deaths per 10,000 vehicles was 2.1 in USA, 2 in Canada and 1.7 in Japan, it was 25.2 for India, 26.2 for China and a staggering 160 for Nigeria (1994 figures). Death tally due to road accidents cause an enormous economic and social burden for the developing countries like India, as most of the fatal victims fall in the most productive age group of 15-40 years. Annual economic and social opportunity cost due to road accident deaths in India is estimated to be around 55,000 crores of rupees (around 3% of GDP), which is equivalent to the cost of the Golden Quadrilateral Highway project. This is the reason why WHO on the occasion of the World Health Day on 7th April in the year 2004 coined the slogan "Road safety is no accident" in order to drive home the necessity of controlling this menace.

Causes of Accidents:

In case of any serious road accident in India police, suo motto or otherwise, registers a complaint of rash and negligent driving causing death or grievous hurt under sections of 279/304A/338 IPC against the driver. In more than 90% of the cases the driver is charge-sheeted, although in some of these cases, the fault may lie with the pedestrian victim also. According to conservative estimates, rash driving accounts for about 50% of all road deaths in India (estimated annually about 80,000) and remainder is the fault of pedestrians and all other factors combined including natural hazards. In 57% of the cases 'human error' is the sole cause. Mechanical failure is cause of accident in only about 2.4% of the cases.

The Definition of Rash Driving:

The term 'rash and dangerous driving', has not been defined clearly

anywhere, either in the central Motor Vehicles Act (MVA) or in the Indian Penal Code (IPC) although section 184 of MVA describes the punishment for a rash driver. In common sense, it means an event, which takes place without any foresight or expectation and results in some negative consequence like damage to property and human life etc. The term 'Rash' or 'Dangerous' must be construed with regard to all the circumstances of the case including the nature, condition and use of the place where the vehicle is driven and the amount of traffic which is actually these at the time of the accident or which might reasonably be expected to be at that time. An appropriate psychologist's definition of rash driving will be " Driving under the influence of impaired emotions resulting in behaviour that imposes one's preferred level of risk-taking on others."

One can attempt another definition of rash driving, in terms of Reaction Distance (RD), Braking Distance (BD) and Stopping Distance (SD). RD is from the time when the driver first senses danger and applies brake and BD is covered between the time when braking action begins to take place and the vehicle actually comes to a halt. They together sum up to SD. Reaction time varies with physical and mental condition of the driver and the degree of concentration on driving. The normal time is between 0.6 and 1 second. Assuming that reaction time is one second and that road condition is normal and retardation for car brakes is 4.4

meter per second sq with reference to road friction, RD (in metres) is $(S/10)*3$ where S=speed in kmph and the BD (in meters) is $(S/10)*(S/10)$. The following table shows that, in ideal conditions like good road, dry weather, good brakes and tyres and reasonably alert driver, the RD, BD and SD will be:

Speed km/h	RD (in meter)	BD (in meter)	SD (in meter)
10	3	1	4
20	6	4	10
30	9	9	18
40	12	16	28
50	15	25	40
60	18	36	54
70	21	49	70
80	24	64	88
90	27	81	108
100	30	100	130

This figure will increase in wet roads by factor of 2. Therefore if in any road crash it is seen that the stopping distance is more than the above figure, subject to the maximum speed limit, it will be presumed that the driver was driving rashly at the time of the accident. For example, if in any road where the speed limit is 60 kmph the SD is 70 meters and there is no mechanical failure it can be presumed that the driver was driving rashly at the time of the accident.

Factors Behind Rash Driving:

Traffic psychology has emerged as a systematic branch of knowledge

Abstract :

Human error is behind 90% of the road accidents. Rash Driving is one major source of such human error accounting for more than 50% of such accidents. Are there certain internal psychological factors behind this tendency of rash driving? If so, the normal punitive measures like spot fining etc. will have limited deterrent effect on such

drivers. some special psychological counselling may be necessary before these drivers are allowed to drive or renew their licenses. To find out statistical significance of such psychological factors, traffic police division of Kolkata police commissioned a study with the assistance of department of psychological, University of Kolkata. The study brought out the importance of such

where one acquires knowledge about how to use behavioural techniques/principles to modify one's own style or conduct in traffic situations like driving, cycling, walking etc. In countries like Spain new discipline like 'Psychotechnics' has been developed for evaluation of mental state of professional drivers before grant or renewal of their driving license. Traffic psychologists have tried to explain the phenomenon of dangerous driving in terms of behavioural models of psychology.

According to these models, we find that there are three types of human behaviour. One is affective (related to affection, feelings etc), the second is cognitive (behaviour of understanding and decision making) and the third is psychomotor. In cognitive model, there is assumption of rational analysis of traffic incidents, information processing and risk taking. In this behavioural model, the reason of accident can be only threefold. Firstly, perceptual error, where information was not at all available, like the light was too dim or the driver was blinded by the glare; secondly, where information was available (like visibility was good and the driver could see the old man walking across from a distance) but the driver failed to attend or process the information properly because his attention was engaged elsewhere; and thirdly, error in response, i.e. he wanted to put on the brake but actually put on the accelerator.

According to this rational cognitive approach to rash driving, driving dangerously is chosen rationally by the driver after information processing and therefore is always 'situational' rather than 'chronic', like when the driver gets the opportunity and when the enforcement efforts are low and the return in terms of reaching a particular place in time is high. But this does not explain the cases of chronic rash drivers or aggressive drivers who are always bent to drive rashly and the usual punitive actions like fine, etc. have hardly any deterrent effect on them. This type of behaviour is ingrained in the affective psychology of the person.

This so-called 'personality factor', the propensity to cause more accidents than dictated by chance alone, of drivers, does play an important role, although it is never recognised as such in our country. If the driver is mentally challenged or psychologically aggressive then the usual treatment by spot fining or court fines will not deter him in any significant way, especially when the law enforcement is weak and the probability of being caught is quite low. This factor can be used to explain the growing phenomenon of 'Road Rage' in the West. This term, coined only in 1997, means random acts of violence or aggressive behaviour conducted by frustrated and overstressed drivers on the road causing intentional injury (bodily or mental) to another. It is just loss of control of the driver on his emotional

faculties. Therefore, according to these models, aggression in driving can be either 'situational' where the driver is responding to external traffic pressures imposed on them or 'chronic', inbuilt into the personality of the driver. For example, a driver tends to jump the traffic red signal when he sees that there is no traffic police around and other vehicles are jumping with impunity. This is an instance of situational rash driving. In Kolkata city, one reason for rash driving by commercial bus drivers is the commission based payments system and fine for late arrivals at the terminus. The result is that the bus drivers tend to move slowly in the beginning tending to pick up, as many passengers as possible for earning more commission and at the end tend to drive rashly for avoiding payment of late arrival fines. Such are the examples of situational rash driving. However, the phenomenon of road rage as described above are examples of chronic rash driving.

The importance of distinction between different types of rash driving based on psychological factors is not merely rhetoric but also managerial. For example, situational rashness can be rectified by managing the environment better, e.g. by better traffic policing and installation of speed cameras at vital junctions. But chronic rash driving is much more difficult to control requiring often prolonged psychological counselling of the driver.

While chronic personality factors have long been recognised in the West as factors behind dangerous driving, in our country there has been no systematic study on this phenomenon. Therefore, Kolkata city traffic police in the month of January 2005 commissioned a study by Department of Psychology, University of Calcutta, on the behaviour pattern of 'rash' drivers to order to highlight the importance of these 'chronic personality' factors.

The Study at Calcutta:

The research team, under the guidance of Professor (Dr) N.Sanyal, Head of the department, took a sample of 55 offending (unsafe) drivers whose licenses were suspended under section 19 of MVA for dangerous driving and 46 normal (safe) drivers who were never prosecuted for dangerous driving. The unsafe drivers were chosen from the group of drivers, accused of dangerous driving leading to fatal road accidents, who were being given orientation training at the Traffic Training School (TTS). Both the groups of safe and unsafe drivers were chosen from the same age and socio-economic background in order to neutralise the importance of these external variables. The study was conducted with respect to the following parameters:

1   The average length of driving hours a day
2   The age group (20-55 years)

psychological factors and made some important policy conclusions.

3   Education level/IQ (up to primary level)
4   Aggressiveness/pathological behaviour.
5   Past criminality/repeated offenders
6   Marital status
7   Job turnover rate

The team applied the method of personal interview together with standard psychological techniques like CAI (Controllability Awareness Inventory), CERQ (Cognitive Emotion Regulation Questionnaire), AOS (Aggression Orientation Scale) and GHQ (General Health Questionnaire). The results show that

1   Unsafe drivers lack significantly emotional control as compared with safe drivers. They are used to viewing situations as threatening while their safe counterparts take them as challenging.

2   Expressed aggression is more in unsafe drivers. They are much more unoriented in life than safe drivers.

3   Unsafe drivers were found more likely to suffer from physical health problems than their safe counterparts because of their continued threat perception.

The policy implications from this study are that:

1   At present, the drivers accused of rash and negligent driving causing death, punishable under section 279/304A, are disqualified to drive by Deputy Commissioner of Police (Traffic) and asked to report to the Traffic Training school for a three-day orientation course. The average size of each group is about 25. The offending drivers are given training on MV Act and associated rules, rules of safe and defensive driving, etc. Attendance in this orientation course is mandatory before the suspension on the driving license is withdrawn. At present, there is no psychological session in this course. In view of the result of the study, we should now introduce group therapy session by trained psychologists and administer some psychological tests to ensure that the offending driver is mentally fit to drive. If he fails in the test he should wait for the next reorientation training where he should pass before the seized license is handed back to him.

2   The various unions of professional drivers and many NGOs working in the field of road safety are regularly organising drivers' awareness programmes. In such programmes trained psychologists should be invited for administering psychological tests to make a driver aware of his potential aggression, which may be cause of an accident in a later period. Films showing hazards of a traffic accident on the victim's family may also be screened at these group sessions to draw empathy from the offenders.

3   Renewal of licenses for these drivers by the licensing authority should contain some checks and tests by psychologists.

Conclusion:

In conclusion, we should note that we can no longer afford to ignore psychological profiles of drivers in granting and renewal of driving licenses if we want to make our roads safer. All the stakeholders, namely the Transport departments, the RTAs, the police and the various professional associations of drivers of motor vehicles must be sensitised in this respect. This paper may be seen as a limited attempt in this direction.

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WHAT AILS THE INDIAN POLICE ?

Prashant Singh*

INTRODUCTION

Pre-Independence Police

Police system in India remained unorganized under the British regime in India. They exploited it as an instrument to fulfill their own motives. The police was a mere puppet in the hands of the British and worked only for the benefit of the Englishmen and not for the benefit of the public at large.

Prior to Independence, police functioned *de jure* and *de facto* as an agency totally subordinate to the executive and ever ready to carry out its commands ruthlessly, even though they may not always have been genuinely in 'public interest' as viewed by the public.

Post-Independence Police:

The foreign power was replaced by a political party that came up through the democratic process as laid down in our Constitution. For some time things went well without any change, because of the corrective influences that were brought to bear on the administrative structure by the enlightened political leadership. However, as years under passed, there was a qualitative change in the style of politics. Prolonged one-party rule at the Centre and in the States for over 30 years, coupled with the natural desire of ruling partymen to remain in positions of power, resulted in the development of symbiotic relationship between politicians on one hand and the civil services on the other with vested interests on both sides. What started as a normal interaction between the politicians and the services for the avowed objective, of better administration with better awareness of public feelings, soon degenerated into different forms of intercession, intervention and interference with malafide objectives, unconnected with public interest. Why would police be left untouched by such enough interference? Soon, such political interventions started becoming a regular affair for the police system in India as well. Therefore, it became a problem which is even now plaguing the Indian police.

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Abstract :

The aim and objective of this paper is to highlight, how the statute which governs the Indian police system (Police Act of 1861) acts as a deterrent in the proper functioning or role performance of police in India. A complete analysis of the Police Act shall be made and it shall be the effort of the researcher to try and reveal how the various sections of the Act are deteriorating the role

The police in India as an organized force came to be formed under the Police Act of 1861, which was enacted after the recommendations of the Police Commission of 1860 and which, recommended a legislation in 1861 in order to reorganize the various existing arrangements into one uniform system throughout British India.

Independent and democratic nations devise the functional configuration of their bureaucracies to fit into popular agendas and the demands of their people through amendments as the needs and aspirations of citizens in democracies are fundamentally different in nature from those of colonial regimes. Whereas the latter would go to any length to keep the police servile and subservient to their interests and hostile to the community, a democracy will not tolerate an oppressive and unaccountable police. But the British mostly used the policing system to cater to their needs irrespective of the public needs. This attitude is also visible after independence through political interference which affects the working of the police in modern India. The relationship that existed between the police and the foreign power before independence was allowed to continue with the only change that the foreign power was substituted by the political party in

power. The Police Act of 1861 remained practically unaltered and no attempts were made to redefine the relationship between the police and the politically oriented Government. More and more time of the police was taken up with law and order work which really meant dealing with street situations in a manner that would cause maximum satisfaction to the ruling party. In the process, individual crimes affecting the interests of individual citizens by way of loss of their property or threat to their physical security got progressively neglected. Police got progressively nearer to the political party in power and correspondingly farther from the public of the country. Since most of the law and order situations tended to have political overtones, the political party in power got habituated to taking a direct hand in directing and influencing police action in such situations. This led to considerable misuse of police machinery at the behest of individuals and groups in political circles.

When anyone refers to the police system, there always is a very important role performance attached to it. As the country progresses, the role performance of police is increasing. How can an ancient Act, rule the policing system of a country which has not only changed since then but has also become the world's

largest democracy? There is an immediate need for amendments to the Act in order to completely modify it, so that it can adjust according to present needs of the Indian society.

INDIAN POLICE ACT- 1861: A STEP FORWARD?

Police Act, 1861 – A Historical Perspective:

The Indian Police system as organized by the Police Act of 1861 was specifically designed to make the police totally subordinate to the executive government in the discharge of its duties. No reference was made at all to the role of police as a servant of the law as such. Although, when on 17th August, 1860 the resolution appointing the Police Commission was issued by the Governor General-in-Council the Memorandum attached to the resolution stated, for the guidance of the Commission, the following, "**characteristics of a good police for India**". It was also noted that "the organization of the police must be centralized in the hands of the Executive Administration" and that "the organization and discipline of the Police should be similar to those of a military body".[1] But a conscious attempt to incorporate such principles of good police for India did not concretize, although it satisfied the motives of the British.

The Police Act- An Analysis:[2]

The Act goes on to a great extent to remove doubts as to where the **real allegiance of law enforcement agencies lies, which is definitely not to the community but to the state.** Infact it scrupulously avoids any reference to the community, except in respect of their liability to be questioned, or be held under suspicion by the police.

There were hardly any amendments in the Act during the British regime, but after the British Raj there were only few amendments made within the Constitutional requisites and were effected in 1937, 1948 and 1950.

Section3-SUPERINTENDENCE IN THE STATE GOVERNMENT— "The superintendence of the police throughout a general police district shall vest in and be exercised by the State Government to which such district is subordinate, and except as authorized under the provisions of this Act, no person, officer or court shall be empowered by the State Government to supersede or control any police functionary."

performance of the police. Also, the focus shall be on how in the present scenario, the police in India is performing its functions and to what extent has it been challenged by the political intervention and existing political structure. The aim of this paper shall also be to focus on the various kinds of political interventions which the police have to face which in effect lead to improper and interest driven functioning of the police.

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[1] Deb, R., *"Police and Law Enforcement"*, 2nd S.C. Sarkar & Sons Private Limited, 1998, Calcutta, at pp 45.

[2] Indian Police Act- 1861.

This is one of the very important sections which highlights the motive behind passing this Act. And that motive was **"the state shall have the power of controlling the police".** Therefore, this section has made clear that the real allegiance shall always lie with the state and not with the community. This ensures that whatever principles of good and proper policing are being talked about, which ensure full public support and community interaction of the police is just a myth. Police, therefore, was intended to be used not as a watchdog but, as lap dog of the government.

Section 15 talks about quartering of additional police in disturbed or dangerous districts, wherein the State Government approval has to be sought in order to declare any area dangerous and thereby agree to deploy any additional force. This causes a lot of inconvenience to the police chiefs because they have to convince the politicians about the sensitivity of the issue and therefore causes a lot of loss of time in order to avoid any problems as far as the sensitivity of the area is concerned. Even if in the practical applicability, the police chiefs exercise the power of appointing the additional police force, the existence of such a provision in the Act reflects poorly on the smoother functioning of the police. This can be prevented to a great extent if this section is amended to ensure that minimum time is taken in order to deploy additional police force in the sensitive places.

Section 22 of the Act says *"every police officer shall, for all purposes in this Act contained, be considered to be always on duty, and may at any time be employed as police officer in any part of the general police district police."* A general police district refers to a state. Some states in India are larger in area and population than more than three-fourth of the countries of the world. This causes a lot of inconvenience to the officers who are sent to such places and have to always be on a move. An eight hour shift for a policeman is just a myth. In any case, sharply rising crime graphs and disorder, VIP security duty and inadequate manpower, makes any reduction in time unthinkable. Therefore, the Indian policeman becomes frustrated, angry and depressed in most of the times of his duties and shows his frustration and anger on the common and harmless public.

Section 23, reads that *"it shall be the duty of every police officer to promptly obey and execute all orders and warrants lawfully issued to him by any competent authority; to collect and communicate intelligence affecting public peace; to prevent the commission of offences and public nuisance; to detect crime and bring offenders to justice; and to apprehend all persons whom he is legally authorized to apprehend and for whose apprehension sufficient grounds exist; and it shall be lawful for every police officer for any purpose mentioned in this Section' without a warrant, to enter and inspect any drinking shop, gaming house, or other place of resort of loose and disorderly character."*

Nowhere does this Section mention that police may take **public support** or **community cooperation** in police work. The Police, which is essentially present to help the public and provide every kind of support to it should have trust and faith in it as well. After all, police should trust the people for whose service it has been established.

Section 29 talks about the penalties for neglect of duties by a policeman. This Section is very harsh in terms of the duties of the police officers and should be amended accordingly. This is also one of the sections which show as to how the police is controlled by authorities above them specifically, politicians through the police chiefs thereby bringing about a chance of increased political intervention. This section may also enable unjustified punishment to those policemen who do not work according to the whims of the politicians sitting in commanding positions. Therefore, the motive of the Act which is, "the state shall have the power of controlling the police" is reflected very clearly through this section.

Section 31 lays down the duties of a police officer in matters of traffic control on the highways and in city streets while **Section 34** bestows powers on the officers for checking and removal of public nuisances, etc. Read with **Section 151 of Cr.P.C.** the Indian policeman enjoys vast powers to arrest, check, detain, question, suspects and enter into suspected premises-powers that have been used over the years without any sensitivity or the slightest awareness of human rights as distinct, of course, from the safeguards provided under the law for the accused. Wide powers are provided to the policemen which are often misused considering the attitude of the policemen towards the society. This is not surprising, given the characteristic mental and moral make-up of the lower subordinates as a carry-over from colonial times. Since the British regime, the police was only used as an instrument in order to facilitate a stronger hold of the British over the Indian community. This is still being reflected being through the various sections which lay down the powers of the police.

POLICE ROLE AND PERFORMANCE

Roles Performed by Police in India:

Addressing the participants of the IV International Course of Higher specialization of Police officers at Messina in Italy in 1981, John Alderson, a former top ranking British officer, formulated the following key principles to guide police conduct and behavior to manage the sweeping changes occurring in the societies all over the world.[3]

- To contribute towards liberty, equality and fraternity in human affairs.
- To help reconcile freedom with security and uphold the rule of law.

- To facilitate human dignity through upholding and protecting human rights and pursuit of happiness.
- To provide leadership and participation in dispelling crimogenic social conditions through cooperative social action.
- To contribute towards the creation and reinforcement of trust in communities.
- To strengthen the feeling of security of persons and their property.
- To investigate, detect and activate the prosecution of offences within the rule of law.
- To facilitate freedom of passage and movement of highways, roads and streets and on avenues open to public passage.
- To prevent and curb public disorder.
- To deal with major and minor crises and to help and advice those in distress and, where necessary, activating other agencies.

Keeping in mind these points, functions of the police can be divided into three broad categories. They are (i) investigative; (ii) preventive and (iii) service oriented.

Investigative functions shall basically comprise of the acts of the police machinery, in investigating the commission of various crimes.

Preventive tasks will cover such actions like preventive arrests under Section 151 Cr. P.C., initiation of security proceedings, arrangement of beats and patrols, collection of intelligence and maintenance of crime records to plan and execute appropriate preventive action, handling of unlawful assemblies and their dispersal.

Service-oriented functions will include rendering service of a general nature during fairs and festivals, rescuing children lost in crowds, providing relief in 'distress 'situations arising from natural calamities.[4]

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[3] Edited proceedings of the course conducted by the International Centre of Sociological, Penal and Penitentiary Research Studies, Messina (Italy), English edition published in cooperation with the centre for research in Law and Justice, University of Illinois at Chicago, USA, pp. 99-105.

Apart from these primary roles, the Indian police performs many other roles such as manning the international borders as a second line of defense. It is a very hard task which is expected to be performed in a manner as efficient as the Indian army or other Para-Military forces. Also it is expected to deal with the various outlaws existing in the country ranging from terrorists to local miscreants. The Police also performs the duty of assisting the state and the central administration in conducting the elections. It also helps in controlling the situation existing pre and post elections. It has proved to be an active participant in conducting such roles. But the recent examples of the ongoing Legislative Assembly election in West Bengal, Kerala and other states, have shown a change in attitude of the Election Commission, in respect of the local police force assisting the conducting of the elections and it has therefore preferred the para military forces in this respect. The major reason for such a step was that the local police gets influenced by the local politicians and ministers and thus acts according to their whims, thereby the basic idea behind the deployment of these forces is lost. Therefore, this reveals that the police has not been trusted enough and a question is being raised about whether they should be given such an important job or not. All these reasons are linked with the primary reason of a strong political intervention in the working of the Indian police. This also leads to loss of the enthusiasm within the police force and thereby deterioration in the role performance of the police in India.

NEED FOR REFORM

A huge effort in order to reform the existing condition of the working of the Indian police is needed in order to have a proper and a just policing system. The fallacies under various sections of the Act are inherent because the entire motive for passing of the Act was totally different. It was only to have a stronger hold over the country thereby ensuring the supremacy of the British in India. Before, pointing out the methods of reform of the Indian police, it is necessary to highlight the ground reality as far as the working of the police in India is concerned.

Ground Realities:

- **Political Interventions**: This can be seen in the various sections of the Act which have been mentioned above.

Pressure on the police takes a variety of forms, ranging from a promise of career advancement and preferential treatment in service matters if the demand is yielded to, and a threat of drastic penal action and disfavored treatment in service matters if the pressure is resisted. While it is not possible to punish a police officer with a statutory punishment under the Discipline and Appeal Rules, without adequate grounds and following a prescribed procedure, it is very easy to subject him to administrative action by way of transfer or suspension on the basis of an alleged complaint taken up for inquiry. While suspension acts as a great humiliating factor, a transfer acts as a severe economic blow and disturbance to the police officer's family, children's education, etc. The threat of transfer/suspension is the most potent weapon in the hands of the politician to bend the police to his will.

- **State Police Commissions:** Several State Police Commissions have also talked about the political interventions which plague the working of the police in India. The observation of the various Commissions is as follows:[5]

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[4] Vadachumchey, James, *"Third Millennium Police- Take off Trends"*, APH Publishing Corporation, 1999, New Delhi, at pp 154.

The Punjab Police Commission (1961-62) said: The evidence before the Commission has disclosed that members of political parties, particularly of the ruling party, whether in the Legislature or outside, interfere considerably in the working of the police for unlawful ends. We have been told that politicians accompany complainants to police stations and try to influence the Station House Officer to file complaint reports implicating innocent persons out of enmity.... no objection can be taken to politicians accompanying their constituents for lawful purposes but the objection is that they approach the Station House Officer for ulterior purposes and misuse their position to influence him.

The Kerala Police Reorganization Committee (1959) said: "The greatest obstacle to efficient police administration flows from the domination of party politics under the State administration. Pressure is applied in varying degrees and so often affects different branches of administration."

Suggestions:

This part of the paper forms one of the major sub-titles which should help with such inputs that become landmark for impeaving the working of the police force in India. Some suggestions for the proper working of the police are:

- **Removing Political Intervention:** This menace of political intervention is clearly enshrined U/S 3 of the Police Act, which states that the real allegiance of the police shall lie with the State Government and not with the citizens. It would not be enough to secure the desired objective if lofty principles of proper policing are merely enunciated and the existing control mechanism is allowed to operate in practice without any change. There is an immediate need to devise a new mechanism of control

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[5] http://www.geocities.com/npcreport/Vol2Chap15.htm

and supervision which would help the State Government to discharge this superintending responsibility in an open manner under the framework of law, with due regard to healthy norms and conventions that may develop in due course. It is noteworthy, that the functioning of the Central Bureau of Investigation is generally without any political intervention. This is because, it was established under the Delhi Special Police Act. **This was done primarily to prevent the political intervention of the central investigative agencies of the country. But if we keep in mind, the recent case of the Bofors scandal, the role of the CBI has come under scanner. Similar provisions should also be made for the functioning of the State police in order to prevent the direct political intervention.**

- **Chief of Police in a State assured of a Statutory Tenure of Office:** To restore the capacity of the police as an organization to resist such pressures and illegal or irregular orders, it is considered that it would be extremely useful if the Chief of Police in a State is assured of a statutory tenure of office, without the sword of transfer hanging over his head all the time, subject to political whims. This will strengthen his position and enable him to stand up effectively against such pressures on the system. The tenure may be fixed for a term of four years or a period extending up to the date of his retirement or promotion in the normal course, whichever is shorter. This tenure should be put on a statutory basis by being included in a specific provision in the Police Act itself. This again shall ensure the impartial working of the police and therefore a systematic and unbiased police system without any political intervention.

- **Change in Attitude of the Policemen:** The sustained capacity of the police system to function as an efficient and impartial instrument of law will largely depend on the attitudes developed by the personnel at different levels in the system and the manner in which

they respond to different situations in their career. This in turn depends on the training which they get at the time of their entry into the system and in the subsequent guidance they receive from the leadership at various levels within the system. The structuring of the initial training courses and the later in-service training courses for all police personnel should be suitably designed to facilitate the growth of proper attitudes and sense of values on the part of every police officer.

Another important aspect of bringing a change in the attitude of the police is to treat them as human beings. They should be given a breathing space between their work, and the work should be so divided that the system of an eight hour shift is strictly followed. Provisions should be made wherein sufficient staff should be present to take over charge as and when the other police personnel are off duty. All this shall only be made possible when an amendment is brought to Section 22 of the Police Act which requires *that "every police officer shall, for all purposes in this Act contained, be considered to be always on duty, and may at any time be employed as police officer in any part of the general police district police."* The very object behind this section is so unreasonable and unwarranted. It is rather shocking to see that till now such a provision of law exists with respect to the police of the largest democracy of the world.

• **Interaction between elected representatives and the police:** In any democratic system there must be an interaction with the executive at different levels for bringing to the notice of the executive whatever information the elected representatives may have in which they feel the need for some kind of corrective action in the interests of justice. There must be scope for such interaction. Persons subjected to flagrant injustice by executive action will be inclined to share their grief and disappointment with several others in public including the elected representatives and will expect them to do something to set matters right. While conceding the need for interaction between elected representatives and the executive in such situations, people are anxious to ensure that this does not lead to unauthorized interference as such with the performance of the executive. It is, therefore, felt that if as a code of conduct it is laid down that elected representatives will interact with the police at the level of the Deputy Superintendent of Police or above only it would avoid situations in which the executives at the operational level in police stations and circles may be overawed by the stature of the political functionary and may be inclined to accept and act upon whatever information he passes on to them without making the necessary check and verification which they makenormally might.

Conclusion

In a way, the 1861 Act was an amalgamation of both the pre-colonial and colonial concepts of law-enforcement, an embodiment, of manipulative use of law and state power. By combining historical features with contemporaneous demands, it tried to create a police, which could survive not only the constitutional changes of 1947 and 1950 but also all the subsequent formal and informal changes occurring in Indian society and polity for the next half a century. But this did not work out. Nevertheless, the Act was an instrument which the British used, to have a stronger hold on the people of India. Now, it is clear after so many years of independence that it is not possible to go on working with the present Act. A total revolution is needed in the Indian police system in order to have an efficient police force. This should be done primarily by repealing the whole Act and passing of a new legislation if a proper and efficient working of the police in modern India is needed. Pre-colonial to Post-colonial governance was different from the colonial one only in design, not in character. Concepts remain

strictly colonial, only the compulsions are now democratic, especially as far as the Indian police are concerned.

The police in India has been plagued by the various problems described during the course of the paper. One of the major problems is the quantum of political intervention existing in the working of the Indian police. There is an immediate need to remove this problem, or else after a period of time, it would become difficult for the police to function independently. Factors such as badly focused training, inadequate living conditions, widespread corruption in the force and in society at large, improper salary, pressures by seniors to produce statistical results as also a performance appraisal system that emphasizes quantity and not quality and finally the general depravity of the human nature have created an atmosphere of fear around, and lack of trust in, the man in *Khaki*.

Until the various problems pointed out in the paper are dealt with, the police in India shall keep suffering and feel jeopardized.

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COMPARATIVE STUDY OF SYNTHESIZED AND HUMAN SPEECH - FORENSIC SIGNIFICANCE

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Introduction

With the dawn of technological revolution, the social scenario is changing rapidly and the ever-increasing advancement in technology has given rise to new challenges in the task of law enforcement agencies. Thus, speech synthesising technology can reproduce human like speech. The criminal could use such synthesised or machine-generated speech to commit crime such as telephone threat, kidnapping for ransom, obscene calls, drug pedalling etc. These synthesized voices can be generated by three different synthesizers such as (a) Articulatory Synthesizer (b) Formant Synthesizer and (c) Concatenative Synthesizer. Articulatory Synthesizer [1] is based on detailed description of the physiology of speech production and on the physics of sound generation in the vocal apparatus. Articulatory synthesis typically involves models of the human articulators and vocal cords based on area functions between glottis and mouth. For rule-based synthesis the articulatory control parameters are lip aperture, lip protrusion, tongue tip height, tongue tip position, tongue height, and velic aperture where as phonatory or excitation parameters are glottal aperture, cord tension, and lung pressure. The data for articulatory model is extracted from X-ray analysis of natural speech.

Formant Synthesizer [2,3] is based on modelling of the main acoustic features of speech signal. Rule-based formant synthesis is based on a set of rules used to determine the parameters necessary to synthesize a desired utterance using a formant synthesizer. The input parameters are: i) Voicing fundamental frequency (F0), ii) Voiced excitation open quotient (OQ), iii) Degree of voicing in excitation (VO), iv) Formant frequencies and amplitudes (F1...F3 and A1...A3), v) Frequency of an additional low-frequency resonator and vi) Intensity of low- and high-frequency region. Also formant synthesizer is based on either parallel structure or cascade structure. The cascade structure has

been found better for non-nasal voiced sounds and difficult for fricatives and plosives. Since cascade structure needs less control information than parallel structure, so it is rather simpler to implement. However, with cascade model the generation of fricatives and plosive bursts is difficult.

A parallel formant synthesizer consists of resonators connected in parallel. The excitation signal is applied to all formants simultaneously and their outputs are summed. Adjacent outputs of formant resonators must be summed in opposite phase to avoid unwanted zeros or anti-resonances in the frequency response The parallel structure enables controlling of bandwidth and gain for each formant individually which makes it better for nasals, fricatives, and stop-consonants. At least three formants are required to produce intelligible speech and up to five formants to produce high quality speech. Each formant is usually modeled with a two-pole resonator, which enables both the formant frequency (pole-pair frequency) and its bandwidth to be specified.

Concatenative Synthesizer [4,5,6] is based on speech signal processing of natural speech databases after finding correct unit length. With longer units high naturalness, less concatenation points and good control of coarticulation are achieved, whereas for shorter units, the sample collecting and labeling procedures become more difficult and complex. In present systems, units used are usually words, syllables, demisyllables, phonemes, diphones and sometimes even triphones. Word is perhaps the most natural unit for written text and some messaging systems with very limited vocabulary. Concatenation of words is relative easy to perform and coarticulation effects within a word are captured in the stored units. Pre-recorded natural utterance will be easily synthesized for natural intelligible speech and for a single speaker it can be used rather easily; difficulty arises for more speakers since it needs more computation space and speed. Now in forensic context the Concatenative synthesizer will be more dangerous, since the recorded utterance of a person from public speech or any function can be used to generate a fixed text rather easily than by changing the context of speech. The generated misleading text can be used by perpetrators to commit crime and maintain their anonymity.

The generation of synthesised speech largely depends upon the fundamental acoustic and linguistic knowledge that can be imparted to the machine (7,8). In actual crime situation, the law enforcement/

Abstract :

The involvement of speech in the criminal offences such as kidnapping for ransom, telephone threat, obscene calls, drug pedalling, cross border terrorism and match fixing is not uncommon. In such cases, the recorded voice is one of the vital clues for fixing the identity of the culprit by comparing recorded voice with known samples of the suspect(s). Due to

development in speech technology, it is possible to generate human like speech through machine. The machine-generated speech is very similar to human speech in audition. The machine-generated speech could be used by the criminals in commission of such criminal offences for maintaining their anonymity. It may pose misleading interpretation during crime case examination if expert is not aware of the

investigation officers collect the alleged calls or conversation between the perpetrator of crime and the control voice samples of the suspects. Thereafter these recorded samples are sent to the forensic laboratory for the expert's opinion. Moreover, questioned samples could be of synthesized or machine-generated speech using different types of widely available synthesizers. These machine-generated speeches are very similar to natural speech in audition thereby making it difficult to distinguish such speech in subjective manner. Therefore, it is felt necessary to carry out some studies on machine-generated speech for creating some scientific data so that it can be possible to differentiate between the machine generated and a natural speech. In the present paper we have compared the synthesised speech samples available in three different languages with human (natural) speech samples to study their linguistic, phonetic and acoustic characteristics.

Generation of synthesis speech:

Synthesized speech generation is a process in which a string of phonetic and prosodic symbols is transformed into a synthetic speech signal. Text to speech (TTS) synthesis process consists of two main phases, text analysis where input text is transcribed into a

phonetic or some other linguistic presentation and generation of speech waveform where the acoustic output is produced from this phonetic and prosodic information. These two processes are termed as high level and low-level synthesis or front end processing and back end processing technically. The input text may be data from a word processor, a mobile text message, a scanned text from a newspaper or a standard e-mail in ASCII form. The characterstring is then pre-processed and analysed into phonetic representation that is usually a string of phonemes with additional information for correct intonation, duration, and stress (9,10).

The speech data is initially coded into 12 dimensional mel frequency cepstral coefficients (MFCC) plus log energy and first and second time differential of these parameters using generally 25 ms frames at a uniform 10ms frame rate. During synthesis text processing, text to phone conversion, phrase boundary placement, duration prediction and F0 prediction are performed by an independent rule-based front-end. The result of this processing is passed, one phrase at a time, to the back end, which generates the synthetic speech. The first stage in back-end processing is the conversion of the specified phone sequence of contexts implied by the phones down the acoustic

trees. Target energies are determined for each state using the energy decision trees 'we similarly' target duration for each state are obtained as the median duration of the corresponding acoustic leaf scaled such that the sum of the state durations in each phone is equal to the phone duration specified by the front-end. Target Fo values for the end of each state are obtained by linearly interpolating between the points in the F0 contour specified by the front-end given the state target durations and adding the segmental deltas in a perturbation-relaxation fashion to the contour.

For synthesis of natural sounding speech, it is essential to control prosody, to ensure appropriate rhythm, tempo, accent, intonation and stress. Segmental duration control is needed to model temporal characteristics;

Bangla and Telugu were chosen for this study. The type of the text spoken in Hindi, Telugu and Bangla was "*Bharat Varsh Ek Mahan Desh Hai*" duration 3.42 secs., "*Swa Tantayam Na Janm Astu*" duration 1.98 secs and "*Swadhenata Amar Janm Sidho Adhikar*" duration 2.81 secs respectively. A list of similar speech text as spoken in three different languages (Hindi, Bangla and Telugu) has been prepared and it was given to three different speakers (two males and one female) to pronounce the words in correct and normal manner. The speech samples were recorded directly on computer through microphone (Make Dynamic LOZ Shure SM.-48). The samples were digitised at sampling rate 22050 Hz and 16-bit quantisation. The sampling rate of synthesised samples was also of 22050 Hz. The speech samples of synthesized and human speech were

characteristic features of machine generated or synthesised speech. Therefore, it is felt necessary to conduct such study to generate some experimental data for forensic inference. In the present paper, the synthesised speech in three different languages such as Hindi, Telugu and Bangla have been compared with human speech in respect of their linguistic, acoustic and phonetic characteristics. It has been observed that
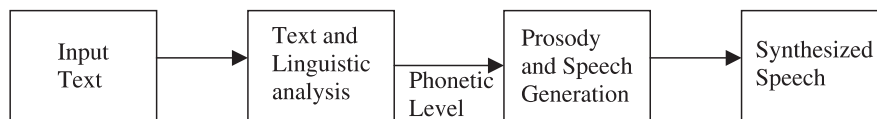
Text-to-Speech synthesis procedure

fundamental frequency control is needed for tonal characteristics. The procedure for text to speech generation process is given below:

Experimental procedure

The synthesized speech in three different languages namely Hindi,

converted into NSP format for analysis on Computerised Speech Lab Model 4300B available in CFSL, Chandigarh.

Results and discussion:

All the digitised speech samples of synthesised and human speech

speech wave morphology and prosodic features are some of the important parameters for distinguishing between synthesized and human speech. It is hoped that this information would be helpful in case interpretation related to forensic speaker identification whenever such situation occurs.

sound were subjected to auditory analysis to study their linguistic and phonetic characteristics. After repeatedly listening, it has been observed that synthesised speech samples lack in voice quality parameters such as naturalness or pleasantness, prosody and timber. The prosodic features include rhythm, speaking tempo, accent, intonation and stress, which are difficult to model through a synthesiser in the present scenario. The voice quality features of Hindi text were modelled better than Telugu and Bangla texts.

The digital speech signal of synthesized speech and natural speech were subjected to acoustic analysis through Computerised Speech Lab. Model- 4300B. Fig 1 shows the digital display of synthesized and human speech signal of Hindi, Bangla and Telugu languages in window A, B, & C respectively. On visual observation of and listening to each sample of synthesized and natural speech, it has been observed that some click sound generated by the machine is present in the each synthesised speech sample whereas such sound is not present in the natural speech. The shape of synthesized speech wave is different from natural speech. For detailed morphological study of speech wave, small segments of spoken text and synthesized text were selected from

each language. The words /*Ek/, /Sidho/ and/Janm/* were selected from Hindi, Bangla and Telugu languages respectively. The wave patterns of these words for both types of samples (synthesized and natural) are given in Fig.2. Fig.2 clearly depicts that synthesized speech patterns have vertical spikes at approximately equal distance along X-axis as well as pattern of click sound generated by machine whereas it is not observed in the same word of natural speech. It indicates that these features are unique characteristics of machine-generated speech. Further, it has been observed that the fricative sounds are rather difficult to generate so accurately as in the case of Bangla word /*Sidho*/ where wave pattern of synthesised speech has unusual gap. The wide band and narrow band spectrograms of synthesised and natural speech were produced at 100 point FFT and 1024 point FFT size. It is important to note that higher formant frequencies are not obtainable in synthesised speech but in the case of natural speech, these can be clearly seen on wideband spectrogram. The pseudo formants have also been observed when formant history was plotted on the wide band spectrograms of synthesized speech. The pattern of click sound generated by the machine can also be seen in wide band and narrow band spectrogram
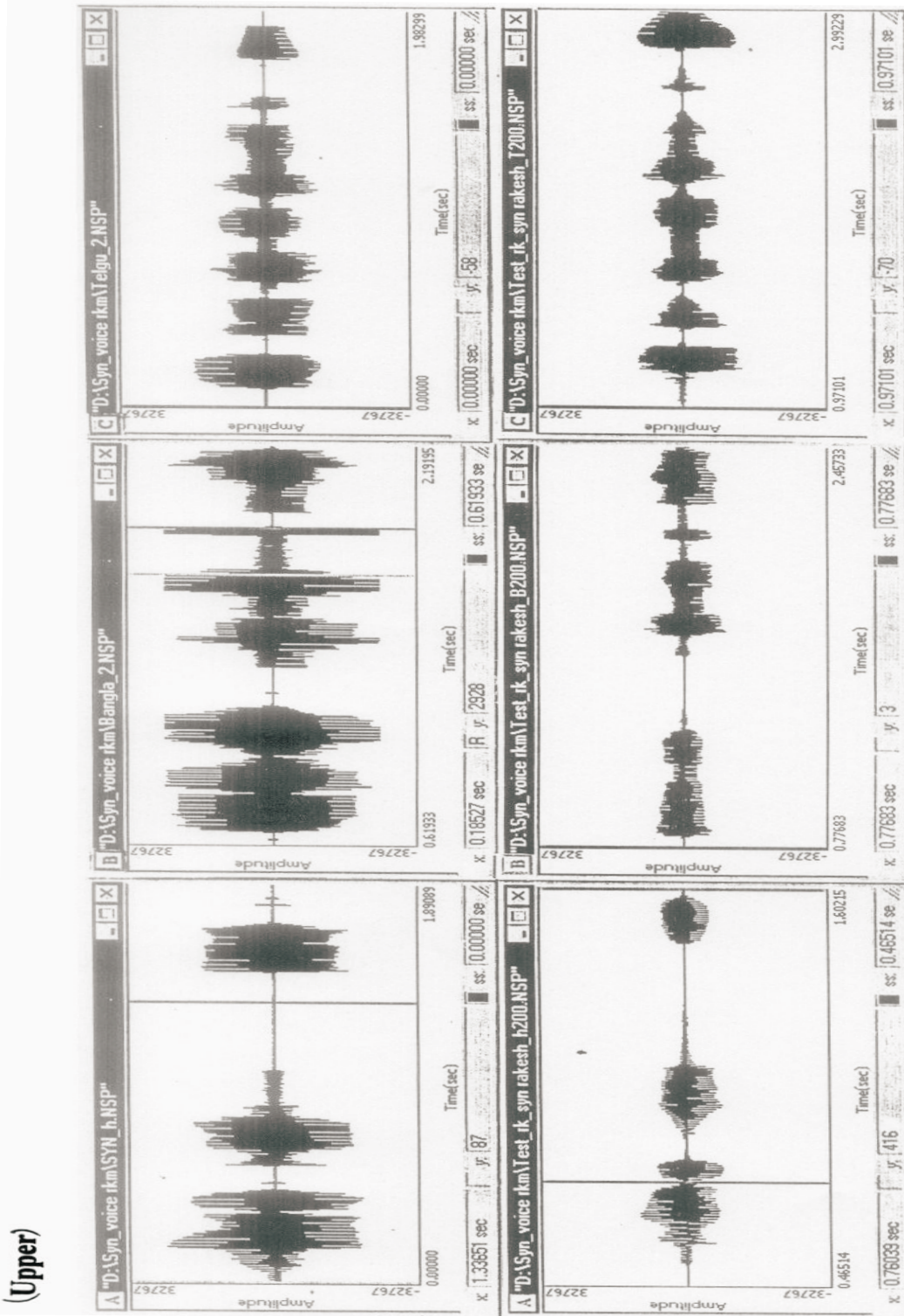
(Upper)

(Lower)

Fig:1- Digitized speech signal of synthesized (Upper) & natural (Lower) in
Hindi /bharat varsh ek/, Bangla /t amar janm sidho/ and Telgu /swa
tantyam na janm astu/ in window A,B,&C respectively.
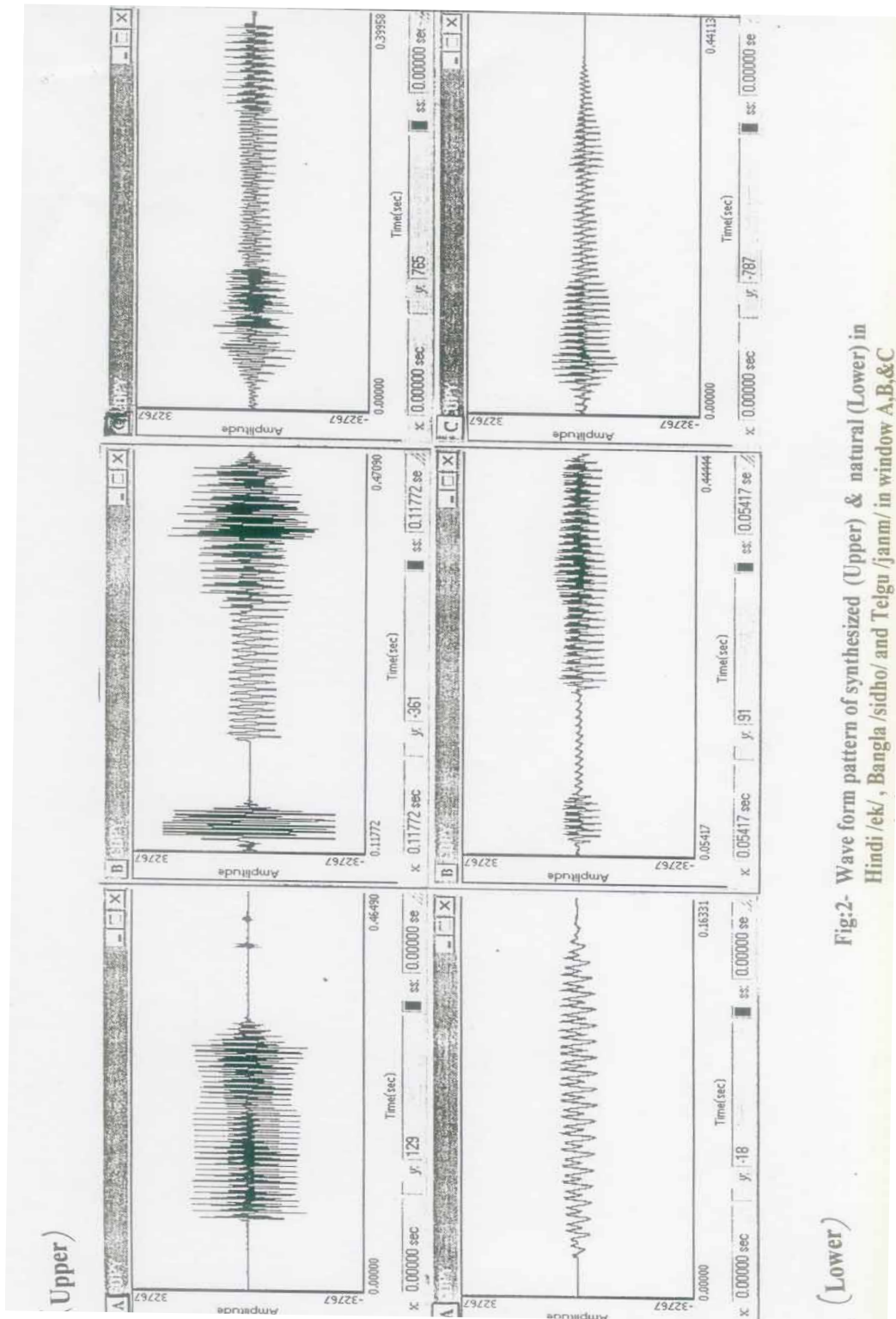
Fig:2- Wave form pattern of synthesized (Upper) & natural (Lower) in Hindi /ek/, Bangla /sidho/ and Telgu /janm/ in window A,B,&C

Fig:3-Wide band Spectrogram of synthesized (Upper) & natural (Lower) in Hindi /bharat varsh ek/ , Bangla /t amar janm sidho/ and Telgu /swa tantyam na janm astu/ in window A,B,& C respectively.
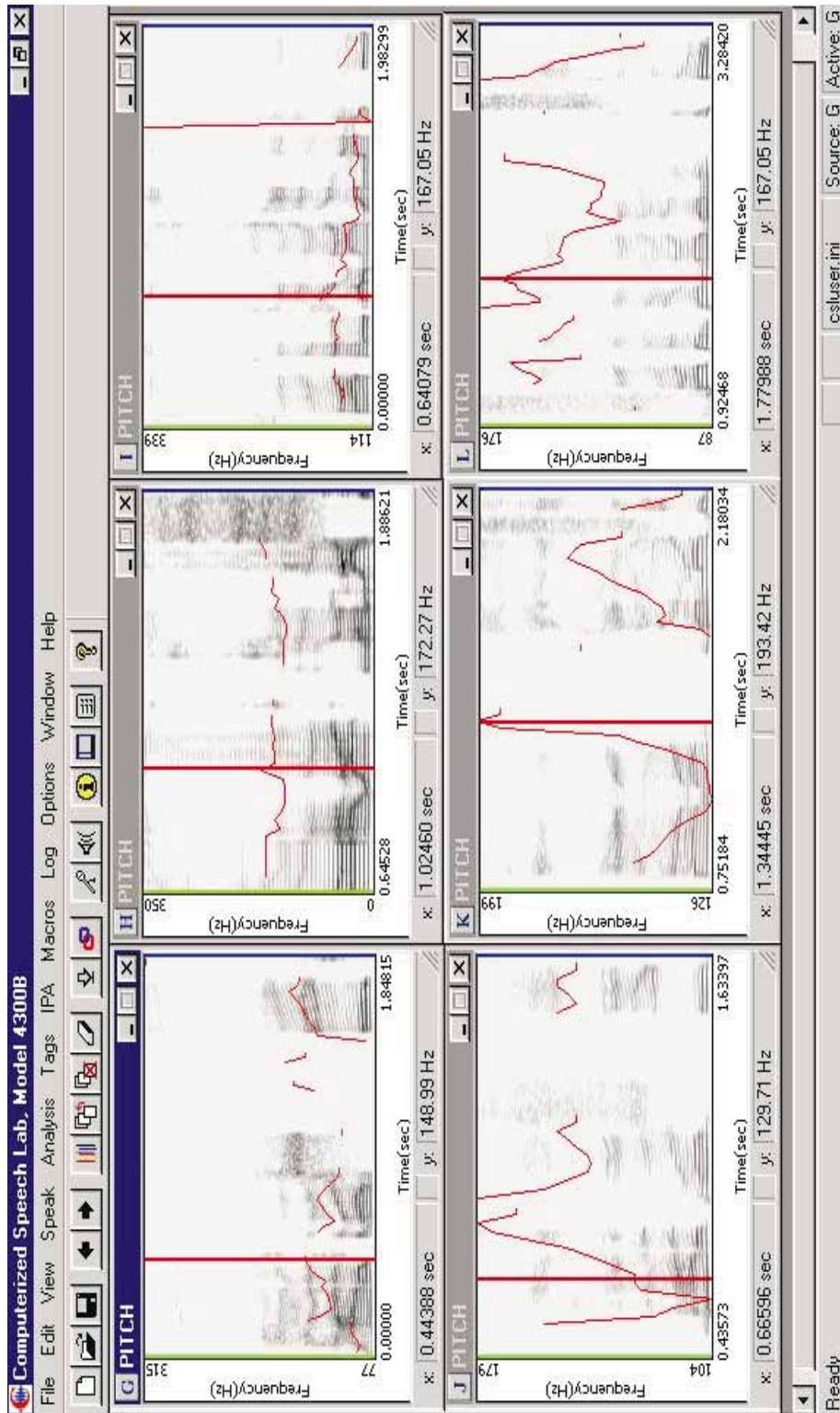
(Upper)

(Lower)

Fig. 4 Narrow band spectrogram of synthesized (upper) & natural(lower) in Hindi /
bharat varsh ek/, Bangla /t amar janm sidho/ and Telugu /swa tantyam na ganm astu/
in window G,H,I,J,K,L respectively

of synthesized speech (Fig. 3 and Fig. 4). Also in Fig. 4, variation in intonation pattern for the synthesised one is less, in comparison to natural speech.

Conclusion:

The present study reveals that it is possible to differentiate the synthesized speech from natural speech on the basis of wave morphology, acoustic analysis and prosodic features such as speaking style, speaking tempo, intonation pattern and naturalness of speech. This study further reveals that shape of vertical spikes, click sound generated by machine are found to be characteristic features for identification of synthesized speech. It is important to note that higher formants are not obtainable in synthesized speech whereas same is present in the naturally spoken speech samples as these formants are representative of speaker specific human vocal tract characteristics.

Acknowledgement:

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STUDY OF SPEECH CHARACTERISTICS DUE TO PITCH SHIFT BY TIME WARPING METHOD AND ITS' IMPACT ON FORENSIC SPEAKER IDENTIFICATION

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Introduction

In the present hi-tech era of technological advancement, different forms of electronic gadgets are available such as video cameras, wide range of tape recorders, mobile phones, audio/video signal transmitters, audio/video signal receivers, etc. These equipments are often used in the commission of crime in terms of making altered tape with the aim to mislead the Judge or Jury in the court of law. One of the wonderful works of criminal world is availability of Pitch Shifted Telephone. The main feature of this telephone is that the voice of a person can be heard in different pitches by the far end speaker. Misuse of this telephone has compounded the problem of tape authentication and also mislead forensic experts, practicing speaker identification. Also, there are add-on software devices that can be used to change the overall pitch of the recorded speech samples. Shifting of pitch with unknown value is also possible due to the malfunction of the recording device,

low battery condition at the time of re-recording, etc. Recorded speech samples with certain portion, suspected to be changed in the overall pitch are also encountered in a large number of cases.

Generally, alterations on a recording are made in different ways like addition, splicing, deletion, transformation, and obscuration. There is every possibility of making alteration on a recording in the form of addition or transformation by making a change in the overall pitch.

Shifted pitch in the recorded speech sample is one of the challenging tasks to be handled in near future by the Forensic Speaker Identification experts. Though recorded speech samples of disguised speech or distorted samples are generally disregarded or discarded by the expert, there is every possibility of getting important clues from such a recorded speech sample. In order to tackle such a situation of distorted speech by pitch shift condition, this study has been undertaken. In the

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present paper, an experiment has been performed on the speech exemplars by imposing shift in pitch by using time warping technique and studies have also been conducted on the aspect of Forensic Speaker Identification in pitch shift speech.

Methodology & Experimentation

Selection of speech material

One utterance, each of 15 speakers has been recorded using semi-professional tape recorder and the recorded speech samples have been digitized at the sampling rate of 22050 Hz. and 16 Bits quantization. The digitized speech samples have been subjected to the technique of time warping in order to make shift in the pitch of utterances of each original recorded speech samples. The speech sample has been imposed with pitch shift condition at 90%, 95%, 105% & 110% resulting five samples of

speech for each speaker. A total of 75 (15X5) speech exemplars have been studied. These speech exemplars are subjected for voice spectrographic analysis using Computerized Speech Laboratory (CSL) model 4300 B and acoustic parameters, namely, Fundamental frequency (F_0) at similar location, First formant frequency (F_1), Second formant frequency (F_2), Third formant frequency (F_3), Formant transition characteristics, Duration of word segments and First & second Nasal frequencies have been measured at appropriate points.

Results & Discussion

First, second & third formant frequencies have been measured at appropriate points of speech exemplars. Formant frequency is measured at different percent of Time warping, namely, TW90, TW95, TW105 and TW110 respectively and also for normal speech TW100.
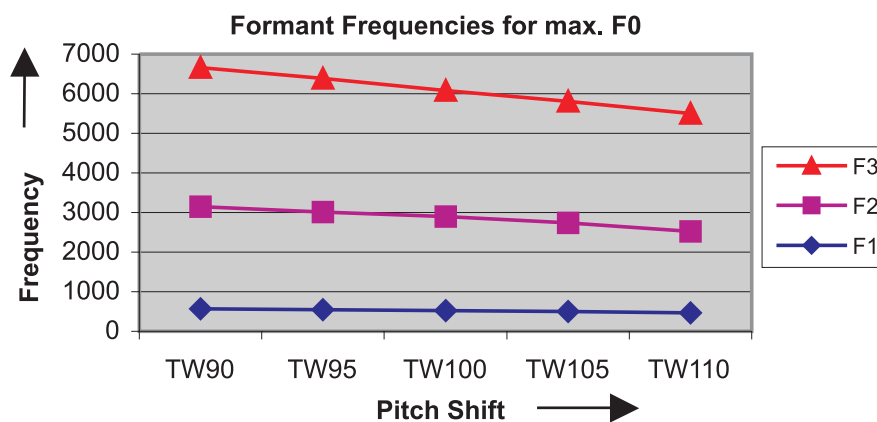
Abstract :

Alteration of audio/video recording is no more restricted to the type of alteration like physical splicing, addition, deletion, obscuration, transformation, and synthesis. Due to the advanced technology, available to the reach of general public, alteration also could be in the form of changing overall pitch of the recorded speech in order to hide the identity of the speaker and also to create confusion

Fig.1

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Formant Frequencies for min F0

Fig.2

in an attempt to identify the speaker by auditory and spectrographic methods. The problem has been compounded due to the availability of Pitch Shift Telephone. In order to cope up with this problem, study on the speech samples for pitch shift situation have been conducted for fifteen speakers. The overall pitch of an utterance of each speaker has been changed by the technique of time warping at 90%, 95%, 105% and

Fig 1 represents the graph of formant frequencies F1, F2 & F3 of speaker having maximum mean fundamental frequency (F0). Likewise Fig 2 represents the graph of formant frequencies F1, F2 & F3 of speaker having minimum mean fundamental frequency (F0).

As observed in Fig 1 the variation of first formant is lesser than the second and third formant. Variation increases gradually as that of second formant from TW90 to 95 and also in between TW100 and TW 110. Similar observations are obtained for speaker with Minimum mean F_0 frequency as shown in Fig 2 but the variation is observed more between TW90 and TW100.

Fig 3 shows the formant transition of a syllable using wide band spectrographic analysis at different values of Time warping. As observed from the transition

pattern, the curvature of the formant increases from TW110 to TW 90. Likewise the gradient of formant also increases from TW110 to TW 90. Time warping is the process of compressing or stretching the length of the speech signals. Time warping at TW100 represents the normal speech sample. If the normal speech signal is time warped at TW95 or TW90, it is equivalent of compressing that signal. In that case, the duration of the syllabic nuclei will decrease and therefore, the frequency and gradient of formant transition will increase.

Similarly if the normal speech signal is time warped at TW105 or TW110, it is equivalent of stretching the signal. As a resultant the duration of the syllabic nuclei will increase and therefore, the frequency and gradient of formant transition will decrease.

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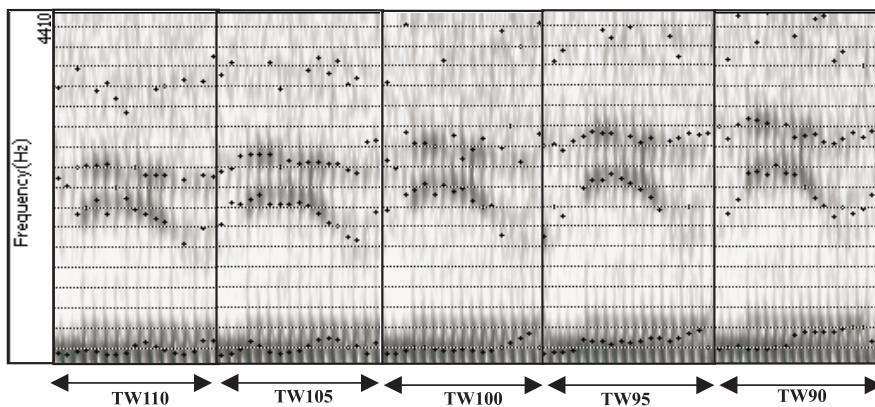
Fig 3: Wide band spectrogram of the speech exemplar
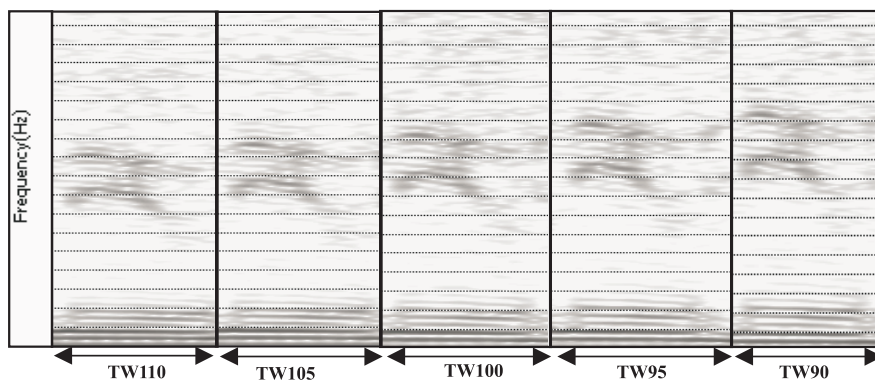
Fig 4: Narrow band spectrogram of the speech exemplar

In narrow band spectrographic analysis harmonic patterns are found to be similar except the frequency shift as shown in Fig 4.

The measured values of formant one and two, at nasalized speech segments with respect to the value from TW90 to TW110 are also found to be linear in fashion as shown in Fig 5 & 6. Thus, the 90% & 95% time warping of normal speech decreases the duration of syllable while 105% & 110% time warping of normal

speech increases the duration of the syllable.

As observed, nature of variability of the parameters along TW90 to TW110 is almost in linear fashion. The linearity of variables due to shift in pitch can be taken care by a method known as ***Reverse Time Warping Technique***. As observed in the study of Singh, C.P and *et al* [1], in case of closed syllables for a particular vowel in combination with certain phonemes as onsets and coda, the duration of syllabic nuclei

110%. Effects on some of the speaker dependent feature parameters namely, Formant Frequencies (F1, F2, F3) and Fundamental Frequency (F0) measured at a particular location, due to the pitch shift condition have been found to be in linear fashion as compared to the features of normal speech sample. On the basis of this study, a method for analysing such samples for speaker identification has been formulated. This

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Nasal Frequencies for Max F0

Fig.5

Nasal Frequency for Min F0

Fig.6

technique is named for time being as "Reverse Time Warping Technique" and found to be effective for pitch shift due to time warping technique.

remains an ideal speaker dependent parameter. Thus by using such monosyllabic word(s) segments as reference for the process of *Reverse Time Warping,* one can ascertain a nearly exact pitch pattern of the original speech. Kenneth. N. S. also described the syllabic nuclei in terms of a dynamic model of articulation that also supports the above fact.

Conclusion

The above observations tend to the conclusion that the problem posed by the pitch shift condition on a recorded speech can be taken care by the forensic expert using Reverse Time Warping process. As the variation due to change in pitch by time warping is in linear fashion, Reverse Time Warping method with reference to the duration of close syllables and conclusively comparing the formant frequency at the nasal resonating sound, is found to be the only technique. Based on the observations and results of our experiments performed on the duration of syllabic nuclei, the technique has been found useful in speaker identification practice and it is recommended to use this technique in case of pitch shift speech samples.

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Table-1: Values of mean F0 of the speech exemplars

S.No.	Speaker information	Mean F0 (Hz)	Duration of speech segment (ms)	Pitch shifted speech exemplars (Hz)		
				Time warping	Value of mean F0 for a predefined segment of speech samples in Hz.	Duration of speech exemplar (ms)
S1	Male	134	0.09	TW90	119	0.09
				TW95	125	0.09
				TW105	146	0.08
				TW110	149	0.08
S2	Male	118	0.08	TW90	107	0.09
				TW95	114	0.09
				TW105	127	0.08
				TW110	131	0.07
S3	Male	124	0.07	TW90	114	0.08
				TW95	121	0.07
				TW105	134	0.07
				TW110	143	0.07
S4	Male	179	0.08	TW90	165	0.08
				TW95	174	0.07
				TW105	195	0.07
				TW110	196	0.07
S5	Male	140	0.08	TW90	119	0.09
				TW95	134	0.09
				TW105	148	0.08
				TW110	164	0.08
S6	Male	137	0.08	TW90	122	0.08
				TW95	130	0.08
				TW105	142	0.08
				TW110	138	0.08
S7	Female	232	0.07	TW90	221	0.07
				TW95	221	0.07
				TW105	235	0.06
				TW110	205	0.06
S8	Female	206	0.08	TW90	189	0.08
				TW95	208	0.08
				TW105	216	0.07
				TW110	226	0.07
S9	Male	115	0.06	TW90	100	0.07
				TW95	112	0.06
				TW105	132	0.06
				TW110	134	0.06
S10	Male	132	0.06	TW90	121	0.07
				TW95	125	0.07
				TW105	145	0.07
				TW110	148	0.06
S11	Male	136	0.07	TW90	124	0.08
				TW95	131	0.08
				TW105	145	0.07
				TW110	154	0.07
S12	Female	202	0.06	TW90	168	0.07
				TW95	186	0.06
				TW105	197	0.05
				TW110	206	0.05
S13	Male	141	0.08	TW90	128	0.07
				TW95	129	0.08
				TW105	143	0.07
				TW110	154	0.07
S14	Male	124	0.05	TW90	115	0.05
				TW95	119	0.05
				TW105	134	0.04
				TW110	137	0.04
S15	Male	131	0.07	TW90	119	0.08
				TW95	128	0.07
				TW105	138	0.07
				TW110	148	0.07

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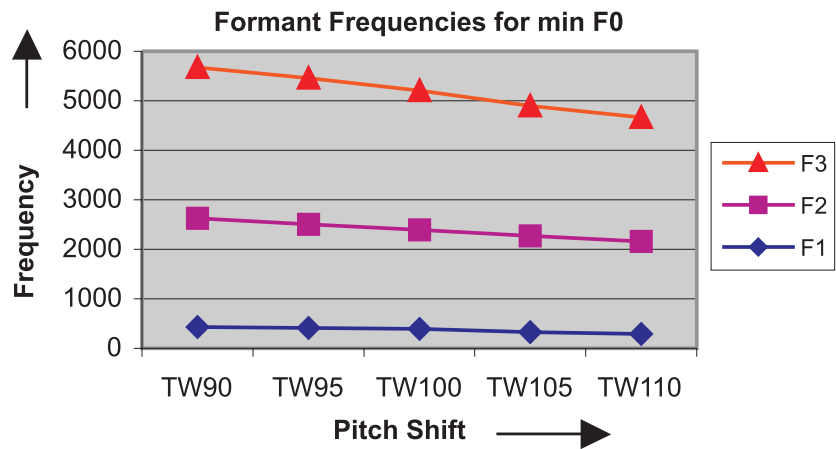Time Warping Method and its' Impact on Forensic
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FORENSIC HYPNOSIS

Muktesh Chander, IPS*

Introduction

The word hypnosis has been surrounded with mysteries, controversies and negative connotations in the last two centuries to such an extent that it means different things to different people based on their perception and what they have seen, read or heard in movies, TV channels, story books, media and gossips. It is widely misunderstood due to its association with occultists, stage magicians, frivolous practitioners and faith healers. For a layman it is often difficult to separate truth from myth. Its discovery itself was surrounded with paradoxes that King Louis XVI of France appointed Royal Enquiry Commission consisting of famous personalities of that time, including scientist and American ambassador to France, Benjamin Franklin, famous chemist Antoine Lavoisier & Dr. Joseph Guillotin, which concluded that "animal magnetism" does not exist as was being claimed by Mesmer who started Mesmerism, the first name which was given to hypnosis. However the commission did not say that the mesmeric phenomenon lacked authenticity.

Since then various persons have experimented with it and gave their own explanation of the elusive phenomenon. Proper research and scientific experimentations about hypnosis started only in twentieth century. It is only in last few decades that hypnotic phenomenon has gained scientific basis and has found profound use in psychology and medicine.

Use of hypnosis in criminal justice system, particularly by the investigating agencies, is fairly recent and its potential has not been fully understood and utilized.

Discovery of Hypnosis

The existence of hypnosis like phenomenon has been found in several ancient civilizations and religions. The oldest record can be traced to Embers Papyrus of 1550 BC which describes techniques used by ancient Egyptians which are similar to those that are used even now to induce hypnosis. Sleep temples of Asclepius, the ancient Greek God of healing were places where sick could meditate and sleep till they were cured. There is a

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Abstract :

Mankind has known hypnotim since ages under different names. Hypnosis has already evolved from a mystic phenomenon to an established science and is being used all over the world for various therapeutic purposes. Its importance as a powerful forensic tool for memory enhancement of victims or witnesses has been recognised in the last few decades. After observing

mention in "*Bhoj Prabandh*" written by Pandit Ballala Sen that in 527 AD Raja Bhoj underwent a surgery using "*Sammohini*" (Hindi equivalent of the word hypnosis) which also finds mention in *Sushruta Samhita* (600 BC). In Europe it was a Viennese physician Franz Anton Mesmer (1774) who, started experimenting with it while treating his patients. He called the newly discovered phenomenon as "Animal Magnetism" since he could not give any better explanation of it at a time when the world was excited about new discoveries of electricity and magnetism.

Lack of proper explanation and Mesmer's personal extravagant, flamboyant and theatrical style in using the hypnosis, gave rise to controversy and skepticism which was inadvertently perpetuated by followers of Mesmer and other practioners who attempted to give their own inadequate explanations of hypnosis. A leading physician of London, John Elliotson (1791-1868) used hypnosis to perform painless surgical operations. Dr. James Esdaile (1808-1859), a Scottish surgeon of East India Company, while practicing in India, also conducted more then 1000 operations in Imambarah Hospital, Hoogly, Calcutta without anesthesia, using hypnosis. Lord Dalhousie, the then Governor General of India, was so impressed that he sanctioned

establishment of a mesmeric hospital near Calcutta. The significance of work of painless surgery of Esdaile was lost when the anesthetic properties of ether and chloroform were discovered soon after. Mesmerism, Somnambulism, Lucid sleep, Monoideism, autosuggestion, biofeedback are some names which were given to hypnosis.

It was an English physician, James Braid, who coined the word "Hypnosis" (Greek word *Hypnos* mean sleep) and tried to give scientific explanation of the phenomenon and the acceptance of hypnotism started increasing since then. Even though the world hypnosis is again a misnomer (Braid himself regretted using it, at a later stage of his life) but now it is used worldwide and it is too late to be changed now.

In between Hippolyte Bernheim, Sigmund Freud, Dr. Auguste Ambroise Liebeault, Dr. Jean Martin Charcot, Abbe Jose Faria from Goa and Ivan Pavlov from Russia contributed to the knowledge of hypnosis.

The name of Abbe Faria and his contribution to hypnosis need special mention. Faria was born in Candolim in Goa on 31st May 1756 and studied theology in Rome. Later, he moved to Paris and studied hypnotism. He was a contemporary

of Mesmer and was first to disagree with the Animal Magnetism theory and concluded that hypnosis worked purely by the power of suggestion. He published his book "Causas do Sono Lucido" ('On the Cause of Lucid sleep') which has now been translated in English by Dr. Laurent Carrer, a French hypnotist based in USA. Several writers of history of hypnosis recognise Faria as father of Nancy School of Hypnotism. Except in Goa, his name has been lost in obscurity in India but has been recognized worldwide. "Faria was great, because he had no fear and fought for truth rather than for his place at the vanity fair. The Abbot de Faria's mystery does not lie in the circumstances of his life that are unknown to historians and lost forever; his mystery lies in his talent, courage, and quest for truth. His mystery was the mystery of someone who was ahead of his time and who blazed a trial for his decendants due to his sacrifice." said Dr. Mikhail Buyanov, President of the Moscow Psychotherapeutic Academy, and author of *A Man Ahead of His Times,* a study in Russian of Abbe Faria.

Today, the credibility of hypnosis as a science has been established beyond doubt and it is being used in clinical therapy, self-improvement, psychology, psychiatry and behaviour modification. Hypnosis has received official/professional approval for therapeutic use by British Medical Association (1955) and American Medical Association (1958) and the pace of research work has increased manifold in recent decades.

What is Hypnosis?

Describing hypnosis is difficult and attempting a proper definition is even harder. It is easier to explain what hypnosis is not than defining what it is. Contrary to what the name suggests, hypnosis is not sleep but an altered state of consciousness in which the body is relaxed, attention is focused and mind is highly susceptible to suggestions. Electroencephalograms (EEG) of hypnotised person reveals that it is more like day-dreaming in which, The brain switches to alpha frequency region. Subject is aware of his surroundings and is not under the will control of hypnotist as is commonly believed. It is not an unconscious state but a heightened state of consciousness related to subconscious mind. Subject under hypnosis cannot be made to do, and will not do, any thing against his will or which he would not do in his conscious state and such a suggestion normally results in termination of the hypnotic trance. It is a myth that those with weak will-power can be hypnotized. On the contrary it is the strong willed people who make better subject as ultimately all hypnosis is self

certain procedural safeguards and legal procedures, Police Officers in many Countries are taking advantages of this technique. There is a need to understand forensic hypnosis and the benefits it offers before we start experimenting it in selective cases.

hypnosis and a hypnotist only assists a willing and cooperating subject to take himself to hypnotic state. British Medical Association defines hypnotism as "*A temporary condition of altered attention in the subject which may be induced by another person and in which a variety of phenomena may appear spontaneously or in response to verbal or another stimuli...* "

The Hypnotism Act of 1952 of UK defines hypnotism as *"any act or process which produces or is intended to produce in any person any form of induced sleep or trance in which the susceptibility of the mind... is increased or intended to be increased"*. In hypnotic state, the path between conscious and subconscious mind opens and memories become easily accessible. It is this power of hypnosis to produce hypermnesia which is used in forensic hypnosis.

Forensic Hypnosis

A victim or witness of a crime has opportunity to see and observe the crime, criminal and the surroundings. All the sensory organs are involved in the process of observation. The ability to recall the details minutely depends upon many factors. Fear, shock and post-traumatic stress affects the memory and delay in examination by the investigation officer may lead to loss of vital information from the memory. Investigation officer often come across this problem of lack of ability of the victim or witness to recall information which sometimes is critical to solving of the case. Under hypnosis, a person's ability to recall past events alongwith associated smell, taste, sound, etc. increases manifold. The subconscious mind is able to store and recall much more information than is available to the conscious mind. Many times it does not reveal certain events associated with unpleasant or traumatic events, to protect the person. Under a skilled hypnotist, during hypnosis, a victim can describe the crime and criminal with minute details, vividly and completely, without the

associated trauma. "One thing we know about hypnosis, and it has been demonstrated again and again, is that somebody who is hypnotised does recall more" said Dr. Brian Oppy, Cognitive Psychologist and Professor at Chico State University, USA. This is particularly useful when victim is suffering from post-traumatic stress after rape, child abuse, or violent attacks and undergoes traumatic amnesia also called as dissociative amnesia.

Although there is a recorded instance of use of hypnosis to refresh memory of a witness in court in a case of murder in 1846, it was in 1968 that a US court in *Harding Vs State* in Maryland, first time allowed hypnotically refreshed memory and we can say that forensic hypnosis was born on that day. Many countries particularly USA, Russia and UK have started to use forensic hypnosis. Nearly half of the Taxas Police detectives are trained in use of forensic hypnosis.

It must be remembered that forensic hypnosis is not a truth detection technique but only a tool to aid the investigating officer and corroborative evidence has to be collected by other means. It can provide vital clues and details on which further investigation can lead to recovery of evidence and a case can be solved. Although hypnosis can also be used on a suspect, accused or defendant, there are a number of problems associated with it. It is well known that hypnosis cannot be induced if the subject does not cooperate. His consent and cooperation is necessary. If forced, he may pretend to be under hypnosis by faking it. In such cases, help of hypnotic injectable drugs like Sodium Pentothal Seconal, Hyoscine, Sodium Amytal, etc. is taken to produce hypnosis and the test is called Narco Analysis.

Hypnosis and Law

Considerable debate has been going on world wide about the legal admissibility of hypnotically recalled memory of a witness or victim in the court of law. The

US Courts have been following three different rules. In 1968 in *Harding Vs State* Maryland supreme court ruled that "hypnosis is like any other memory aid device" and allowed it. In this case a lady victim of shooting and attempted rape identified her assailant only after she was able to recall details during hypnosis. This was called "Open Admissibility Rule".

However, later on, the US courts started adopting the 'Per se Exclusion' Rule which was propounded in 1980 by Minnesota supreme court in *State V. Mack* and by California supreme court in *People V. Shirley* 1982, 31 c3d 18. The courts ruled that hypnosis lacked reliability and created confabulations and undue false memories in a subject who is under increased suggestibility and such a witness cannot be effectively cross examined. However, the rule does not debar police from taking help of hypnosis for extracting clues from victim/witness to solve cases or discover admissible evidence. It only restricts the deposition of a witness to the statement given before hypnosis.

The third rule called "Totality of the Circumstances" rule is being applied by many states in USA and as per this rule, hypnotically refreshed recollection can be admissible in court, provided certain safeguards and guidelines are followed. Also called "Admissibility with Safeguard" test, it was pronounced in *State V. Hurd* (1981) by New Jersey court. The court also listed the guidelines in this regard which are now called Hurd Standards. Relying on Hurds case, New Jersey supreme court again decided in favour of "Admissibility with Safeguard" rule in *State V. Fotig*, 1996, NJ LENS, 1952.

Some important safeguards in use of forensic hypnosis are as follows:

- The pre hypnotic version of witness/victim must be recorded in audio/video tape.
- The subject must give his informed consent to undergo hypnosis.
- Hypnotic session must be conducted by a well qualified, licensed and independent medical doctor or psychologist.
- The hypnotic session must be video taped.
- Police must not be present when the session is conducted.
- Hypnotist must avoid leading questions and take special precautions not to add any false memories on the mind of the subject.

Indian Context

In India, forensic hypnosis has not been used in police investigation even though polygraph, brain wave mapping and Narco analysis have been used on suspects notwithstanding that their acceptability in the courts has always been a matter of debate. However, in the famous multicrore fake stamp scandal, Mumbai High Court in *Ram Chandra Reddy & Ors. Vs. State of Maharashtra* ruled in favour of Narcoanalysis on the accused.

Maharaja Sayaji Rao University, Vadodara, Gujarat is offering a PG Diploma in Clinical Hypnosis and has trained a number of doctors and psychologists in hypnotic procedures. A large number of hypnotists, doctors and psychologists are already using hypnosis in India inspite of the fact that the Indian Medical Association still does not recognise hypnotherapy and its expertise can be only used after following strict procedural safeguards. Unfortunately most of the police officers have not heard of forensic use of hypnosis. While writing this article, I contacted a cross section of people connected with criminal justice system in India but did not come across any case reference about forensic hypnosis.

Conclusion:

Through this article, a humble attempt has been made to make readers aware of one of the fastest growing areas

of specialisation which provides, yet another tool to investigating officers. The world over, its acceptance, in criminal justice system, is increasing and Indian police must start experimenting with it, in selected cases, after acquiring proper knowledge in hypnotic procedures and with full safeguards.

Indian courts have always been inclined to give credence to scientific evidence and only the time to come will decide the future course of forensic hypnosis in India. But it is high time that a beginning must be made.

"Just when a scientific principle or discovery crosses the line between the experimental and demonstrable stages is difficult to define. Somewhere in this twilight zone the evidential forces of the principle must be recognised" -*Frye Standard*. {Frye V.United States, 293 F.1013 (D.C. Cir. 1923)}
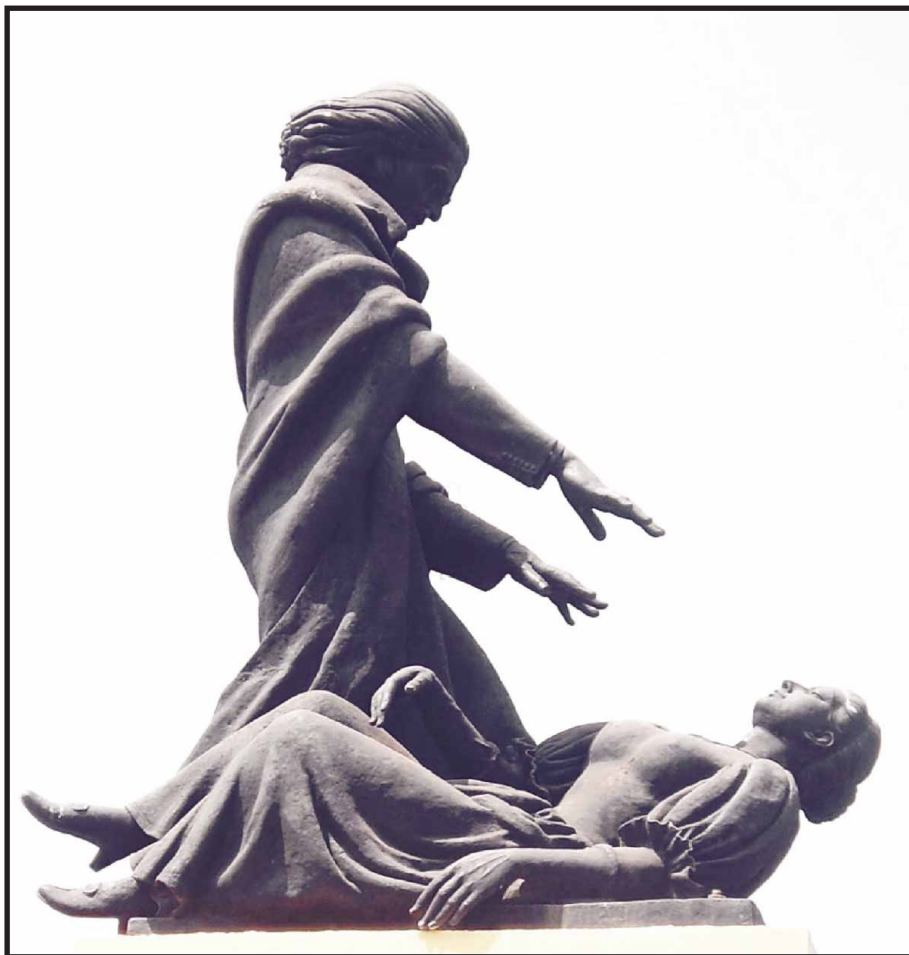
Statue of Jose Custodia da Faria (Abbe Faria) in front of Adil Khan Palace (Old Secretariat) on the bank of river Mandovi, Panaji, Goa created by sculptor Ram Chandra Pandurang Kamat and installed in 1945. Photograph by Hari Sirohi.

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INFLUENCE OF OCCUPATIONAL STRESS ON ADJUSTMENT: A STUDY OF POLICE PERSONNEL

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Introduction

The Police force is one of the largest organizations in India. With the rapid pace of technological advancement, in our day-to day life, our social fabric is witnessing a sea - change in all spheres. In spite of great efforts by the government and the police organization the crime rates are increasing along with new techniques and latest sophisticated weapons are being used by the criminals. The police has to encounter not only traditional types of crimes but has to deal with socio-economic crimes, white collar crimes, blue collar crimes, organized crimes, abuse of drugs and narcotic trafficing, crimes related to slum and so on. Now–a-days, police personnel are also busy in VIP securities, they also control various religious processions. In short, the day to day work and its constant reallocation, brings police personnel directly in contact with a number of anti-social activities resulting in increased work burden, which causes strain, stress and anxiety.

Today, stress has become not only the biggest killer in the world but a terrifying pandemic as well. Although we tend to think of stress as caused by external events, events themselves are not stressful. Rather, it is the way in which we interpret and react to events that makes them stressful. People differ dramatically in the type of events they interpret as stressful and the way in which they respond to such stress. Selye (1956) popularized the term and defined stress as a "non-specific response of the body to any demand made upon it." Anyway, in simple term it can be taken as hardship, physical, emotional or mental pressure, force or system of forces applied on body, whereas, "by occupational stress is meant negative environmental factors or stressors associated with a particular job." (Cooper and Marshall: 1976).

Many attempts have been made by Indian researchers to study stress, with various factors. Bhaskar (1986) pointed out that factors intrinsic to job are closely related to work as major contributors to stress among police

personnel. During 1993 the BPR & D conducted a study to identify various stressful aspects at work, home and community environment and also to understand their impact on health. Mathur (1994) concluded that relations within the police organization, organizational structure, criminal justice system practices, police officers themselves and career development are closely related to development of stress related problems among police personnel. In the same way Bond and Jones have indicated two types of stressors: factors related to line personnel and chief administrators; Cooper (1982) has pointed out nine stressors of police officers such as, work overload, unnecessary obstacles, autocratic management, complaints against police etc. while Violanti & et al (1993) measured police stressors, job attitude and psychological distress. The findings of current research studies revealed the fact that police personnel experienced stress caused by role stagnation, role overload and role ambiguity. It is true that a moderate level of stress is necessary for good performance and accomplishing challenging tasks but too much stress always become detrimental to individual's physical and mental health.

Generally, it has long been hypothesized that police work is the world's most stressful occupation, but comparative studies of occupational stress have revealed that other occupations, such as emergency medical services, business, and correctional work are more stressful than policing (Pattersen, 1992). The symptoms of police stress may be different. Research has shown that officers with six to ten years of service usually have the highest mean stressor scores (Violanti & Aron 1995). Terry (1985) coined the term "police stress syndrome" to characterize police stress as special and not due to danger, insecurity, or job dissatisfaction like normal job stress. Crank and associates (1993) reported that sheriffs are consistently under more stress than police chiefs. The lower the level of education for a top executive, the greater, the stress. Both female and minority officers experience unique stress. Female must deal with sexual harassment, public stereotypes and need to gain acceptance from the male officers. Minorities must deal with the racial prejudice and their minority group's dislike for police officers, and, by association to them. Even the impact of community policing is stressful, most notably on sargents (Lord 1996). No doubt, a majority of policemen are hard-working and conscientious (Bhaskar 1986).

Abstract :

Police force is one of the largest organization in India. Today stress has become not only the biggest killer in the world but a terrifying pandemic as well. The phenomenon of occupational stress and adjustment are very important in the police occupation all over the world like in many other professions. This study focuses on Aligarh police to get an indepth insight into these

issues. For the present study a sample of Police personnel (N= 50) was collected from Aligarh District. Two scales namely occupational stress Index and Mohsin-Shamshad adaptation of bell adjustment Inventory was used. The data were analyzed by applying multiple regression analysis. The results reveal the fact that occupational stress influencing adjustment of police personnel. Further it was found that

The other variable of present investigation (independent in nature) is adjustment. This problem is a matter of such a widespread concern that social scientists dealing with adjustment problems are appearing more and more interested. It is common knowledge that the present century is marked by widespread instability and anxiety and that is why Kaplan (1959) has observed that mental disorders are number-one problem. The word 'adjustment' has been understood in many ways, by different psychologists, biologists and other behavioural scientists. Most of the psychologists agree to a great extent that adjustment, defined in terms of achieving a balance between internal demands and the requirements of the environment, or between internal psychological forces and external conditions. Hence, it is taken to be a process and not a condition (Coleman 1960; Madigaw, 1962; Kaplan, 1965) In simple term , adjustment refers to the psychological process by which an individual manages or copes with various demands. Taylor and Congopni (1988) examined occupational stress research and concluded that psychological factors can affect job satisfaction, work adjustment, work attitudes and overall well-being in the work environment.

Adjustment has been studied in relation to work alienation (Kumar, 1984), anxiety and ego strength (Husain & Khan 1986), social deprivation (Haidry, 1984) Khan & Sinha (1971) reported that most of the studies concluded that anxiety was a symptom of inadequate adjustment and possibly a cause. Very few studies have been conducted on adjustment of police personnel, such as Saathoff & Buckman (1990) which evaluated 26 state police officers and revealed that the most common primary diagnosis was adjustment disorder followed by substance abuse and personality disorder.

Stress has been studied in relation to health i.e. heart disease and acute myocardial infection (Vena et al, 1986); effect on emotional and physical well being (Burke, 1994). The families of police officers also suffer stress. The element of unpredictability, fear, shift work, isolation and low pay, all, causes family problems. Relationships in police families are often distant and alimentative (NIJ 1991).

It is a fact that police personnel have a fair share of tension and problems. However, very few studies have been conducted by psychologists on police and their problems. Perhaps the psychologists, in view of their

social responsibilities, have been concentrating on socially deprived and down-trodden groups , in order to alleviate their problems and have not focussed attention on this section of society. The stereo-type of police officials is of power, ruthlessness and prosperity, whereas their problems have hardly been highlighted, and that is why, the present study aims at propagating understanding about the adjustment problems of police personnel in the context of stress.

Methodology

Sample: Sample is a small part of the total existing information and sampling has been done on a small proportion of population, selected for observation. By making observations on the appropriate sample, it is possible to draw reliable inferences. For the present study, the sample of police personnel (N=50), collected from Aligarh district, is purposive in nature. The demographic chracteristics (based on mean, S.D.) of the sample have been shown in Table 1.

Tools used

There is no single psychological test which can tell about all aspects of behaviour because of its intricacy and instability. Among the various methods used for testing, the questionnaire method has been considered as the most convenient and favourable instrument to collect data. The description of the tools used in the present study follows:

This scale has been constructed and standardized by Srivastava & Singh (1981). There are 46 statements and out of 46 items 18 are 'false keyed' and rest 28 items are 'true keyed'. This scale covers twelve dimensions and is reported to be highly reliable and valid. To measure adjustment of police personnel Mohsin–Shamshad adaptation of Bell Adjustment

two dimensions of occupational stress viz; unprofitability and role ambiguity influencing home and emotion re-spectively. The results have been discussed in detail.

Table - 1

Showing the Biographies of the Samples

Total Experience (in years)		Age (in years)		No. of Dependence		Salary (in Rs.)	
Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
20.54	7.08	44.56	7.51	6	2	14640.00	1935.28

Inventory (1987) was used. There are four dimensions viz. Home, Health, Social and Emotional, having 124 items of Inventory. To know the information about the biographies of the respondents, a bio-information blank was prepared.

Statistics Used

In order to meet objectives of the study, it was decided to apply regression analysis which is a powerful set of statistical technique that permits the assessment of the relationship of many independent variables simultaneously with one dependent variable.

Result and Discussion

The present investigation is an endeavour to study adjustment – a dependent variable, a function of occupational stress – an independent variable. The nature of investigation warranted us to apply multiple regression analysis where various dimensions of occupational stress are possibly entered to see their predictive influence on adjustment and its four dimensions. The description of results follows :

Table-2 shows that obtained 'F' = 31.188 is significant at 0.05 level of confidence which clearly speaks of the fact that occupational stress would be definitely influencing adjustment of police personnel.

Table-2.1 witnessed that occupational stress as a whole has been found predicting adjustment as its 't' = 5.584 has been statistically rendered significant. The mean value of occupational stress of police personnel was found high which is always negative for quality of work. It is generally assumed that there exists a negative relationship between

Table 2

Showing Analysis of Variance for the Regression for the Police Personnel

Source of variation	Degrees of freedom	Sum of squares	Mean squares	F-value
Attributable to Regression	1	3445.57642	5302.92383	3445.57642
Deviation from Regression	48	110.47758	31.18801**	
Total	49	8748.50000		

**Significant at 0.05 level

Table 2.1

Showing Multiple Regression Analysis

Variables	Mean	Standard deviation	Correlation X vs Y	Reg. Coefficient	Beta	Std. Error of Reg. Coef.	Computed T-value
Occupational Stress	137.42000	24.79062	0.62757	0.33826	0.62757	0.06057	5.58462
Adjustment	46.70000	13.36192					

Intercept	0.21687
Multiple Correlation	0.62757
STD Error of Estimate	10.51083

stress and performance which affects adjustment. But, in fact, the effect of stress on adjustment varies with the degree of stress. It has been empirically established that high level of job stress causes a deterioration in job performance (McGrath, 1976; Beehr & Newman, 1978). But at the same time it has also been reported that very low or no stress is also associated with low performance level. Burke (1994) observed that stress arising from excessive responsibilities, larger workload etc. were positively related to satisfaction and performance. During the course of interaction with police personnel, it was observed that they receive various kinds of pressure, having excessive workload, work under tense circumstances, they lack family as well as social support. But inspite of all this, they consider that they are doing something for society and helping administration in smooth functioning.

So far as adjustment at home, of the police personnel is concerned, it has been found out that none of the dimensions of stress have been found to have their significant influence on home adjustment as evident from Table-3 where F = 1.084 which is insignificant even at 0.05 level of confidence. The insignificant influence of stressors is also confirmed from Table 3.1 where none of the 't' values have been rendered statistically significant.

Table 3

Showing Analysis of Variance for the Regression for the Police Personnel

Source of variation	Degrees of freedom	Sum of squares	Mean squares	F-value
Attributable to Regression	13	177.03210	14.75268	1.08401
Deviation from Regression	37	503.54773	13.60940	
Total	49	680.57983		

Table 3.1

Showing Multiple Regression Analysis

Variables	Mean	Standard deviation	Correlation X vs Y	Reg. Coefficient	Beta	Std. Error of Reg. Coef.	Computed T-value
Role Overload	25.44000	3.52924	0.21232	0.03624	0.03432	0.21257	0.17050
Role Ambiguity	9.00000	3.73073	0.17027	0.13490	0.13504	0.18783	0.71818
Role conflict	11.30000	5.04773	0.19234	-0.15237	-0.20637	0.18342	-0.83074
Unreasonable group and pol. press	15.70000	2.77194	0.32537	0.44357	0.32992	0.25667	1.72820
Responsibility for Persons	11.38000	2.70970	0.14789	0.13443	0.09774	0.23422	0.57395

Under-participation	9.10000	4.05699	0.11621	-0.17029	-0.18537	0.18631	-0.91401
Powerlessness	11.44000	3.00449	0.01064	-0.14625	-0.11790	0.21799	-0.67088
Poor Peer Relations	8.50000	3.56428	0.21432	0.26272	0.25126	0.20081	1.30831
Intrinsic Impoverish-ment	8.14000	3.61973	0.30338	-0.01466	-0.01424	0.23529	-0.06230
Low status	7.14000	3.21990	0.03153	-0.08628	-0.07454	0.19824	-0.43521
Strenuous Working Conditions	15.00000	2.82120	0.14363	-0.19266	-0.14584	0.23625	-0.81548
Unprofit-ability	5.28000	2.88586	0.33981	0.54840	0.42465	0.29947	1.83125
Home	8.78000	3.72685					

Intercept   0.21687
Multiple Correlation   0.62757
STD Error of Estimate   10.51083

Table 4

Showing Analysis of Variance for the Regression for the Police Personnel

Source of variation	Degrees of freedom	Sum of squares	Mean squares	F-value
Attributable to Regression	12	532.16034	44.34669	3.46561**
Deviation from Regression	37	473.45990	12.79621	
Total	49	1005.62024		

Significant at 0.05 level

The results reveal as evident from Table - 4 that stressor like unprofitability predict health as F = 3.465 which is confirmed from Table-4.1 where 't' value is 2.240. The police personnel perceive that they get less salary in comparison to the quantum of their work and they also perceive that they are seldom rewarded for hard and efficient performance. Moreover, when they compare themselves with other sector of employees, they get very less salary and other benefits. They never get appreciaties for their work. Whatever they get, it is not sufficient for their family. Most of the police personnel are busy in official works. They spare very "little time for their family affairs. Their food habit is not proper. Due to work load, they do not exercise regularly. So they always work under stress, hence, their health is affected. It has been accepted that high and consistent stress is unpleasant and dysfunctional, and causes significant deterioration in physical and psychological well being of the person who is under such stress".

Table 4.1

Showing Multiple Regression Analysis

Variables	Mean	Standard deviation	Correlation X vs Y	Reg. Coefficient	Beta	Std. Error of Reg. Coef.	Computed T-value
Role Overload	25.44000	3.52924	0.36471	0.08405	0.06548	0.20612	0.40779
Role Ambiguity	9.00000	3.73073	0.45040	0.26840	0.22104	0.18213	1.47369
Role conflict	11.30000	5.04773	0.57644	0.30524	0.34011	0.17785	1.71625
Unreasonable group and pol. press	15.70000	2.77194	0.24881	-0.03845	-0.02352	0.24888	-0.15448
Responsibility for Persons	11.38000	2.70970	0.12293	-0.16216	-0.09699	0.22712	-0.71397
Under participation	9.10000	4.05699	0.26350	-0.07528	-0.06742	0.18065	-0.41670
Powerlessness	11.44000	3.00449	0.22149	-0.03115	-0.02066	0.21138	-0.14735
Poor Peer Relations	8.50000	3.56428	0.20665	-0.10998	-0.08653	0.19472	-0.056483
Intrinsic Impoverishment	8.14000	3.61973	0.51999	-0.00803	-0.00641	0.22816	-0.03518
Low status	7.14000	3.21990	0.00115	-0.23674	-0.16827	0.19223	-1.23157
Strenuous Working Conditions	15.00000	2.82120	0.34651	0.13944	0.08684	0.22908	0.60868
Unprofitability	5.28000	2.88586	0.58170	0.75073	0.41453	0.29038	2.24092
Health	9.74000	4.53022					

Intercept   0.21687
Multiple Correlation   0.62757
STD Error of Estimate   10.51083

Unpleasant work conditions, necessity to act quickly, expenditure of large physical efforts, and excessive and inconvenient hours of work lead to poor health of the police personnel which is evident from the result that police personnel perceive that their health is affected.

Table 5

Showing Analysis of Variance for the Regression for the Police Personnel

Source of variation	Degrees of freedom	Sum of squares	Mean squares	F-value
Attributable to Regression	12	161.51906	13.45992	0.80377**
Deviation from Regression	37	619.60101	16.74597	
Total	49	781.12006		

Table-5 predicts the level of influence of stressors for police personnel. The obtained value F = 0.803 has been statistically found insignificant even at 0.05 level of confidence. It is also confirmed from Table - 5.1.

Table 5.1

Showing Multiple Regression Analysis

Variables	Mean	Standard deviation	Correlation X vs Y	Reg. Coefficient	Beta	Std. Error of Reg. Coef.	Computed T-value
Role Overload	25.44000	3.52924	0.20607	0.00673	0.00595	0.23579	0.02856
Role Ambiguity	9.00000	3.73073	0.25073	0.14197	0.13266	0.20835	0.68138
Role conflict	11.30000	5.04773	0.24465	0.05071	0.06411	0.20346	0.24923
Unreasonable group and pol. press	15.70000	2.77194	0.10216	0.05098	0.03540	0.28471	0.17907
Responsibility for Persons	11.38000	2.70970	-0.07628	-0.27813	-0.18876	0.25982	-1.07047
Under participation	9.10000	4.05699	0.32405	0.19926	0.20247	0.20666	0.96419
Powerlessness	11.44000	3.00449	0.13828	0.05900	0.04439	0.24181	0.24397
Poor Peer Relations	8.50000	3.56428	0.16025	-0.00906	-0.00809	0.22275	-0.04069
Intrinsic Impoverishment	8.14000	3.61973	0.29750	0.14319	0.12982	0.26100	0.54862
Low status	7.14000	3.21990	0.04712	-0.12381	-0.09985	0.21990	-0.56302
Strenuous Working Conditions	15.00000	2.82120	-0.00906	-0.22929	-0.16202	0.26207	-0.87494
Unprofitability	5.28000	2.88586	0.28226	0.16062	0.11610	0.33219	0.48353
Social	18.76000	3.99265					

Intercept 19.00117
Multiple Correlation 0.45473
STD Error of Estimate 4.09218

Table 6

Showing Analysis of Variance for the Regression for the Police Personnel

Source of variation	Degrees of freedom	Sum of squares	Mean squares	F-value
Attributable to Regression	12	764.40637	63.70053	5.43352**
Deviation from Regression	37	433.77380	11.72362	
Total	49	1198.18018		

Table-6 indicates that obtained F = 5.433 is significant at 0.05 level of confidence. This finding found true when its corresponding Table-6.1 highlighted that role ambiguity emerged as predictor of emotion dimension of adjustment for police personnel, as its t value is 2.597 which is found significant.

Table 6.1

Showing Multiple Regression Analysis

Variables	Mean	Standard deviation	Correlation X vs Y	Reg. Coefficient	Beta	Std. Error of Reg. Coef.	Computed T-value
Role Overload	25.44000	3.52924	0.43356	0.05556	0.03966	0.19729	0.28163
Role Ambiguity	9.00000	3.73073	0.56529	0.45276	0.34159	0.17433	2.59714
Role conflict	11.30000	5.04773	0.56717	-0.00253	-0.00258	0.17024	-0.01486
Unreasonable group and pol. Press	15.70000 2.77194	0.42775	0.32972	0.18483	0.23822	1.38407	
Responsibility for Persons	11.38000	2.70970	0.09598	-0.24889	-0.13638	0.21739	-1.14488
Under participation	9.10000	4.05699	0.47089	0.06249	0.05127	0.17292	0.36141
Powerlessness	11.44000	3.00449	0.37605	0.19129	0.11622	0.20233	0.94545
Poor Peer Relations	8.50000	3.56428	0.41974	0.23122	0.16666	0.18638	1.24063
Intrinsic Impoverishment	8.14000	3.61973	0.60663	0.18735	0.13714	0.21839	0.85790
Low status	7.14000	3.21990	0.12441	-0.22816	-0.14857	0.18399	-1.24004
Strenuous Working Conditions	15.00000	2.82120	0.34085	-0.05952	-0.03396	0.21927	-0.27143
Unprofit-ability	5.28000	2.88586	0.58794	050198	0.29295	0.27795	1.80601
Emotional	9.42000	4.94496					

Intercept	-4.76010
Multiple Correlation	0.79873
STD Error of Estimate	3.42398

Literally, the role of police personnel is well defined but practically, it is difficult to carry out. They always perceive ambiguity in their role. Informations relating to their job role are insufficient and its outcomes are vague. Their objective is not clear and inadequate planned. Sometime' they are unable to perform their duties smoothly because of the ambiguity of their jurisdiction and authority. Their behaviour is always in question as public and higher authorities criticize them.

Hence, their emotion is influenced. There are various where expertise is required. The police personnel are not expert in all the areas and work, in which they are involved in their day-to-day life. All the time, they are engaged in unpleasant tasks. Inspite of unwillingness, they have to perform their duties. Margolis, Kore and Quinn(1974) reported that role ambiguity significantly correlates with various indicators of physical and mental ill-health.

The police personnel most of the time work under stress due to a number of factors such as work load, extended duty hours, political pressures etc. There some relevant changes required within the system. The salary structure needs to be revised alongwith appropriate training methods. Sufficient time should be given for their family affairs. Each member of police organization must have certain kind of information at his disposal in order to perform his work adequately and smoothly. Psychological problems should be taken care of and that is why at least one psychologist/counsellor must be appointed in each district headquarter of police, who can be helpful in solving the problems of police personnel so that they may be able to manage all kinds of stress.

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INVESTIGATION OF GASEOUS POISONING CASES AND THEIR FORENSIC IMPLICATIONS

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Introduction

Since the IInd world war, the occurrences of man-made toxic gas disasters due to their applications in battle fields are well recorded [1]. The incidences of toxic gas poisoning cases are not alarming (about 1% of total cases) compared to other toxicants [2-3], but occur on occasions viz. burning of combustible materials or kerosene oil in a poorly ventilated room specially in winter, poisoning during cleaning of abandoned well, peat of water and manholes, during fire in a building and accidental leakage of gas from faulty cylinders during their use in industries and also due to chemical reaction by mixing or contamination by negligent or unlawful acts specially in industries.

The poisoning case often turns in to a disaster when it affects a locality or considerable area resulting in many deaths or permanent disability of victims. A historic gas tragedy in India occurred in Bhopal in December, 1984 due to sudden massive leakage of very toxic carbonyl chloride or phosgene from gas cylinder in the insecticide (Sevin) manufacturing unit. It resulted in deaths of several thousands of people and domesticated animals in 10 sq. km. area and also permanent damage to health of the population in that area. The tragedy became a national catastrophe and attracted international attention.

On exposure, the gas is absorbed through the respiratory tract of victim either in part or full, depending on the condition or time of exposure, producing toxic affects with manifestation of sign and symptoms. The situation aften turns critical and death of victim occurs. The unabsorbed gas escapes in to the atmosphere i.e. the main clue material is lost and gives rise to some changes in the living system, at the site of origin and surroundings. The victims, if alive, is to be sent to hospital for treatment. The clinical findings and diagnosis thereof are to be recorded properly. In case of fatal consequence, P.M. examination is invariably done. The specimen in hospital or during P.M. examination are to be collected, preserved and forwarded to FSL for chemical examination of exhibits to detect the toxic gas, if any.

Thus, the investigation and proper detection of crime in suspected gaseous poisoning case require knowledge and information on diverse aspects viz. toxic gas, its origin, effects on living system and surroundings, mechanism of action, P.M. findings and clue materials to be preserved for analysis. The above aspects have been discussed in the forthcoming paragraphs.

Toxic Gases :

From the incidences of poisoning cases, the toxic gas may be carbon monoxide, carbon dioxide, ammonia, sulphur dioxide, sulphur toxide, hydrogen sulphide, hydrocyanic acid, phosphine, nitrogen dioxide, chlorine and phosgene.

Origin of Toxic Gases :

Most of the gases owe their origin to chemical reaction, but in diverse ways. The chemical reaction may occur by contact, accident or negligent act specially in industries. The source of toxic gas may be gas cylinder used in routine industrial activities. The gas may be formed in an abandoned well by convection current. Bacterial action in organic matter or waste is said to be the origin of some toxic gases viz. hydrogen sulphide and phosphine. A comprehensive paragraph on origin is given below.

1. Carbon dioxide : This may be produced in an abandoned well due to convection currents. Carbon dioxide is heavier and accumulates at the bottom. If someone reaches that zone for cleaning, poisoning may occur. Carbon dioxide is also produced in lime kiln, during metallurgical processing of ores and in general ignition processes.

Carbon monoxide : The gas is produced due to incomplete combustion of material including oil in a poorly ventilated room specially in winter or running a generator in a very confined room. The reaction of oxalic acid or oxalates with sulphuric acid produces carbon monoxide. The fire in a building may produce carbon monoxide (conflagration).

Chlorine : It is used for disinfection of water in water treatment plant or as a bleaching agent in dye and textile industries. The leakage of gas from cylinder due to mechanical faults may lead to poisoning and disaster. It may be produced by chemical reaction of bleaching powder with water or acid and also hydrochloride with potassium dichromate or permanganate.

Sulphur dioxide: It is produced during processing in metallurgical industries. The ignition of sulphur, pyrotechnics, gun-powder and fire works produces sulpher dioxide. It

Abstract :

Gaseous poisons or toxic gases are ultra short acting, most potent and may cause death immediately depending on time of exposure and concentration of gas. When deaths occur in a mass scale, it turns to a disaster. The investigations are difficult as the primary clue materials are likely to be lost due to the physical nature of sample and require proper scientific

knowledge for noting specific observations for reconstruction of cases and locating clue materials for collection, preservation and onward forensic examinations. The aspects of poisoning by toxic gases have been discussed in the present paper for conveniences of the I.O. s' and forensic experts.

may also be produced by the action of acids on sulphites.

Sulpher trioxide: It may be produced by chemical processes in industries specially sulphuric acid plant.

Hydrogen sulphide : The auto generation may occur due to bacterial action on organic wastes in a peat or man whole resulting in poisoning during cleaning operation. It is also produced in laboratory processings or due to action of acids on sulphides or action of water on hydrosulphide. On burning of polyurethane, hydrogen sulphide may be formed.

Phosphine : Phosphine may be produced by bacterial action as above (in case of hydrogen sulphide) and poisoning occurs in the same manner. It is also produced by the action of water or acids on phosphides of zinc and aluminium (used extensively as rodenticides).

Ammonia : Ammonia is used substantially in fertilizer industries and ice-cream factories. Poisoning may occur due to sudden leakage of gas from gas cylinder. It is also produced by chemical reaction between nitrides and water.

Nitrogen dioxide : Nitrogen dioxide is produced by chemical reaction of metal (zinc, copper, etc.) with nitric

acid or reaction of nitrates with acids. It is formed enormously in goldsmith's processing of ornaments and in industries (fertilizer and nitric acid manufacturing plants).

Hydrocyanic acid : It may be produced by the chemical reaction of cyanides (sodium or potassium) with acid by contact or mixing accidentally or negligent act in some industries viz. dyeing textile, tanning, etc.

Phosgene : It is stored in cylinder for their use in the production of war gases or insecticide. The leakage from cylinder may lead to poisoning.

From the above illustrations it is clearly evident that toxic gas is generally produced by chemical reaction in diverse areas of application. The poisoning may occur by leakage of gas from cylinder due to mechanical faults or defective valve. Toxic gas may be produced in a different way by incomplete combustion of fuel or bacterial action on organic wastes in peat and manhole or abandoned wells.

Sign and Symptoms

The general sign and symptoms include dizziness, headache, muscular weakness, cough, drowsiness and suffocation.

Mechanism of Action

Toxic gases are said to affect respiratory tract and mixed up with blood immediately on exposure. The fatal consequence may occur depending on the concentration of gas and time of exposure. The red blood corpuscles (RBC) generally carry oxygen of air in the form of an additive compound i.e. oxyhaemoglobin and transport oxygen to cells of living system. In case of poisoning, it is converted to additive compounds other than oxyhaemoglobin viz. carbon monoxide forms carboxyhaemoglobin, hydrogen sulphide forms sulphomethemoglobin and interferes with cellular respiration by inhibition of the action of cytochrome oxidase, hydrocyanic acid forms cyanohemoglobin, etc. The affinity of haemoglobin for toxic gases is higher than oxygen. As a result, oxyhaemoglobin is not formed. Thus, cells are deprived of oxygen when blood is transported to cells of living systems. Death is said to occur due to asphyxia.

Some toxic gases viz. chlorine, sulphur dioxide, sulphur trioxide, nitrogen dioxide and ammonia affect respiratory system directly, producing cough, suffocation and oedema.

P.M. Findings

- The common PM findings include pulmonary and cerebral oedema, congestion of lungs, heart and sometimes white matter in brain.

- Special PM Findings:

A. In case of carbon monoxide, the remarkable feature is that pink colour appears in areas of hypostatis of body and blood whereas in case of cyanide poisoning, a brick red colour is produced.

B. Sweet smell is there in the stomach in case of hydrocyanic acid gas poisoning.

C. Froth in mouth and nostril is a sign of gaseous poisoning.

D. Blackening of skin at places is an indication of hydrogen sulphide poisoning.

Other Findings of Importance :

- The change of colour or bleaching of colour of green leaves, flower or textile or coloured cotton material, gives an indication of toxic gas viz. chlorine or sulphur dioxide.

- The blackening of metal panel / hinges in room or coin or silver or lead materials indicates suspected poisoning by hydrogen sulphide.

- If death occurs during cleaning operation of man-hole, septic tank, abandoned well, it is a clear sign of poisoning by gas (carbon dioxide or phosphine or hydrogen sulphide).

- The malfunctioning of gas cylinder in case of suspected leakage.

Samples for Analysis :

The sample in case of fatal poisoning case is mainly blood. Viscera samples of victim may be collected in case of hydrocyanic acid gas or phosphine gas poisoning. The residual gas in cylinder in suspected leakage may be examined and tested by forensic experts at the spot.

If gas is formed by any chemical reaction in industries, the remnants of chemical left, may be examined for reconstruction of the case and opinion regarding the nature of gas.

The gas at the site of origin is also collected by gas collection devices for their onwarding testing. However, the chance of detection is remote, if it's not collected immediately.

Analysis of Sample

The samples forwarded to FSL are analysed by different chemical methods. In case of blood as a sample, the toxic gas, if any, is allowed to diffuse from the sample and react with reagent to give a colour reaction. The change of colour and its intensity give out, the nature of gas and its concentration. The viscera sample is also digested for release of gas and allowed to react as above to give colour reaction. The samples collected by devices at the spot is now analysed by gas chromatograph to detect and determine the concentration of gas. At present, various gas analyzers are available to detect and determine a specific gas or gas mixtures at the place of origin. The gas analysers are either portable gas chromatograph or based on sensors.

Discussion

The investigation of toxic gas disaster cases is difficult as the clue material i.e. gas itself is lost immediately in the environment. As such, the secondary clue materials or specific observations as discussed earlier may be of help to the I.O.s' and forensic experts. The samples are scarce. As such, analysis is also difficult. Inspite of best attention and efforts, the crime scene visits by forensic experts in toxic gas disaster cases fail to derive result on occasions. However, the visit by forensic experts along with I.O.s' is of prime importance to locate the clues or collect the specimen, if any. If leakage from a gas cylinder is suspected it is to be examined thoroughly for detection of residual gas, if any, and also mechanical faults in them. The gas analysers should be introduced as an aid to detect the toxic gas at the place of origin.

Acknowledgement

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INCIDENTS OF SELF IMMOLATION & SUICIDE IN ANCIENT INDIA (EARLY TIMES TO 1200 A.D.)

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Sources of study

Literature, archaeology, accounts of foreign travellers in ancient times, and other writings of historians and sociologists are the main sources, to know the details of suicides from the past. The *Vedas*, *the Brahmanas*, the *Upanishads*, the Epics, the *Dharmasastras* and the *Puranas*, the Budhist and the Jain texts, the *Arthasastra* of Kautilya, *Manusmriti*, the Sanskworkrit works of early medieval period, furnish many details of such crimes in ancient period including suicide. Several epigraphic records relate to the thrilling stories of kings and commoners who indulged in the awe-inspiring acts of self-destruction and suicides . The Khairh plates[1], the *Khajuraho inscription*[2], the *Sravana Belgola* records and others, furnish instances of suicides.[2a]. The *Eran Posthumous Stone Inscription* of Goparaja, Nepal inscriptions of 705 A.D., *Belataru Inscription* of Saka 799 of Rajendra Coladeva[3] and other such epigraphs scattered over the pages of the volumes of Indian Antiquary and Epigraphia India and other historical journals throw eloquent light on the prevailing customs among the ruling classes and the general masses of society in the past. The Greek historians like Strabo, Justin , Diodorus , and companions of Alexander, the Great, on his invasion of India have also given interesting accounts of crimes in general , suicides and practice of *Sati* in particular, in their works .Upendra Thakur's work on "Suicide in Ancient India"also throws sufficient light on the subject. From these, we know that *Sati* was prevalent in that remote past also, in India, among the Cathaei tribe in the Punjab as early as the 4th century B.C.[4] Hindu scriptures do not cite various causes of suicide but this act is declared as a great sin . Vasisthadharma Sutra (23/18) states that even a thought for suicide was sinful. It mentions several agencies as methods for suicide namely fire, water and poison . The Smriti writers have also condemned the act of suicide . Mahabharata (Adi –Parva 178) mentions that by suicide one will not get salvation. Yama prescribed a fine

Key Words :

Melancholiac suffering,

Suicidium,

Metaphsical obsurity,

Epigraphic-records,

Self-destruction,

Indian-Antiquary,

Aggressiveness,

Chronicles,

Slaugher,

Purusamedha and Sarvamedha,

Atmaghataka,

Mortification, etc.

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Abstract :

Incidents of suicide due to various unpreventanble reasons were occurring since a very long primitive phase of human civilizations of the world. Irrecoverable loss of human life on a very large scale in ancient India was being caused since long. In the present paper, I have tried to enumerate some important incidents of suicide right from the time of the Rig-Vedic period

of two hundred *panas* to a man who escaped alive from suicide . Kautilya had devoted the whole chapter seventh of fourth Adhikarna on suicide .

Instances of Suicide

In ancient India, self immolation and suicide seem to have been prevalent and people of all sections practised it. In the *Purusa- Sukta* of the *Rigveda* mention, "God worshipp through the sacrifice. Great souls heaven, abode where the Gods, the ancient *Sadhyas* reside."[5] This hymn is being connected with another verse of the same Book by some scholars.[6] Hiranyagarbha, identified with Prajapati, the Lord of Creatures, is called *atmada* (giver of self) " whose shadow, whose death is immortality to us." The significance of these verses are being corroborated by the texts of the *Satpatha Brahman*: "The Lord of the creatures himself offered a sacrifice for the Devas and …….. these were a man, a horse, a bull, a ram and a he- goat, for, such are all the animals used for sacrifice. Animals are food; he thus lays down in front whatever food thereis, and seeing that, *Agni* turns into him. A man, he slaughters first, for man is the first of animals."[7]

There are two other hymns of the *Rig Veda*, besides the *Purusa*

hymn, referred to above, in which God is represented as either the agent, the object, or the subject of sacrifice, according to Muir.[8] In one of these verses, the God Visvakarma is said to sacrifice himself or to himself and to offer up heaven and earth, while in the other[10] it is stated that the Gods sacrificed, (supreme) God, or that they offered him up. This contention gets further support from the following extract from the *Satpatha Brahmana.*[11] "To them (the Devas), the Lord of creatures gave himself. He became their sacrifice. Sacrifice is good for the Gods. He, having given to them, made a reflection of himself which is sacrifice. Therefore, they say that the Lord of creatures is a sacrifice for he made it a reflection of himself. By means of this sacrifice, he redeemed himself from them." The same Prajapati is again depicted as " one half mortal and the other half immortal, and with that which was mortal he was afraid of death."[12] In the *Purusamedha* of Narayana in which we are told that Narayana (the original male), having sacrificed with it, surpassed all things, the *Sunahsepa* story and other legends and myths tend to show that side by side with human sacrifices, self-immolation also came to be practised on a large scale, of course under the garb of religious observances, during the Vedic period.[13] . Proper sacrifice is that of a man's self and the other forms of

suffering are substitutes[14] In the *Satpatha Brahmana*[15] the closing act of both the *Purusamedha* and *Sarvamedha*, the human and the universal sacrifices, is the giving away by the performer of the whole of his possessions, including in the latter case even the land and his wandering into the forest, as a prelude to an early death.[16] Human sacrifice is being revealed by the details of the story narrated in the *Aitareya Brahmanah*. One Harischandra had made a vow to immolate his first born to Varuna, if that divinity would bless him with children. A child was born named Rohita, and Varuna claimed it, but the father evaded fulfilling his promises under various pretexts, until Rohita, grown up to man's stature, ran away from home when Varun afflicted the father with dropsy. At last Rohita purchased one Sunahasepa from Ajigarta for a hundred heads of cattle, had tied him to a stake, and was about to have him immolated in redemption of his father's vow to Varuna, when the victim at the suggestion of Visvamitra, recited the hymns, and was there by released. The same story with the some variations are mentioned in the *Ramayana*, The *Mahabharta* and the *Bhagwata Purana* also.

Offering of infants to the water-goddess Ganga at the confluence of the river of that name with the sea.

The emblem of the water god was Varuna. such practice was duly and pretty extensively observed for centuries to come. But normally, the offered child used to be picked up by some priests or by some one needy, from the water for bringing him up as a foster son, very much in the way as Visvamitra did in the case of Sunahasepa.[17]

During the period of Upanishadas the expensive sacrifices were declared irreligious and foolish[18] by the *Yajnavalkya, Janaka, Videha* and other philosophers of the time who had also opposed such human sacrifices. The upholders of such sacrifices were even denounced as "fools and fanatics" and the drought animals of the Devas."[19] In the period of Upanishadas, the age-old, worn out conventions were thus discarded for the time being and heralded a glorious chapter in the history of human thought. Hence it is difficult to find instances of self immolation in the Upanishadas. Only the later works such as *Jabala*[20] and *Kanthasruti Upanishads* lay down that "the sanyasin, who has acquired full insight may enter upon the great journey, or choose death by voluntary starvation, by drowning, by fire, or by a hero's fate."[21] Reversibly, suicide (*atmaghataka*) is condemned to post-suicide penalties which follow the soul. The *Isavasya Upanishada* bitterly attacks the

onwards up to 1200 A.D. The article furnishes sufficient information about important cases of suicide of very important persons of history including some kings and our so called reverent godly figures of the Ramayana and the Mahabharata such as Rama, Bharata, Luxman and Shatrughana etc. We also learn from historically reliable sources that even the Buddhist monks and Jains had also committed suicides in good

numbers due to inherent frustrations in furtherance of various causes of penances and due to abnormal delays in achieving their religious missions. Through importat ancient law gives such as Kautilya, Manu, yajhavalkya, Brihaspati, Narada, Parasaram and Vashistha had severely condemned the evil consequences of suicide and had not only strictly forbade to perform the last funeral rites of the deceased but also

practice of suicide and says, "those who indulge in such heinous acts and "those who take their lives reach after death, the Sunless regions, covered by impenetrable darkness."[22] During this period, meditation was counted more valuable than the rigorous and brutal practices of sacrifices, self-immolation and suicide.

In the great epics-The Ramayan and the Mahabharata, many instances of suicides are found and they are mostly religious suicides. In the Ramayana[23], Sarabhanga is said to have entered fire. An example of "mass suicide" in the Ramayan [23a] is also mentioned. It is said that Ramchandra had once promised that if ever a man violated his order or wish, he would abandon him. Unfortunately, Lakshamana happened to be the first to act to the contrary, though unintentionally. Ramchandra thereupon deserted him for ever. Separation from Ram a was too severe a blow to Lakshamana to sustain and he reached Guptaraghata and killed him- self by drowning in the sacred water of river Saryu. Sita and Kausalya had died earlier. With the death of Lakshamana, Rama also lost all interest in life and soon after, he, along with Bharata and Satrughana left the world, by drowning in Saryug river, near the same Ghat. On receipt of the said news, "mass -suicide" took place and a large number of people of

Ayodhya committed suicide in the same river by drowning.[24]

Kautilya condemns suicide and hates those men and women who, under infatuation of love, anger, or other sinful passions, commit or cause to commit suicide, by means of rope, arms or poison. He suggests "dragging of such dead bodies on the public road by the *chandals*, prohibits cremation or last rites, any obsequies, usually performed by relatives. Any relative, doing so, shall be deprived either of his own funeral after death, or be abandoned by the kith and kin, shall also be deprived of conducting a sacrifice or giving or accepting any gifts."[25]

The Mahabharata furnishes information that Arjuna was about to slay himself more than once, and the Ramayana informs us about the supreme example of Bharata, the younger brother of Rama, who was saved by the arrival of Hanumana, with the happy message of Rama just at the moment of entering the sacrificial fire.[26]. The *Vanaparva* of the Mahabharata also extols deaths at Prayag.[27]. The *Salyaparva* of the Mahabharata[28] states " whoever abandons his body at *parthudaka* (at Pehoa near *Thanesvara*) on the northern bank of the *Saraswati* after repeating Vedic prayers would not be troubled by death there after." *The Linga Purana* also recommends the merit of suicide at *Kurukshetra*,

though Lakshmidhara and a few later writers do not make any mention of it.[29] The *Anusasana Parva* of the *Mahabharata* states, "if a man knowing the *Vedanta* and understanding the ephemeral nature of life, abandons life in the holy *Himalaya* by fasting, he would reach the world of Brahma."[30] Suicide on filmsy grounds has been strongly denounced by them, without a single voice of protest from any quarter whatever. But in spite of this, general attitude exceptions were made in the Smritis, the Epics and the Puranas in some cases. People were allowed to kill themselves by drowning with the desire of securing release from this *Samsara*, at extremely holy places like *Prayaga,* the *Sarasvati* and *Kashi* or *Varanasi.*

Puranas and Smritis have made exceptions, which include, "beside *Sati* or self immolation of women, suicide by drowning at the confluence of the Ganga and the Yamuna at Prayaga, self-cremation at one of the *tirthas*, hanging head-downwards over a blazing fire and cutting up one's flesh and offering it to birds of prey; death by fire self-lit at Avimukta (Kashi or Benaras) said to free from rebirth, the person, whosoever ends his life;[31] death by starvation as a means to salvation; termination of life, voluntarily, by drowning, starvation, falling from cliffs or self-cremation, specially recommended for ascetics and

termination of one's life towards the end by *Mahaprasthana* (Great Journey of life)".[32] Manu also advises "intending persons to walk fully determined and go on straight in a north-eastern direction, subsisting on water and air, until his body sinks to rest."[33] Suicide by fire or water, and above all, by bhrigupatana (falling headlong from a cliff) at *Amarakantaka* is highly extolled. The *Matsya Purana eulogises* the peak of *Amarkantaka* by observing, " who ever dies at *Amarkantanka* by fire, poison, water or by fasting, enjoys the pleasures."[34] It is said , he , who throws himself down from the peaks of *Amarakantaka* never returns to *Samsara* .[35]Earlier, Kashi , Banaras and Prayaga also were important places of *tirthas* for the Hindus and great places for committing suicides also.[36] It is said that "one who jumps from the sacred banyan tree (Vata - Vriksha) in to the river below and in so doing ends his life , goes to *Rudraloka"*. [37] The significance attached to the *Vata-Vriksa (the AkshayaVata)* can be judged from the fact that suicide from this tree was common already in the centuries after Christ.".[38]

The last *Parva* of the *Mahabharata* is named *Suvargarohana*. He, who is unable to make this journey to *Indraloka* should give up his life in the snows. When he does so, firmly

prescribed punitive measures for such de-faulting relations of sui-cidal victims; which was mainly intentioned to discourage the suicidal tendency of youngsters.

To have a deterrent effect it was advised to keep such dead bodies on thorough cross-roads in the full view of the passers-by to realise the mal-treatment of the dead even after death. Surprisingly the ancients had allowed the old and

the aged ascetics to commit suicide at the religious place and in religious rivers of Prayaga and Kashi (Vanaras). Consequently Prayaga attracted a large number of such people for committing suicide by drowning in the river Ganga by jumping in the river from a Bargad tree on the bank. Besides such revealing tales of suicide adequate care has been taken to explain then underlying reason and various ways and methods

rooted in truth and courage, his death immediately leads him to heaven.[39]

The *Shaiva Puranas* unanimously advocate suicide by fire or falling from the top of a mountain-cliff, by the ardent devotees of Siva, for obtaining for after a successful suicide, a post suicide existence of unalloyed sensual pleasure.[40] They further recommend that such a devotee should build up a great fire, and after worshipping a picture of *Bhairava,* offer himself as a sacrifice in that fire.[41] Special significance of such a feature of this form of approach to heaven, was the best opportunity available to sinners as well as to virtuous men, to women , to men of the regenerate castes , and to men of no caste what ever, i.e. the outcast[42].

The *Mrichhakatika[43]* of the Gupta period narrates a tale about the king Sudraka as having entered the fire and committed suicide. The *Raghuvansham[44]* of the same era, tells poetically about how Aja, in his old age, when his health was shattered by disease, resorted to fasting and drowned himself at the confluence of the holy rivers, the Ganga and the Saryu, and immediately attained the position of a doyen of heaven. Later Gupta emperor, Kumar Gupta (c 554 A.D.) had also entered the fire of dried cowdung cakes and committed suicide.[45]

Many scholars do not accept this notion of the emperor voluntarily embraceing death by fire. P.V. Kane says that " there is no great propriety in the description, if all that is meant is that the emperor's corpse was burnt with *Karisa*. "[46] Fleet took it to indicate that Kumar Gupta's funeral rites took place at Allahabad but not necessarily that he placed himself on his funeral pyre while still alive [47]But K.C Chattopadhyaya declined to accept this view and said, that "Kumar Gupta burnt himself alive".[48] This contention gets strength because of this fact that this mode of suicide is regarded as the most meritorious in the Puranas.[49]

Khairah plates of Yasahkarnadeva, *Kalacuri Samvat* 823, i.e. A.D. 1073 furnish information about king Gangeya that, " when fond of residing at the foot of the holy fig tree, *Aksayavata* at Prayaga, found salvation there together with his hundred wives at the famous banyan tree of Prayaga in A.D. 1040.[50] ~ ; Also cf. *Jabalpur Inscription of Yasahkarnadeva* [51]Jayapala, king of Kabul and Lahore, is also said to have entered the fire in 1001 A.D.[52] The *Chandellha* king Dhangadeva, 1001-02 A.D. too committed suicide at Prayag by abandoning his body in the waters of the Ganga and Yamuna and entered in to beatitude, closing the eyes, fixing his thoughts

on *Rudra* and muttering holy prayers".[53] A Chandella minister namely Ananta is also said to harve drowned himself at the confluence at Prayaga;[54] Though, for Brahimns such acts were strictly prohibited, yet due to non-strictness in implementation of regulations it would have happened. Such suicides were allowed to all the other three Varnas except Brahmins; as contained in *Kalivarjya Verses*.[55]

In the *Adbhutasagara,* the royal author Vallalasena, a Sena dynasty king, is shown as having drowned himself at Prayag.[56] But compilation of *Danasagara* in 1091 A.D. refutes the fact of Vallalsena's committing suicide in 1089 Saka.[57]

The Rashtrakuta king Dhruva is also believed to have committed suicide at Prayaga. The *Baroda Copperplate* of *Karka Suvarnatarsa depicts*; " Dhurva obtaining from enemics, at the confluence of the Ganga and the Yamuna of beauteous waves, the status of an overlord, attained at the same time the high region of Siva as a direct mark as it were. (of his elevated condition)".[58]

Alketar did not accept this view and held that the verse need not be construed to mean the suicide of Dhruva at the confluence, as it describes figuratively the occupation of Doab by the Rastrakuta invader .[59] Princep interpreted this verse to mean that Dhruva drowned himself at the confluence of the Ganga and the Yamuna.[60]. K. C. Chattopadhyaya also holds the views of Princep and says, " The Puranas mention that the death near the famous banyan tree at Prayaga takes one to the region of Siva. Epigraphic evidences of the period suggest otherwise. Prince of Wales Museum Copperplate of *Chalukya Vijayaditya* speaks of "the bringing of the *Ganga* and the *Yamuna* under the suzerainty of his father, "[61] and "the defeat of the king of *Uttarapatha* brought him the insignia of overlord-ship."[62]

Evaluating the evidences, available Prof, Upendra Thakur[63] concluded, " it can be said for certain that Dhruva drowned himself at the confluence."

Karnadeva of Chedi, A.D.1042 had ended his life in its waters.[64] According to *Khajuraho Inscription* the king Dhangadeva of the *Chandella* dynasty lived for more than hundred years and abandoned his body at *Prayaga* while contemplating on *Rudra*.[65] Another instance is of the drowning of *Chalukya* king *Somesvara Ahavamalla* in the *Tungabhadra* river in 1068 A.D. and who went to *Svarga.*[66]

In *Vasistha Dharma Shastra* [67], it is clearly depicted that the world of brahmin is obtained by entering

of such sad and silent gruesome crime whose delinquent authors in most of the cases were dead, not even left to experience the brunt of punishment. This small write-up is academically very intersesting, curiously enlightening and for every one to know his such gloomy past with a warning alert for the youngsters of today.

in to fire, and in the *Apastambha* (5th cent. A.D.)[68] in an interesting discussion it is admitted that in one view the ideal was for an ascetic first to live on fruits, roots, grass and leaves only, then on those things alone which become spontaneously detached, then on water, then on air and finally on either alone. The *Vajasneye Samhita*[69] also says that "who ever destroys his self reach after death, Asura-world that is shrouded in blinding darkness " This, according to some, refers to persons ignorant of the correct knowledge of the self. This has further been interpreted by many as referring to those guilty of suicide (*atmahana*).[70] A

The *Vashistha Dharmasustra* in the 3rd century B.C.[71] ordains "Whoever kills himself becomes *abhisiapta* (guilty of mortal sin) and his *Sapindas* have to perform no death rites for him......... A *dvijja* (Brahmin), who through affection performs the last rites of a man, who commits suicide, must undergo the penance *chandrayana* with *tapta krccha*." It also prescribes a *prayaschitta* (penance) for merely resolving to kill oneself (even when no actual attempt is made).[72]

The great law giver Manu (200 B.C.- A.D. 200)[73] holds the views that no water is to be offered for the benefit of the souls of those who kill themselves. A Vedic passage in this connection says : "One, who desires heaven, should not seek to die before the appointed span of life is at an end " *Medhatithi on Manu,*[74] as well as *Kulluku* on *Manu*,[75] quoting this Vedic text explained it by saying that "if *Shruti* intended to lay down an absolute prohibition against suicide in every case, it should have simply said, 'one, who desired heaven, should not seek to die."[76]

Acts of suicide have been equally condemned in the Vhisanu Samhita (Ist – 3rd century A.D.). It mentions, "he, who cuts the rope by which (a suicider) has hung himself, becomes purified by performing the Tapta krccha. So does he who sheds tears for them." [77] composed in post Maurya or during the Gupta period

the *Adiparva* of the *Mahabharta*[78] declares that one who commits suicide does not reach blissful worlds. Again, the *Yama- smriti* of 6th-7th century A. D. condemns such acts of suicide and treats them as grave offence and says, "When a person tries to do away with himself by such methods as hanging, if he dies, his body should be smeared with impure things, and if he lives, he should be fined two hundred panas; his friends and sons should each be fined one pana and then they should undergo the penance laid down in the Shastra." [79]

From *Harshacharita*[80] it is learnt "that how before and after the death of Prabhakarvardhana, many of the king's friends (his physician *Rasayana*), ministers, servants and favourites killed themselves. We further learn that his wives also competed amongst themselves for dying along with him on his funeral pyre".[81] *Rajatarangini* also narrates another story,. "When the queen of Ananta practised Sati on the death of her husband, her litter-carrier and some other men and three of her *dasis* (maid servants) followed her in death".[82] There is another example of a mother who burnt herself on the funeral pyre of her son, out of grief.[83] We find mention of another type of suicide and it reveals that there were certain officers appointed by the king to superintend *Prayopavesa* (resolving on death by fasting).[84]

This indicates that such types of deaths were occurring on a large scale and for their prevention or to check them, the king had to arrange for the appointment of such special officers'.

Islam also condemns suicide as an act of interfering with the decrees of God and the Mohamdans believe that , "it is a greater sin for a person to kill himself than to kill a follow man. "[85] The Quran says : "it is not for any soul to die save by God's permission written down for an appointed time..........spend in the way of Allah and cast not yourselves to prediction with your own

hands."[86] Hence suicide was said to be very rare in the past in the Muslim world. [87]Suicide to a Muslim, is an act of revolt against God, and " the perpetrator of the act risks the wrath of God and the indescribable penalties of the Fire."[88]

Suicide and Jainas and Buddhists

In *Kathakosa*[89] it is mentioned " while the majority of the sects were addicted to speedly methods of suicide, the Jainas and probably also the *Ajivikas* who were disciples of *Gosala*, considered those methods vulgar and evil." According to them, " the men who kill themselves, are reborn as demons." (The *giripatana or bhrgupatana is pagayajana cetthiya*[90] " while practicing starvation the Jaina must avoid any desire for death (*maranasamsa*):" Renouncing all food and death, I patiently wait for my end."[91]

The Buddhists condemn asceticism, the Jainas saw in it physical pain (dukha, *tapas*), a force that makes for purification from sin. Suicide by starvation is the ascetic act par-excellence. [92]It is believed that " vocal sins are destroyed through silence (*mauna*) and mental sins through ' respiratory-restraint', but bodily sins through starvation (*abhojan*)[93] and lust through mortification. At this supreme moment of his career, the ascetic must not long after rebirth in this world or as a God, he must not wish to live on or desire sensual *plesures*, but equally he must not seek for death to come more swiftly. The final Condition thus reached by the sage (*Samahipatte*)[94] is one of complete mental and Physical collapse. practically identical with it appears to be the *Pannabhummi,* the last of the eight stages of man's existence as taught by *Mankhaliputta Gosala.*

A similar rule of death by fasting prevailed among the Jainas. The followers were *exhorted* by the *Tirthankaras* to shun all luxuries and were asked to adopt the most rigorous austerities in life. In the Jaina canon,

death by fasting was given high place and it recognized and recommended religious suicide. Details of it can be seen in Ayara the first Anga and the *Ratnakaranda Sravakacara*[95] of *Samantabhadra* of 2nd Cen. A.D.. "Dilates on *Sallekhana* which consists in abandoning the body for the accumulation of merit in calamities, famines, extreme old age and incurable disease." [96]

It is also worth mentioning that suicide was not allowed to every body but only to thoses ascetics who have acquired the highest degree of perfection. "It, in essence, consists of giving up begging, and lying down in a duly chosen place to a wait death by hunger and thirst", i.e. by *Sallekhana*. Such a kind of suicide was committed by *Tirthankaras, Parsva* and *Aristanemi*, monk khandaga and layman Ambada.[97] A number of such stories are mentioned in Uvasagadasao but it does not permit suicide to any other than the ascetics, and non religious suicides are denounced with special horror by the Jainas and they strictly disapprove of attempts of all kinds of taking life. [98]

The *Makhadeva* and *Lamahamsa Jatakas* establish the futility of ascetic self-mortification. Lord Buddha, all through his preachings, condemned this practice as absurd and delusory. They allow a man only under certain circumstances to take his own life or else they say that dire miseries are in store for the self murderer and such people are looked upon as having deeply sinned in the previous life.[99] But at the same time the Buddhist literature is full of cases of various kinds of suicide. *The Majjhima Nikaya* mentions that a husband threantened with separation from his wife, killed her and committed suicide in order that they might be united as husband and wife in their next birth. In view of different instances in the Buddhist text, their views appear very contradictory to each other. At one place it condemns suicide in a strong word but at another it indirectly supports it. It condemns asceticism and forbids any austerity which is likely to weaken both body and mind,

and at the some time it strongly condemns suicides. It declares in unequivocal terms that "a monk who preaches suicide, who tells man: "Do away with this wretched life, full of suffering and sin; death is better, in fact, preaches murder, is a murderer, is no longer a monk."[100] Above all, it transpires that the underlying spirit of Buddhism and its philosophy can be seen in the fact that the Buddhists object to both "thirst for the existence" *bhavatrsna* and a thirst for non existence ("Vibhavatrisna"). A saint is advised to abide in indifference " without caring for life, without caring for death." A monk or follower is explicitly told that he would not commit suicide in order to reach *nirvana* sooner but in spite of strong restrictions on suicides or self immolation, several stories narrated in the Buddhist scriptures, indicate beyond any doubt that in certain cases Buddhism admitted suicide. In some cases it may be pre nature or sinful but in some other cases we find *arhats* indulging in self destruction. The suicidal stories of *Siha, Sappadasa, Vakkali*, and *Godhika* are corroborations of such hypothesis.

It is said that *Siha* was distressed for her not obtaining progress in meditation after seven years of continuous endeavor when she said; "what have I to do with this wretched life (*papajivita*)? I will die through hanging! but, just as the rope was tied round her neck, she was turning her thought towards enlightenment (*Vipasanna*) as was her former habit. She attained arhatship, and at this very moment the rope loosened from her throat and fell."[101] Similar story of *Sappadasa* reveals that the monk (*Sappadasa*) was over-powered by passion (*Kilesa)* and never obtained concentration. It disturbed and perplexed him so much that he was about to commit suicide with a razor or with a sword when he suddenly realized the inward vision.[102]

Vakkali, fond of looking at the Buddha, attaching excessive significance to the physical body- a putrid body (*Putikaya*)- of the Master, an obstacle to his spiritual advancement, was commanded by the Lord Buddha to go in order to create in him a ' holy fear'. Frustrated and in desperation at being no longer able to see the Master, *Vakkali* decided to commit suicide by throwing himself down from a mountain, saying : " What have I to do with this life, if I can no longer see him ?". At this moment the Master appeared and prevented him from thus 'destroying the conditions of his reaching the Path' (*Maggaphala*)[103]Vakkali was suffering from a painful illness. *Bhagavat* came to comfort him and said: " your death will be a holy one, an auspicious one (apapika)." When the master had gone, *Vakkali* uttered for the last time the Buddhist profession of faith (universal transistorizes) and took the sword. [104] Godhika was unable, because of disease, to remain in a certain state of meditation. He thought. "If I were to take a sword ....". Mara approached the Buddha and told him : "Your disciple wants to die. he has resolved to die, prevent him. How could one of your disciples die while, he is not yet an *arhat* ?" But, as it is explained in the *Abhidharmakosavyakhya* , Godhika reached *arhatship*. Just after he had began cutting his throat.[105] It is said: "Those who take the sword are without regard for life; they achieve insight (*Vipassana*) and reach *Nirvana*. Thus act the strong ones (*dhira*); they desire not life; having removed thirst and the root of thirst (that is ignorance)' Godhika is at rest." *The Milindapanha also* deals with suicide[106]

The saint of neo-Buddhism (New Buddhism) believed in "abandoning one's existence" as the best sacrifice, for "to burn one's body as an offering is certainly more meritorious than to kindle lamps at shrine. The stories of a future *Sakyamuni,* [107]who gave his body to feed a starving tigress and the legend of *Bhaisajyaraja,* [108] Who filled his body with all sorts of oil and set it on fire are worth recording in this connection. Dr. Upendra thakur[109] says, "this reminds us of the, popular legend of *Dadhici* who offered up his bones to God Indra to prepare *Vajra* (the terrible thunder bolt) to fight against the Rakshasas (demons) and killed them .

From the accounts of Megasthenes[110] about the reasons of death of Kalanos ,the Indian Gymnosophist, at the age of 73, who burnt himself over a pyre in the camp of Alexander the great, this can be inferred that the practice of religious suicide prevailed long before the 4th century B.C. Strabo also mentions another story on the same theme, "with the ambassadors that came to *Augustus Caesar* from India also arrived an Indian Gymnosophist who committed himself to the flames like Kalanos, who exhibited the same spectacle before Alexander." [111]A Chinese traveller I-tsing wrote that the Indian Buddhists abstained from suicide and, in general, from self-torture.[112] From *Bibliotheca Buddhica (Bibliotheca Buddhica, i.e. Petrograd, 1902)* it is known that one of the chief aims of *Santitas in* his *Siksa-Samuccaya*. " A Compendium of the Rules of the Disciple of the Great Vehicle is to show that the sacrifice of one's body is not in ace or dance with a wise estimate of the spiritual needs of a beginner.[113]

Causes of Suicide:-

Henry Morselli defines suicide as " the psychological meaning of this moral fact has always been enveloped in metaphysical obscurity, because suicide appears less susceptible of positive appreciation than all other expression of the human will. The social significance of voluntary death began to be evident, when a comparison was made between homicide and suicide ." [114] In ancient time also, it was considered as self killing and almost all the ancient civilizations of the world- Indian, Greek, Latin and others – were familiar with these abnormal acts and "Greek and Latin civilizations had often seen their best representative men, lost to them by means of suicide."[115] Western Sociologist Emile Durkheim says 'the word *Suicidium* was used for the first time by Desfontaines in the 18th century.[116] The words *Propriicidium* (Latin) and *avtoxeipia* (from the Greek) were also formed in the same period. In the struggle

for existence it is said to be the weakest link and one of the forms of defeat.

Melancholic suffering, very often actuated by altruistic motives, drives a man on to take his own life. Miserable poverty, glaring social and economic inequality, disappointment and frustration in love or jealousy, grief over the sudden death of a child or severe illness of kiths and kin, fear of punishment, remorse, shame or wounded pride, anger or revenge are some of the known basic reasons of this crime.[117] Due to religious faiths also, people of certain locations used to commit suicides in the past. Notwith standing all acclamations and denunciations, suicides, since ancient times, have been more or less committed unabated , unchecked all over the globe. It is an un-eventful crime and mostly it occurs at a lonely place where actor is the victim himself .

Kautilya assigns the following causes of suicide such as "offence to women or kinsmen, claiming inheritance, professional competition, hatred against rivals, commerce, guilds and any one of the legal disputes as one of the causes of anger and anger, being the real cause of destruction of self. [118] He condemns *Atmaghataka* on secular and religious grounds and prohibits even the relatives to perform last rites of the dead. [119]

Parasara [120] describes the fate with which a man or woman comes by after having committed suicide by hanging either out of inordinate pride, excessive love, intolerable disease fright or anger. To please some angry God, and also due to some religious blind faiths used to motivate one to self- mortification. A very important cause of religious celibacy has been the wide spread idea that sexual intercourse is defiling and in certain circumstances, a mysterious cause of evil. This idea was typical of religious observances, among the Egyptians, the Greeks, the Hebrews, the Indians, the Christians, the Muslims and the other ancient races.[121] Deep rooted

religions convictions, fast-steeped social traditions, and long-cherished superstitions resist any attack on their jurisdiction with all their fury and anguish, though unconsciously. They seek, as a matter of fact, in the hearts of the majority of men, looking for an opportune moment to strike and strike furiously, when-ever the opportunity compels and such crimes take place even now as in the past. Besides the forces of fear and anxiety, feelings of inferiority, hatred, aggressiveness, revenge , guilt and other emotional mental disorders are such that they prevent people from attaining *emotional maturity*. This emotional immaturity has probably been the most powerful factor compelling a man to choose suicide as the only solution to seemingly insurmountable difficulties. These factors used to root in those past days also as the potential cause of suicide as of today

Medical experts consider suicide as the symptom of mental disease in most of the cases but they also view that sometime even the sane person also commits suicide due to sudden impulsive factors . They also view that some persons always resort to commit suicide when they are under the influence of alcohol or some other kinds of intoxicating drinks . Some get suicidal tendency in case they suffer from incurable disease .

Westermarck,[122] says " in China the burial of living persons with the dead dates from the darkest most period of ages, and this custom was so common that it did not occur to the annalists and chroniclers to set down such every day matters as any thing remarkable."

As regards to investigation of cases of suicide or murder, the *Kantaka-Sodhana-* commissioners (Magistrates , dealing with criminal cases) – took hold of the dead bodies, examined them, ascertained the circumstances of death, and then tried to find out the real cause of the death. The bodies of suicidal cases were left exposed generally on the public thorough areas, and roads. The dead bodies of women suiciders were also

treated similarly.[123] It seems that Kautilya's intention must be to give a message to the people not to commit suicide, or else their dead bodies too will be similarly treated, to discourage the suicidal tendencies of men and women.[124] In doing for the main intention was to give a message to all the living men and women that such insults will be done to their dead bodies also is case of their suicidal death through such despising methods .

Contrary to the Kautilya's views, the *Dharmasastras* give a differently contrast picture. Suicide or attempts to commit suicide, were condemned as a great sin. The *Brahmapurana* [125] says that those who commit suicide by poison, fire, hanging, drowning, or falling from a cliff or a tree, should be classed with those who commit Mahapatakas (Cardinal sins.)[126]

Such persons should not be cremated, nor should usual funeral rites be performed for them.[127] The condemnation is, however, explained away as inapplicable to religious suicide, as it is deliberately done, without any passion.[128]

Princes might be a great source of danger to their parents. According to a Buddhist tradition Magadha was ruled from Ajatsatru on wards by five parricides in succession, which suggests that at that time this region of India followed the widespread primitive practice of which the customary nature was not remembered by succeeding generation. Kings are warned against the intrigues both of sons and wives, "for princes, like crabs, eat their own parents."[129] The activities of the princes must be strictly controlled, and they must be constantly spied upon, to be ensured that, they will not revolt against their fathers.[130] The princess' impatience to acquire his patrimony was often gratified by the voluntary abdication of an elderly king- a practice approved by precept and tradition. Some-times the abdication was followed by religious suicide. Several kings, the most notable being Chandragupta Maurya ,are said to have abdicated and

slowly starved themselves to death under the influence of Jainism. Others passed straight to heaven by drowning in a sacred river, notably the Chalukya king Somesvera-I (C. 1042-1068 A. D.), who, when his powers began to fail, waded in to the holy *Tungabhadra* and drowned himself to the sound of religious music, while his courtiers lined the banks. In some of the medieval principalities of Malabar, the ritual suicide of the king became a regular institution.[131] Widows' 'life was worst and more miserable than the servants of the house and in such circumstances it is not surprising that women often immolated themselves on their husband's funeral pyres, very common a practice. Many ancient peoples buried or burnt a man's widows, horses, and other cherished possessions with their corpses, in order that they might have all that they loved and needed in the other world.[132] We know that such practices were followed by the kings of Ur and also by the ancient Chinese, Egypt and early Indo-European people.[133] One of the funeral hymns of the Rg Veda shows that in the earliest form of the cremation rite known to us, the widow lay down beside the dead man, and his bow was placed in his hand, the bow was removed and the wife called on to return to the land of the living.[134] It indicates burning of wife with her dead husbands to an older custom prevailing even long before the composition of this hymn.

A 15th century traveller Nicolodei Couti states that as many as three thousand of the wives and concubines of the kings of *Vijaya Nagara* were pledged to be burnt with their lord on his death. South Indian kings were often accompanied in their death not only by their wives, but also by their ministers and palace servants. There are also numerous records of royal officers giving their lives in sacrifice to a god for the prosperity of a king and his kingdom. [135]All these were nothing less than voluntary suicide prevailing in the forms of custom of Sati or in other forms and the widow herself, if she had no young children, might well prefer even a painful

death, in the hope of reunion with her husband, to a dreary life of hunger, scorn, and domestic servitude and torture.[136] Strabo mentions that there are records of several embassies from Indian kings to the Caesars. The earliest of these is said by Strabo to have been sent by the king of the Pandyas, and was met by Augustus at Athens in about 20 B. C. This mission included an ascetic called Zarmanochegas (Skt. Sramanacarya) who, growing tired of a life of earthly bondage, burnt himself to death at Athens.

Human sacrifice was also practiced in the middle Ages. Theoretically the execution of every criminal was a sort of sacrifice and his soul was thought to be purged of guilt. The victims of human sacrifice were thus often criminals provided by the secular arm, but victims were also obtained by more dubious means. "We know of girls being kidnapped, to serve as human sacrifice in secret rites, and of a temple of Durga at which a daily human sacrifice was offered. Voluntary human sacrifice or religious suicide in various forms, became quite common in the Middle Ages, especially in the Deccan, where numerous inscriptions commemorate the many pious souls who, in fulfilment of Vows, or to ensure the success of their kings,' leapt from pillars and broke their necks, cut their own throats, or drowned themselves in a sacred river. The last rite of the sati was, in one aspect, a human sacrifice". [137]

Exceptions

Puranas and Smritis narrate and enumerate five exceptional circumstances in which one can adopt the course of suicide and such cases will not be treated adversely.[138]Sati or self immolation of women, either with their husbands (*Sahamaranam*) or after (*Amumaranam*) the cremation on their husbands'.
Suicide by drowning is not only permitted but enjoined at the confluence of the *Ganga* and *Yamuna* at *Parayag*, self-cremation at one of the tirthas is also commended.

The Puranas permit persons, who suffer from incurable disease, or who are too old to do their appointed religious duties, to terminate their lives voluntarily by drowning, starvation, falling from cliffs, or self cremation,[139]

It is specially recommended for ascetics, and Terminating one's life towards the end by *mahaprasthana* was a recognized form of exit from the world.[140]

From the above, it can be summed up that religious suicide was approved in India since long, but the most significant point was that only those persons who lived life fully and acquired high ascetic power were authorized to undertake this act. . *Kathasaritasagara* relates the storey of a Brahman who went to a place of pilgrimage for suicide.[141] At other place in *Kathsaritsagar* there is a mention of a suicide , committed by a son due to sorrow of sudden death of parents and life was ended by drowning in the river[142] Hence like today, in olden days also as social problems , failure in the scheme ,anger , unsuccessfulness in amorous attempts were some of the reasons of suicide. *Apasthambha Dharmasutra*[143] mentions *Prayag* and *Varanasi* as the places of pilgrimage where persons got salvation by drowning in the *Ganga* . Manu has mentioned fire ,poison ,water and fasting as the means of self suicide[144]

Atri[145] had suggested suicide and self immolation to old persons . Gautama[146] declares no mourning for persons committee in suicide. He also mentions fasting, poison taking ,drowning in the water and falling from hill as means of committing suicide. *Kalachuri King Gangeyandeva* committed suicide along with his hundred wives by drowning at *Prayag* according to Khaira Copper Plate Inscription [147] *Chalukya King Somadeva* ended his life by fasting on the bank of *Tungabhadra* river[148] The fire was also utilised to burn the physical body to gain salvation. In Mrchchakatika[149] Sudraka ended his life by entering into

fire like Kumar Gupta III of Gupta Dynasty who committed suicide at *Prayag* [150] To others, this right was denied. Right from the age of the *Rigveda,* down to the present day, an aged man has been exhorted, through one doctrine or other, to take it as his duty and privilege to adopt a hermit's life, unless he preferred to terminate at his own will, an existence which had become burdensome.

Foot Notes :-

1   ***EI, XII, P-211, cf. U. Thakur, The History of Suicide in India, Page-10***

2.   El, 1, P-140

2a.   Ibid

3.   El. VI, 213, XX, 168, X, 39, XVI, 10,etc.

4   U. Thakur, The History of Suicide in Ancient India, page-11

5.   Cf. the following verse in the RV, X, 10,6,8, which is cited by some scholars as a sanction for suicide at the confluence of the Ganga and the Yamuna at Prayaga
      "Sita -site sarite yatra sangate tattra plutaso divamutyataanti .
      Ye wai tanwan visrijanti dhiraste janasoamrittatwan bhajante ."

6.   RV X, 121, 2, cf, U. Thakur, op.cit, page 46

7.   Sat. Brahman. VI, 2, 1, 16, cf. U. Thakur, op, cit, page-47

8.   Muir, Hindu Tales, cf. U. Thakur, op. cit. P-47

9.   R.V.,X, 81, 5-6

10.   R.V.X,13,3

11.   Sat.Bra;XIII,VI,I,ff

12.   R. L. Mitra, Indo-Aryans, ii, pp, 115 ff.

13.   U. Thakur Op.cit, page-48

14.   Keith';s trans. of Taittiriya Samhita, pt. I, P Cvi.ff. cf. U. Thakur, op.cit,P-48-49

15.   Satpatha, XIII, VI, P, 1ff

16.   Ibid, p- 49

17. R.L. Mitra, Indo-Aryans, ii. PP. 79.

18. U. Thakur, History of Mithila, P.P 98

19. Ibid p-98

20. cf. P Deussen, the Philosophy of the Upanishads, 1906 P. 382

21. F.O. Schrader, The Minor Upanishads, I, PP 39, 390 ff Madras, 1912

22. cf. the following verses :-
    "Asurya naam ye loka andhen tamsa britah .
    Tanste pretyani gachhanti ye ke chatmahno janah."
    quoted in T.K. Intro. IXIII

23. Ramayan, Aranya, chap. IX

23a. Ibid

24. cf. U. Thakur, op. cit, pp 52-53

25. Arth. IV., 7

26. I A, XXXV, P. 129

27. Mhb., 85, 83

28. Mhb, 39, 34, 81, 141- 149:
    "Saraswatayashacha tirthani tithevayascha prithudakam
    Srukatime sarwatirthana yashtathajedatamanshatnum
    Prithudake japyapari naino shawomaran tapet
    Shawobhawayapi marnam naino santapeyanditayarthah."

29 cf. Tirthaprakasa, 151, The Linga Purana may be assigned to 10th- 12th century A.D.

30. Mhb, 25. 62- 64, also see Vanaparva, 85, 33

31. TK, P.21:
    "Aagni praweshah me kuryar vimukte vithantah
    Prawishanti sukham te manam pun rbhavinojanah"

32. U. Thakur, op.cit, P-79

33. Manu, VI.30

34. Matsya Purana, 186, 28-23:
    "Satan varsh sahastranan swarge modati pandawaha
    Jiwedharsheshatan sajran sarwarog vikarjitah"

35. Ibid, 186,34-35:
    "Yevam vogan vajante wai mrita ye amar kantake
    Agani praveasheantha jale tatha chaiv aanashke
    Agani vrita gati asta shya pawanan shaya amber yatha
    Patanan patate yastu amarye she naradhiwa ."

36. *TK, P-138-139 "Prayagan smranano adi yastu pranan parityajet*
    Brhamaloka manapnoti vadanti krishipunganwah"

(Laksmidhara in his TK has devoted a full chapter to Prayagamahatmyan (See chapter –VII,PP-136-153).

37. *TK.P-138-139: "Strisahshrtakule ramie mandakinyastate shuv*
    Tatah swargat parivrashto jambudvipapatipatirav arwet"

38. Beal, Si-Yu-Ki, I, P-232

39. *TK.P-258:*
    "Mahapathasya yatra cha kartavyah tuhinorpari
    Aakshtya satyan dharyan cha sadyah swaragaparada hisa"
    (Brahmapurana quoted).

40. Ibid, P-262-63

41. Ibid, P-262:
    "Shivanle kshipet karne tan patan vairwa pradam
    Patjagderyatha pata vaatma vatawata dwije
    Tatha te falda sarve karmato vairwan pardam
    Vawnani vichitrani asankhyeyani sankhyaya"

42. Ibid, 262

43. Mrcchkatika, 1.4

44. Raghu, VIII.94 :
"Sampagwinitamanth warmharan kumar- madishya rakshanavidhau
Vidhiwtaparjaanam .rogopasrishttatnudurbsatin mumukshuh

Prayoparweshnamartinripatirwarbhuw."

45. C 11,Vol. III, No. 42 :

     "Shauryasatyabratdharo yah prabhaggato dhane Ambhasiw karishagno magnah sa puspujatah"¼Lines 7-8, P-205½

46. P.V.Kane, History of Dharamasastra, V0l. IV, P-605, note 1372

47. Fleet,C II,III,P-.203

48. JUPHS,X,PP,60ff

49. the Matsya Purana,CVII),Matsya Purana says:

     "Gangayamunyourmadhye karshagniyastusadhyet Anhi nago hayrogashaych panchendriyasamanwitah.

     Yawanti romkupani tashya gotresu dehinah Tawadwarshasahtrani swagloke mahiyate"

50. EI, XII, P- 211:

     "Prapte prayag watmulniwesh wa ba wandhoshadhanshaten grihani virmuntramuktim"

51. EI, II, PP. 1-7, cf U. Thakur, op.cit, Page- 97

52. TK, P. 139, Cf. U. Thakur, op.cit, P- 97

53. EI, 1, P.137, Verse 55

54. Cf. "Mancandella Inscription of Madanavarman" in EI, I,P-200-1, Verse 29 says that Ananta was a Brahmana

55. cf. The Tirthaprakasa, P.V.Kane, op.cit, IV, P-609

56. JUPHS, Vol. VI(N.S.), pts. i-ii, P-32.

57. IB, 174, cf. the following Verse:

     "Grantheshminansamapta ewam tanye samrajya luxmimuda

     Dikshaparwani dakshine nigrite nishayatatishathapapat

     Nanadanjitilambu sambalnavan suryatmajasangman

     Gangayan vishchatye nirjarpur bharyanuyato gatah"

58. IA, XII, P-159, cf. the following verse:-

     "Yo gangayamune tarang subhage grihalan parebhayah saman

     Sakshachachihanbhen chotaktampadan

patpraptwaneshwaram

     Dohayammit waivarwriw gunairyas bhramdvirdisho

     Vyaptastshay wabhuw kirtipursho govindrajah sutah"

59. The Rastrakutas and Their Times, P-58

60. JASB, 1839, P-304

61. EI, XXV,Lines-22-23:-

"Gangaya yamunapali dhwaj pathadkamhashabdchihnamanikyamatgajadin pitrisatkukurwan"

     (JUPHS, X, P-175).

62. Ibid, Lines-17-18:

     "Saklottarapthnathmathano pargitorjit palidhwjadisamast-parmeshwaryachinhsya"

63. U. Thakur, op.cit, P-100-1

64. JUPHS, Intro, Ixxx- Ixxxi

65. EI, Vol. I, P140: "........Striratnam bhuwnaikbhushanmbhuttene yameka sati ..etc."

66. Epigraphia Carnatica, Vol. ii. verse 136. Mr. Rice has collected a number of inscriptions on these memorial- stones in the volumes of this journal.

67. Ibid. XX, IX, 4

68. Apastambha, II, IX, 23.2

69. Vaj. Sam., 40.3

70. cf. Uttararama- carita, IV. after V. 3

     ("Andh tamisrahaysurya nam te lokastevyah parti vidhiyante ya aatmaghati na eitye wa mrishio mamyante") also see Brh. Up. IV. 4. 11, cf. U. Thakur, op cit. p. -56)

71. Vas. Dh. S. XXIII, 14-16, 18

72. U. Thakur, op. cit P. 56

73. Manusmriti, V – 89

74. lbid, VI 32:

     "Nanucha tasmadu ha na purayushah swah kami preyaditi vutistatwakuto wanpratahsth shrirrtyagah......Aawantha vishese dhayanviprete marne yetawawkshynta swah kami preyaditi."

75. Medhasithi on Manu VI. 23, Kulluka on Manu, IV. 31 etc

76. U. Thakur, op. cit. p. 57

77. V.S. XIX. 8.9. I XX, 6-7, XXXIII, 1-2

78. Mhb,. 179-20

79. Yama 20, 21 –
   "Aatmanan dhatyedhyastu rajjwadi virupkrmaih
   Mrito madhye na leptvayan jivato
   dwishtandamah."

80. Harshacarita, V 3rd para from end

81. lbid, V

82. Rajatarangini, VII, 481 :
   "Gangadharashtakki budho yougmawahshach
   dandakah
   Tabudha notika valga cheti dasyaaysatdanwayuh."

83. lbid, VII- 1380 :
   "Swamikritiyodhambhastutysutishu   stishu
   pujyatam
   Gajja   tajjanni   swasya
   namasyaanteyvishichichittam"

84. lbid., VII., 1411 :
   "Yugantanapi jivitwa kayah sayaya yew yah
   Watyaganatarasadhyethe dhigdainyamanujivinam."

85. Westcott, Suicide, p. 32

86. M. Mohammad Ali, The Holy Quran, IV, 33.

87. Lisle, Du Suicide, pp. 305, 345, ; Logoyt, Le
   Suicide ancient modern p- 7
   ; Westcott, op. cit., p. 12

88 . Encyclopacdia of Religion and Ethics, vol. , XII,
   P. 38.

89. Kathakosa (tr. C.H.Tawney), London, 1895, P-8

90. H. Jacobi, Erzablungen in Maharastri, Loipzig,
   1886, P-2, A.Weber,
   Frag, ment der Bhagvati, Berlin, 1865-66, P-206

91. On Jaina suicide, see J.J.Meyer, Hindu Tales, trans.
   Eng. London,
   1909, Uvasagadasao (ed Hoerule) pp-57, 89;
   Acarngasutra, i.e. 7.5-8 (
   SBE, XXII, 74-78). Hopkins, The Puligions of
   India, 291, Buhler, Ueber die
   indische Sektc de Jaina (Vienna, 1887), P-2

92. Meyer, op.cit: "Violent death, voluntary or not

destroys sin."

93. Majjhima, i, 93, SBE, I and vols. xxii-xi

94. Parajika, iii, SBE, XIII.4; Buddhaghosa's comm.
   on Digha Nikaya, ii,

20. cf. U.Thakur, op.cit. P-105

95. U. Thakur, op.cit P-105

96. Ibid, Chap V). (Cf. the following :-
   "Upsarge durbhikshe jarsi rujayan cha
   nihpratikare
   Dharmay   tanubhimochanmahuh   sallekh
   namaryah"

97. U.Thakur, op.cit, P-106

98. Ibid

99. Hardy, Manual of Buddhism, P-479, cf. U. Thakur,
   op.cit p- 106

100. SBE XIII, 4, Parajika, III

101. Therigatha, 77,Cf U. Thakur, op.cit p-107

102. Theragatha, 408, cf. Ibid, PP-107-108

103. Ibid, 350, Dhammapada's Commentary, 381,
   Anguttara's Commentary
   Cf. U. Thakur, op.cit, P- 108

104. Samyutta, iii, 123 Cf U. Thakur, opcit 108

105. Kathavathu, i, 2

106. SBE,XXXV,PP.273ff (but does not mention
   Godhika and *Vakkali, Samynttha*, i ,120 ,iii ,123
   ,Dhammapada's Commentary, v.57 (i.431);
   Kathavatthu's Commentary, ad. i.2).

107. Jatakamala, i ,{tr.Speyer}, SBE, i

108. Saddharma Pundarika, xxii {tr. kern},SBE,xxii

109. U. Thakur, op.cit, P.109

110. M.C.Crindle, P.106, Arrian, Anab ,vii,3

111. Strabo xv,i ,P.720

112. A Record of the Buddhist Religion, PP.197ff

113. U. Thakur, op.cit, P-110

114. Henry Morselli, Suicide, pp-2ff, cited from Dr.
   Upendra Thakur, The
   History of suicide in India, page- 1

115. Ibid P-1

116. Emile Durkheim, Le. Suicide, pp 2 ff . cf U. Thakur,
   op.cit, Page-2

117. Westermarck, Origin and Development of Moral Ideas, Vol. II, PP 232 FF

118. Kautilyan Arthasastra, IV, 7

119. Ibid, IV, 7, Also see Rajdharma Kandam of the Krtyakalpatary, edited by K.V.Rangaswami Aiyangar, pp- 186-87

120. Parasara-Smriti, IV,1-2

121. U. Thakur, op. cit,page-15

122. Westermarck, Origin and Development of Moral Ideas, Vol.- 1, Sec. On Human Sacrifice, cf. U. Thakur, op.cit, P- 46

123. N. C. Banarjee, Kautilya, p. 217. cf.U.Thakur,op.cit.p.54 Arth, IV, 7

   "Dyatyet stri wa swayamatmanam papenmohita .
   Rajjuna rajmarge tan chandalenapakarshyet ."

124. Ibid

125. Cited by Nanda Pandita in his Vidvanmanobara, p 133, The

   Brahamapurana belongs to a much later period, cf. U Thakur op. cit, p. 54

126. Ibid, cf.U.Thakur, op.cit.p.54. cf. the following verse :-

   "Krodhataprayan   vishan   vihirnan
   shastramudhanghatan jalam.
   Girivrikshapapatan cha ye kurvanti nara dhamah.
   Mahapat kino ye cha patititaste prakirnah
   Patinanan na dahasasyanananatyeyesthi ranasthisrijayayah
   Nachatupatah pindo wa karyan sradhadikan kwachita."

127. Manu. V. 89. VI. 31

128. U.Thakur ,op.cit.p.-55

129. Arthasastra, I, 17

130. A. L. Basham. The wonder that was India, Rupa & Co. Third Revised Edn P-92

131. Ibid, Page-92-95

132. Ibid, P-187

133. Ibid, P-187

134. RV. X., 18, 8

135. cf. A. L. Basham, op. cit. P-188

136. A.L. Basham, op. cit. P-228-229

137. A. L. Basham, op. cit, P-336-37

138. U.Thakur,op.cit.p.-55

139. cf .the following verse in the Adipurana cf.U.Thakur.op.cit.p.55)

   (1) :-

   "Vridhah sauch smariterluptah pratyakhyatviwikryah
   Aatmanan dhatuyedhastu mrigwagnanshanadivih
   Tasya triratromasho chan dwitiye twasthisanchayah
   Tritiye tudkam kritawa chaturthe sradhmacharet ."

140. U. Thakur, op. cit, p- 54-55

141. *Kath.Sar.2/4,106 Gatun pravritte thirthe prana syaktun vimogwan*

142. Kath .Sar. 4/1/111

143. Apas.Dhar.1/10/28

144. cf Dr.Vasudeva Upadhyaya,A Study of Hindu Criminology ,Varanasi ,1978 P- 347)

   (Agnovish jalewapi tatha chaiwa hya naske .
   Aatamanh tatha agni chaiv nivrit todak kriya .

145. Atri218

146. Gautam14/11

147. E.I.Vol.22 P-205,cf.Dr.Vasudeva Upadhya,op.cit.P-348

   "Prapte prayag bat mul niveshbandho .
   Saddhaishaten grihini virmukta muktima."

148. Epig.Carn.Vol.II.

149. Sudrak , Mrch.1/4

150. Apsad.Ins.Gupta Abhilekh P-185

   "Shaurya satya vrat dharo yah Prayag gatodhane
   Amvasiv kari shagnau magnah sa pushp pujitah"

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NEED OF HR BENCHMARKING STRATEGY FOR POLICE ORGANISATIONS : A STUDY IN CBI

Pankaj Saxena, IPS

Benchmarking is an essential step for improving processes in an organization. At its simplest, benchmarking means "Improving ourselves by learning from others." It is an activity that looks outward to find best practice and high performance and then measures actual business operations against those goals. "Benchmarking is simply about making comparisons with other organisations and then learning the lessons that those comparisons throw up"[1]. "Benchmarking is the continuous process of measuring products, services and practices against the toughest competitors or those companies recognised as industry leaders (best in class)"[2].

Benchmarking has been recognised as a key tool for effective and efficient public services. Benchmarking can help with continuously improving public services. In particular, it can assist with:

- identifying examples of good practice from organisations in the public and private sectors;
- monitoring progress in making improvements against leading edge organisations;
- reviewing services to identify best operators;
- bringing about continuous improvements in policy making and procedures; and
- encouraging individual and organisational learning.

In addition, the wider benefits from benchmarking, such as those listed below, are complementary with key themes involved in transforming public services:

- learning from those who have achieved excellence in similar fields;
- sharing knowledge and insight between organisations about overcoming common problems;
- setting appropriate performance measures and developing realistic targets for improvement;
- encouraging the involvement of staff in making changes happen;
- introducing collaborative approaches that give rise to better outcomes;
- developing a culture of continuous improvement and a willingness to learn from outside one's own organisation; and
- introducing new ways of

Key Words :

Benchmarking,

Performance indicators,

Best practices,

Gap analysis,

Processes,

Human resource performacne indices,

Human resource subsystems,

Promotion,

Deputation,

Outsourcing,

Efficiency,

Organisational objectives,

Austerity measures,

Recruitments rules etc.

Abstract :

The aim of this paper is to examine the scope of the process of reengineering in the HR Sector of Government from the perspective of benchmarking. Benchmarking is an essential step for improving processes in an organization. It is a continuous process of measuring products, services and practices against the toughest competitors or management practices, including strategic planning, quality management and

working and innovative solutions.

Benchmarking is a powerful management tool because it overcomes "paradigm blindness." Paradigm Blindness can be summed up as the mode of thinking, "The way we do it is the best because this is the way we've always done it." Benchmarking opens organizations to new methods, ideas and tools to improve their effectiveness. It helps crack through resistance to change by demonstrating other methods of solving problems than the one currently employed, and demonstrating that they work, because they are being used by others.

Benefits from Benchmarking

Successful benchmarking, in which gaps in performance are bridged by improvements, results in significant tangible benefits that are needed in the public sector, such as:
- step changes in performance and innovation;
- improving quality and productivity; and
- improving performance measurement.

Benchmarking can also have a beneficial effect on aspects needed to support continuous improvement, such as:
- raised awareness about performance and greater

openness about relative strengths and weaknesses;
- learning from others and greater confidence in developing and applying new approaches;
- greater involvement and motivation of staff in change programmes;
- increase in willingness to share solutions to common problems and build consensus about what is needed to accommodate changes;
- better understanding of the 'big picture' and gaining a broader perspective of the interplay of the factors (or enablers) that facilitate the implementation of good practice; and
- Increasing collaboration and understanding of the interactions within and between organisations.

This work outlines some suggestions for establishing a HR benchmarking strategy and how the quality of HR performance can be measured with special emphasis on manpower intensive police organisations. The work also details various factors which must be considered when interpreting and reporting HR performance indices and also provides information on the Government organisations in the following areas:

- Employment and Deployment;
- Salaries and Remuneration;

- Leave;
- Staff Development;
- Social Justice parameters;
- Welfare; and
- Inter personnel relations.

Making decisions based upon unwarranted assumptions can result in disaster. In some instances, further investigation can lead to a radical shift in thinking about a situation. Gaining insight into problems can be extremely productive and rewarding, but it often requires considerable effort. Quality improvement, particularly in relation to benchmarking, is an approach to management which emphasises the importance of gathering and interpreting data. Successful benchmarking can make a positive contribution to a range of management practices, including strategic planning, quality management and employee involvement/empowerment. The

Benchmarking process has been delineated into ten steps with four phases (figure-1) for HR management.

The organization must start by understanding what practices should be adopted (what is possible). Next it must consider its strategic direction given its role and objectives. Next, the organization must assess its strengths and weaknesses.

When examining the best practices of others and drawing comparisons, an organization will often perform what is called a "gap analysis." This is a method that helps identify the performance or operational differences between our process and that of our benchmarking partners, and why the differences are there. Gap analysis is then employed to focus attention on the improvement opportunities that will yield the highest payoff.
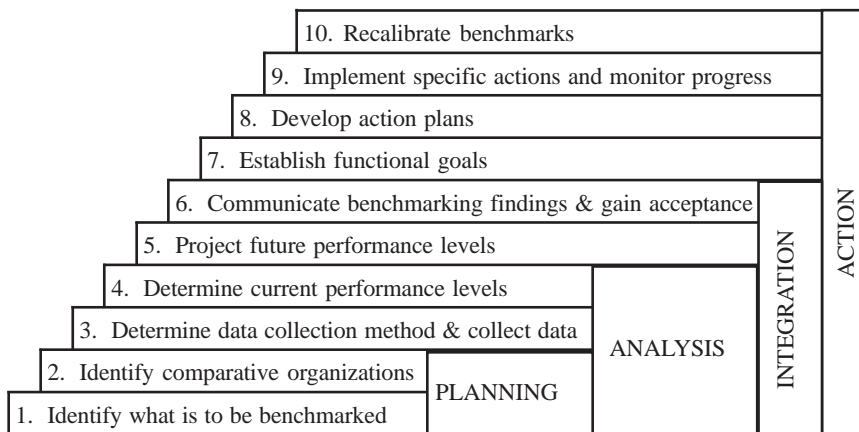
employee involvement/ empowerment.

HR is generally viewed as a collection of loosely associated functions rather than an integrated system. The success of a human resource function in an oraganisation is dependent upon the ability to do the job well, to excel in the right areas and to take measures of performance and use them strategically and persuasively to get the desired outcome. Developing a unified approach to measuring HR

Fig.1: *Benchmarking process for HR management*

performance is essential if benchmarking is to be successfully undertaken across the government organisations. Further, functioning of government departments, particularly of police organizations is largely monopolistic. In such circumstances it becomes difficult to identify Performance Indicators and implement benchmarking. However, an effort has been made to study the scope of Benchmarking on Human Resource Management for

By focusing on the "gap" between where an organization is and where it needs to be, priorities can be set for making improvements. This is represented in fig 2.

Identification of Performance Indicators in Government Sector:

The process of benchmarking requires identification of performance indicators which can be used as yardstick for comparison with the best practices. Performance Indicator shows how well an organization is doing in meeting its objectives or achieving the desired outcomes. They are a means of assessing and evaluating the characteristics of products, services, processes and operations of the organization. They use quantitative and qualitative information to help determine an organizations success in achieving its objectives. They are used to track progress and provide a basis to evaluate and improve performance. Functioning of

government departments, particularly of police organizations is largely monopolistic. In such circumstances, it becomes difficult to identify PIs and implement benchmarking. However, in absence of any standard for benchmarking in monopolistic government functions, the concept can be utilized by benchmarking against the existing process itself.

Performance in Public Sector

The introduction of performance indicators in public management has gathered steam recently, especially in developing countries. Performance measurement is a useful tool in this regard, since it formalizes the process of tracking progress towards established goals and provides objective justifications for organizational and management decisions. Thus performance measurement can help improve the quality and reduce cost of government activities. Governing bodies of public sector entities need
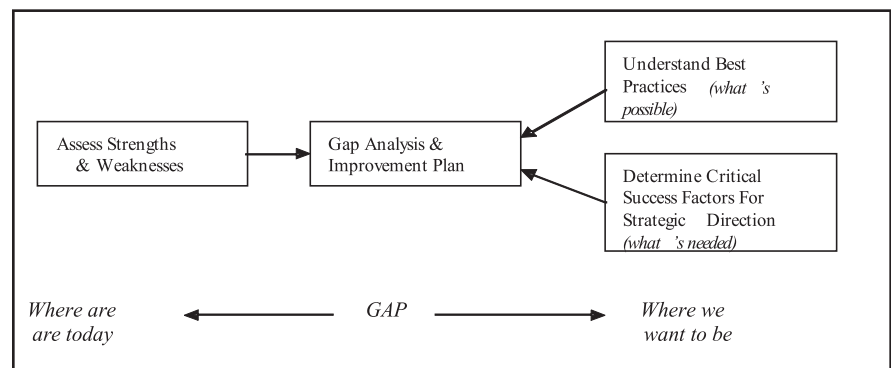
Fig.2 : Gap analysis and Improvement Plan

to establish and report relevant performance measures to ensure and demonstrate that all resources have been procured economically and are utilized efficiently and effectively. Dictionary definitions of "performance" include such alternative terms as "accomplishment", "achievement", "realization" and "fulfillment". Most of these terms have to do with the objective effect of public actions, but some relate to the subjective sense of satisfaction experienced as a result of one's action. Naturally, the economic and public management literature emphasizes the former meaning, not only because of its direct implications for the population, but because subjective satisfaction is extremely difficult to measure and impossible to aggregate. Without information about what is being delivered (outputs), what is costing (inputs), and what is achieved (outcomes) it is impossible to make efficient resource allocations within the organisation. The objectives of performance measures include responding to accountability requirements, improving service delivery, and reducing costs while maximizing output and increasing productivity in the entity.

Performance measures should be:

- relevant, understandable, reliable, complete, objective

and neutral, timely, and comparable.

- Predetermined - some discipline and standardization regarding the choice of measures ensures that measures are be chosen to show its actual performance over a broad spectrum of objectives and not the entity's performance in a favorable light

- quantified in terms of identified goals in a time constraint. Even though quality may be difficult to measure, performances should attempt to reflect both quality and quantity.

Performance Indicators usually measure

- *Economy* - refers to the acquisition of the appropriate quality and quantity of financial, human and physical resources at the appropriate time and place and at the lowest possible cost;

- *Efficiency* - refers to the use of resources so that output is maximized for any given set of resource inputs, or input is minimized for any given quantity and quality of output provided;

- *Effectiveness* - refers to the extent of the achievement of set or predetermined outcomes, objectives or other intended effects of programs, operations, activities or processes; and

- *Appropriateness* - whether the

Central Bureau of Investigation and draw conclusions. It was found that systems in government are generally procedure oriented, elaborate and contain lots of checks and balances but they compromise on cost effectiveness and at times are not result oriented. The top-down approach and the massiveness of the system, imparts it an inertia which in normal course is difficult to overcome. However, with the opening of Indian economy, hitherto largely monopolistic

organisations are getting exposed to competition. With umbrella of protection gradually getting removed and need for a service centric approach gaining momentum, it is time to reorient towards efficiency and cost effectiveness. It is also essential to start our search for excellence and learn from the best practices being followed in other top organisations.

objectives or outcomes of programs, operations, activities or processes address the real needs of customers.

In government organizations, performance measures not only include process and results measures but also social indicators which are broad measures of outcomes that significantly reflect the work and impact on the society by the activities of the entity.

Measuring the Quality of Human Resource Management

The success of a human resource function in an organisation is dependent upon three abilities:

- Being able to do your job well. Just meeting the standard is not enough, human resource professionals must excel.

- Being able to excel in the right areas. The focus must be on issues that make a difference; and

- The ability to take measures of performance and use them strategically and persuasively to get the desired outcome.

Individual

With this in mind, it makes sense to measure the quality of human resource management at the individual, process and workforce level. The quality of the individual

employee's performance makes a major contribution to the overall quality of an organisation's outputs. It is essential that the system supports the individual performer and those barriers to high quality work are removed. A well constructed performance management tool can provide valuable information on the performance and developmental needs of all employees.

Process

A process can be defined as a step by step procedure for getting work done. It can be translated into HR procedures and practices. The key to improving the quality of HR processes is determining if the HR function *'is doing things right?'* The popularity of HR process measurement is possibly due to the ease with which procedures and practices can be identified and measured. Examples of *process measures for the HR function* are given in Table 2.

The most frequently used measurement techniques include HR audits, attitudinal surveys or informal feedback from users. All three have different strengths and weaknesses. Measures dealing with aspects of HR such as the time taken to fill a position, the percentage of incorrect payments or the time taken to process leave

applications, etc. are often obtained through a HR audit or generated automatically from well structured personnel/payroll systems. Less tangible measures related to such factors as the quality of selected employees or perceived efficiency of the HR section, however, are best assessed through some form of survey or informal discussions.

Workforce

For HR management to act as a major contributor to the successful performance of an organisation, it needs to adopt a strategic focus and look at measures linked to the overall aims of the organisation. A happy, friendly HR section whose processes are undertaken in a coordinated, efficient manner, may be of little comfort to a Branch head if he is unable to deliver the products or services because of an unacceptable level of staff turnover, absenteeism, etc. It is important to remember that problems with workforce instability will result in inconsistent levels of service quality.

A range of *workforce measures*, such as statistical ratios, can be used over time to assess the workforce quality. These measures can be used for internal comparisons as well as highlighting trends over time. In some cases, it may be possible to select a number of indices to make comparisons with other organisations. Such comparisons, however, can be misleading due to a lack of standards applied to HR performance indices in government sector.

Human Resource Performance Indices

Selection of HR performance indices

In most cases it is relatively easy to identify who wants or needs HR information - usually the Head of the Department, Director Generals, Head of Personnel Sections or HR professionals.

The next step is to identify what information would prove the most useful to each target group. In case of the Heads of the Departments or Director Generals, this may involve linking the performance indices with the government plan/strategy for the organisation. The performance indices selected should also take into account:

- the different HR subsystems,
- the priorities of the organisation and
- the frequency with which the information will be reported.

Some indices are more meaningful when reported on a frequent basis (e.g. Vacancy Status), while other information has a long-term focus (e.g. Turnover). It is also important to identify acceptability ranges. The senior management is often unclear about what HR data is, what they want it for or how it should be used. The most practical solution in such situations is to provide the target audience with a range of measures from which to choose performance indices. The information should be relevant to the organisation and HR needs of the user as well as provide an overall picture of the organisation. The selection of HR indices should be considered an evolving process. It will take time to identify a core set of indices both within a particular agency and across the police organisations. Changes in Government priorities and organisation needs will also mean that different indices will take on more or less significance over time.

Interpreting and reporting HR performance indices

The most meaningful way to present and interpret HR measures at an organisational level is to provide trend or time series information. Certain activities can be influenced by cyclical fluctuations and can be readily identified if such information is measured monthly or quarterly.

Industry Standards

Unlike the manufacturing and production sector, areas related to human services have less experience with identifying and defining industry standards. The complexities of such undertakings are also often underestimated. For example, the common HR measure of *the rate of absenteeism within an organisation*. What is included as a measure of absenteeism - certified sick leave, uncertified sick leave, earned leave, medical leave on half pay, casual leave, leave-without-pay, maternity leave, etc? All, some or none of the components of absence may be relevant in different situations.

This means that internal and, particularly, external comparison is often difficult or erroneous. Comparing HR information from one organisation to another or even within the same organisation may be misleading due to the use of different:

- definitions;
- methods of data collection, storage and/or retrieval;
- methods of calculation; and
- organisational structures.

Variations in the way costs are attributed to a process or outcome may also lead to considerably different interpretations of similar activity. Because of this uncertainty, it is important to understand data and clearly define measurement processes prior to HR benchmarking. In some instances, an organisation may choose to use a unique measure specifically suited to its own needs. Such practices are fine, as long as external comparisons are drawn with extreme caution.

Range of HR Performance Indices

HR is viewed as a collection of loosely associated functions rather than an integrated system. Any HR department is a system containing a range of interrelated subsystems. It is useful to view HR in this way when discussing measurement because some factors (both internal and external to the HR department) can often influence a number of HR subsystems. We need to overcome the barriers by providing the foundations upon which a process of HR benchmarking can be developed. Developing a unified approach to measuring HR performance is also essential if external benchmarking is to be successfully undertaken across the government organisations. We may use a subset of the performance indices outlined in the Table 2 and this will lead to standard measures of HR performance across the sector. However, Benchmarking, quality improvement or any such management tool should not be viewed as a quick fix solution to all ills. One of the most common reasons for failure is attempting to take the path of least resistance and only doing things for which rewards are immediate. Undertaking a human resource benchmarking project will require an investment in time and patience. The potential payoffs, however, to both the HR function and the total organisation are significant.

The performance indices detailed in the table given below are examples of the types of measures which may prove useful for HR benchmarking. The indices listed are not the only ones available or necessarily the best measures for all organisations. Circumstances and priorities will vary from one organization to another. It is important that organisations identify the indices which are relevant to their own needs and ensure that measures are consistent when making comparisons with other organisations (external benchmarking).

HR SUBSYSTEMS

A review of Key Performance Indicators for a government agency indicates that these measures could generally be classified into one of the seven HR subsystems identified.

Most government agencies would be expected to undertake HR activities within these broad areas of HR, although many may use different labels. Organisations

HUMAN RESOURCE SUBSYSTEMS	WORKFORCE MEASURES (Measures which provide information about the workforce)	PROCESS MEASURES FOR HR FUNCTION (Measures that provide information about how the HR function is performing)
Employment & Deployment	♦ Staffing Level Index ♦ Absenteeism ♦ Turnover	♦ Time taken to fill a position ♦ Percentage of successful promotion appeals ♦ Percentage of suitable employees selected
Salaries & Remuneration	♦ Rate of change of average salary ♦ Proportion of the salary budget expenditure	♦ Percentage of incorrect payments ♦ Percentage of overdue salary increase
Leave Administration	♦ Leave liability as a percentage of the total salary budget ♦ Average number of days of casual leave per employee ♦ Average number of days of earned leave/other leave per employee	♦ Average time taken to process leave applications
Staff Training, Development & Performance Appraisal	♦ Average gain in learning per course ♦ Average improvement in on-the-job performance after training, per course	♦ Percentage of payroll spent on training ♦ Average number of hours training per employee ♦ Percentage of positive participant ratings per year ♦ Percentage of outstanding performance management interviews
Social Justice	♦ Proportion of reservations for the cause of social justice (i.e. justice backward, under privileged class (SC/ST) and people with disabilities. ♦ Distribution of members within reserved groups across the classification levels.	♦ Proportion of social justice grievances received as a percentage of all grievances ♦ Proportion of successfully handled social justice grievances as a percentage of all grievances.
Health & Welfare	♦ Lost time injuries/diseases frequency rate ♦ Premium rates ♦ Estimated cost of claims incurred per unit wageroll	♦ Rehabilitation success rate Proportion of Welfare grievances received as a percentage of all grievances

Inter Personnel Relations	◆ Number of days lost in court/tribuna disputes ◆ Number of recommendations by the consultative committees adopted by the organisation.	◆ Proportion of IR grievances received as a percentage of all grievances ◆ Proportion of IR grievances successfully handled as a percentage of all grievances.

Table 1 : HR Performance Indices (Adopted from Public Sector Management, Department of the Premier and Cabinet, Government of Western Australia, 2001, www.dpc.wa.gov.au)

interested in identifying HR performance indices should consider selecting a range of measures from a number of different subsystems. This will help to reveal the interrelationships between subsystems, as well as provide a more holistic understanding of HR performance.

Interpreting Findings

When only a small number of HR performance indices are reported on a regular basis caution should be taken when drawing conclusions from the results. Figures in isolation should only be considered indicators of a potential problem, not necessarily as a problem in itself. HR performance indices can either be extremely useful at identifying areas that require further investigation or very hazardous if ill informed decisions are based upon a single measure. Wherever possible a range of indices should be used to investigate any HR issue and crosschecks should be made with qualitative information. This type of inquiry will provide a broader picture of an agency's HR performance. It also allows the identification of specific problem areas, thereby enhancing the decision making process.

Qualitative Investigation

There is a common misconception that quantitative information is somehow more real or meaningful than qualitative. Quantitative and qualitative information should complement each other and both forms of analysis should be used in the decision making process. Both structured and unstructured qualitative investigations in the form of interviews or questionnaires can not only

help in the interpretation of quantitative data but also identify areas which may require future investigation. Similarly, a qualitative approach, such as case studies, can be used effectively to illustrate quantitative data analysis. Issues such as professional standard, staff morale and an organisation's reputation, for example, are areas which require careful qualitative assessment as they can directly influence employee turnover, absenteeism, etc.

Reporting Findings

A range of HR performance indices within each of the subsystems should be selected for continuous measurement and benchmarking. Due to the work involved in data collection, calculation and interpretation, it is advisable to vary the number of indices presented depending upon how often the information is reported. The timing of this information is extremely important. The target audience should also influence the level of detail reported. The greatest detail should be provided to those at the operational level with the largest direct influence in a particular area. In general, senior management and the Head of Department should only be provided with high level environmental data which monitors strategically important issues and reports concerning exceptional events.

Exception Reporting

One approach which can be used to determine which HR indices need to be directed to the Head of the
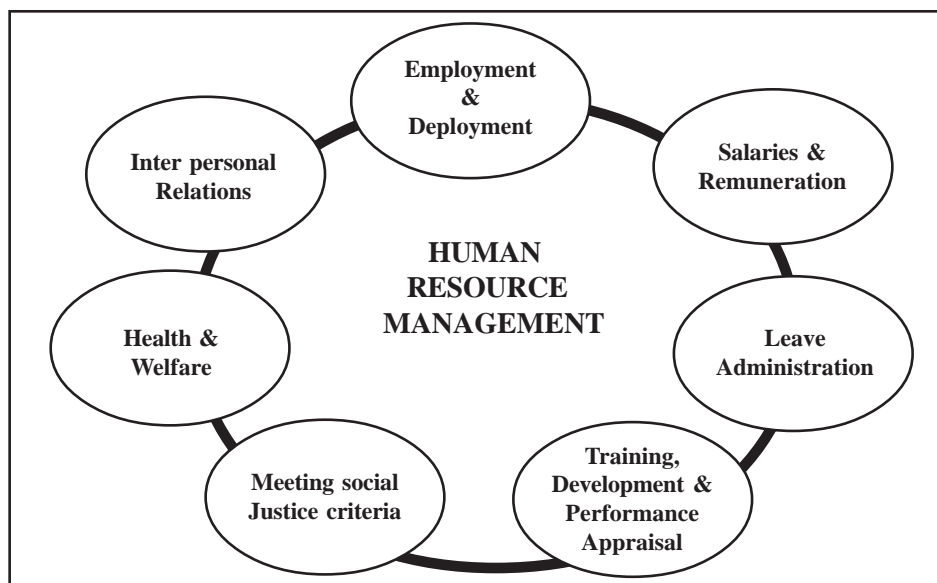
Fig:3. HR Subsystems for a Government Organization (Adopted from Public Sector Management, Department of the Premier and Cabinet. Govt. of Western Australia, 2002, www.dpc.wa/gov.au

Department is *exception reporting*. This involves the identification of significant changes which fall outside of the acceptable level of variation. The impact on the organisation of these variations must also be considered. Having selected the topics of importance, one of the most difficult steps in the process of exception reporting is establishing an acceptability range or rather a range outside which information should be forwarded to senior management. The range of acceptability may also change over time and will need to be periodically reviewed. The final exception report should contain simple to interpret quantitative data, supportive qualitative information and where appropriate the options available, budget implications and/or recommendations.

Application of HR Benchmarking Strategy on Central Bureau of Investigation

The scope of Benchmarking on Human Resource Management was studied for Central Bureau of Investigation (CBI). The CBI is a central government department and is accordingly governed by its rules and regulations. Information related to vacancy status, time taken in filling up the vacancies, procedures to be followed and the efforts made by the organisation for the same and other related aspects were studied. The data related to about 250 employees of the organization and actual usage of leave, loans and other facilities were also studied. The HR performances indices identified and given in the table above were used to correlate the data collected in our study. Brief discussion and conclusion on the findings are given below:

EMPLOYMENT & DEPLOYMENT

Staffing Level Index

A staffing level index provides an indication of the year to date staff usage. This may prove a useful guide as to what staff resources have been used by an organisation and what resources are available for the future.

Typical functioning of the government departments indicates that the strength of the organization is sanctioned based on its needs. The review of the need for continuation of these posts is few and far between. For the purpose of filling vacancies strict guidelines are laid down in Recruitment Rules which are notified by the government. The mode of recruitment provided in the Recruitment Rules can be altered only by the government. In the above pattern of selection and recruitment, flexibility is found missing. Moreover, designated agencies have been assigned the task of carrying out the recruitment process. This is akin to outsourcing for the parent department. The department, which actually requires the manpower, has to place its requirement with the recruitment agency that also follows a strict set of rules and takes its own time. The requisitioning department does not have much say or control over the selection of the candidate. The mode of recruitment varies from direct selection to intra-departmental examinations or by promotion or deputation from other departments. Creation of deputation based posts in a particular government department does not simultaneously create an obligation on the part of lending department, whose employee come within the zone of consideration. In view of the stated objective of the government for reducing the workforce, before filling these vacancies, a number of clearances have to be obtained. The study typically depicts the affect these straight jacketed regulations and over centralized regulations have over the recruitment process of this organisation. The study shows that vacancy level has either persisted or increased over the past few years. The conclusions that can be drawn from the above study indicate the need for decentralization and deregulation of required procedures. Government guidelines need to evolve in such a manner that posts once sanctioned do not have to remain vacant for long times for want of procedural requirements.

Absenteeism

There are numerous measures of absenteeism including:
- Time lost (%)
- Number of absences (during a period)
- Number of employees absent (during a period)
- Staff availability rates etc.

Each of these measures may be appropriate in different situations. Whichever indices are chosen, it is important to clearly define what type of absence is included in the calculation, e.g., certified sick leave, uncertified sick leave, sick leave on full pay, earned leave, casual leave, leave-without-pay, maternity leave, etc. All, some or none of the components of absenteeism may be relevant in different situations. Care must be taken before comparing absenteeism figures to external organisations that the components of absence and the methods of calculation are similar.

The numbers of incidences relating to absenteeism in the department studied were very few. Further, these were related to a large extent with the employees who were not willing to go to a particular place of posting. In addition, the cases related to absenteeism were also found to be associated with the court cases.

Turnover

Like absenteeism, numerous measures of employee turnover have been identified, including:
- Turnover for the previous year (%)
- Turnover in a specific period (%)
- Turnover for year to date (%)
- Acquisition rate (%)
- Length of service indices
- Average length of service.

Accurate measures of turnover can be problematic particularly in government organisation. Essentially, there can be three levels of turnover: relating to movement into, or out of, an agency, the Public Service or the Public Sector. It is often more useful to calculate a turnover index for permanent and non-permanent (ad-hoc) employees separately, as permanent staff are usually considered to be the stable component of the workforce.

Government service in the country carries with itself certain stability and is therefore a preferred mode of

employment for the large workforce. The high level of unemployment and the availability of a large pool of trained manpower resource ensure that not much turnover takes place. Our study largely confirms the above. Only few cases were detected where an employee had opted out of the service. In all such cases it was an assignment of a higher pay and responsibility.

Average time taken to fill a position

The time taken to fill a position is the delay between the date of receipt of the job requisition/application and the date the new employee commences work. Other measures of performance of the HR function in the area of recruitment and selection include:

- Response Time
- Referral rates
- Internal Response rates
- Internal hire rates
- Interviewing time
- Selection ratios

Even though the actual recruitment has been outsourced on institutional basis, the elaborate process to be followed before a vacancy could be reported to the recruitment agency, in itself is a hindrance in filling up the vacancies in time. Government guidelines require clearance of screening committee before initiating the recruitment process. The main aim of the Screening Committee is to ensure that the Government resources in terms of manpower are utilized in a better manner. The guidelines stipulate that in a recruitment year, not more than 1% of the total sanctioned strength or 1/3rd of the DR vacancies arising in a year, whichever is less, can be allowed to be filled by the Screening Committee. This has been done in order to ensure that fresh recruitment is limited to 1% of total civilian staff strength. As about 3 % of staff retire every year, this aims to reduce the manpower by 2% per annum achieving a reduction of 10% in five years. Even for those vacancies cleared by screening committee, Department has to obtain a No Objection Certificate from the Surplus Cell of the Department of Personnel & Training that suitable personnel are not available for appointment against the posts meant for Direct Recruitment and only thereafter place indents for Direct Recruitment. In effect it means that surplus staff available with surplus cell has to be utilized even though their skills may not be commensurate with the requirements of intended job. Moreover, if a vacancy remains unfilled for a period of one year irrespective of any reason, it comes under the purview of another office memorandum of the Government by which the post is treated as abolished and approval of Department of Expenditure is required for revival of such post.

Recruitment of SIs : An Analysis of time taken

Following table gives the time taken in various stages during the process of recruitment of Sub-Inspectors in CBI through SSC in the DR quota

Year	Dossier received Dossiers	Time taken in receiving dossiers	Time taken in processing joined	No. of Officers	Percentage of officers who joined to that of dossiers received
SSC 2000	67	2 Yrs 6 Months	9.5 Months	29	43.3%
SSC 2001	25	2Yrs. 1 Months	17 Months	8	32%
SSC 2003	49	2 Yrs.	12 Months	33	67.3%

Table 2 :   Time taken in various stages during the process of recruitment of S.I.s.

It may be seen from the above table that an average of 9.5 months to 18 months has been taken during the last 3 years. The number of cases processed and the number of employees who finally joined the job has also remained at very low level. In a particular year, it has gone to as low as 32%. The long process of recruitment is a result of strict adherence to the prescribed procedure. It is also pertinent to mention that the above table does not include the time taken in obtaining clearances from screening committee, etc.

Experience of Surplus Cell sponsored staff

During 2004, CBI received nominations of 35 officials from Surplus Cell for their appointment as SIs. After initial screening, 9 were found suitable for CBI. Subsequently, one of them resigned and 6 opted for redeployment in other departments. The net result of about two years' long efforts of the organization is likely to leave it with only two S.Is.

Direct Recruitment of Constables

Direct Recruitment in the rank of constable was last held in CBI during April, 2000. Due to various reasons, whole process was cancelled in 2001. Subsequently on the intervention of High Court of Kerala and Supreme Court, select list was finalized and published in January, 2004. Against of the total advertised vacancies of 134, only 120 Constables were appointed.

Subsequently, during 2003, an advertisement for recruitment of 109 Constables in CBI was published. Large number of applications was received. A proposal estimating total expenditure of over Rs. one crore for the recruitment process was submitted to the Government. The Government, in turn advised CBI to await recommendations of the Screening Committee and report of Staff Inspection Unit. It also did not favour the proposal for expenditure in excess of Rs. One crore for direct recruitment as the same was found not in public interest.. Since the approval for conducting direct recruitment was not forthcoming, CBI moved a proposal enabling diversion of 108 posts under DR quota to Deputation quota which was partially allowed by the Government.

Induction of Inspectors on Deputation : Analysis of time taken

Statement indicating the time taken in processing induction cases of Inspectors (on deputation basis) in CBI as per Table 3.

Analysis of time taken in induction on deputation is given in the above table 3. It may be seen that an average of Seven months are taken even for finding a suitable person who is already working in a parallel Government department.

In order to find out the selection ratio, an analysis of induction cases in the rank of Inspectors processed during the last three years was under taken (Table 4).

S.No.	Activity	Time (in months)		
		Avg.	Max.	Min.
1	Processing & Calling of Records.	2 ½	22	1 ½
2	Screening Committee Proceedings	1	1 ½	2/3
3	Verification Process	1 ½ to 2	2	1
4	Joining Time	1 ½	7	1
	TOTAL TIME	7	32	4

Table 3 : Time taken in processing induction cases of Inspectors

Year	No. of cases processed	Department/ officer unwilling	Not found eligible	Not found suitable	Found suitable
2003	82	32 (39%)	17 (21%)	17 (21%)	16 (20%)
2004	123	24 (20%)	26 (21%)	38 (31%)	35 (28%)
2005	163	39 (24%)	26 (16%)	39 (24%)	17 (10%)

Table 4 : Induction cases in the rank of Inspectors

Table 5 gives a glimpse of number of cases that the agency processed and those who were finally selected. It may be seen that in a large number of cases either the employee or its parent department are not willing to spare his services. A good percentage have either not met the eligibility criteria or have not been found suitable for the job intended for them. The percentage of those found suitable is ranging between 10% to 28%. The table also shows that the no. of officers not found eligible/suitable is far more than these found suitable. This on one hand indicates consumption of a lot of energy and resources of the department with highly incommensurate results, on the other hand it indicates the high standard of selection which the department has to follow.

Promotion : Time taken in effecting the same and appeals

A survey was done to compare the time prescribed in RRs and actual time taken during last 3 years promotion (2003, 2004 & 2005)

The above table gives the minimum time required for promotion and the actual time taken. It may be seen that in the initial steps the time gap is much less as compared to the minimum prescribed. However, the same increases at higher level and many employees even after fulfilling the criteria of minimum number of years of service stagnate in the same rank as promotion in higher rank is subject to availability of vacancies.

Sl. No	Promotion	Eligibility prescribed in R Rs.	Actual Time taken for promotion		
			2003	2004	2005
1	SI to Inspr.	5 years in the rank of SI	6-6½ years	6-6½ years	6-6½ years
2	Inspr. to DSP	8 years in the rank of Inspr.	14-15 years	12-14 years	—
3	DSP to ASP	6 years in the rank of DSP	10-11 years	10-11 years	10-11 years
4	ASP to SP	(i) 6 years in the rank of ASP or (ii) 12 years combined service in the ranks of DSP & ASP.	14-15 years	14-16 years	13-14 years

Table 5 : Time prescribed in RRs and actual time taken during last three years promotion

Sl. No	Promotion	Time taken by UPSC in conducting DPC (from the date of referral from CBI to DP&T)		
		2003	2004	2005
1	Inspr. to DSP	3 months	One year	No DPC held.
2	ASP to SP	6 months	5½ months	6 months

Table 6 : Time taken by UPSC in conducting DPCs during last 3 years.

This measure also relies upon the existence of a promotion appeals mechanism. Since government rules provide for elaborate instructions on the issue of promotions therefore, very few instances of promotion appeals have been noticed. Most of these representations originate due to lack of knowledge or an inappropriate interpretation of the promotion rules. A large number of such representations originate in order to assess the correct position in the seniority list. Some of the appeals aim to bring harmony between the minimum time prescribed and the actual time taken by converting promotions into time related exercise.

unsuitable, poor, excellent etc should be avoided. Behavioural measures are often more useful as they can help to reduce individuals differences in interpretation. Unless the same instrument is used by outside organisations it will also be difficult to obtain external measures for comparison. In our zeal for filling vacancies, the quantitative aspect should not be allowed to over shadow the qualitative aspect under any circumstances. An analysis of induction cases on deputation basis in the rank of Inspectors processed during the last three years is given in the following table:

Year	No. of cases processed	Department/ officer unwilling	Not found eligible	Not found suitable	Found suitable
2003	82	32 (39%)	17 (21%)	17 (21%)	16 (20%)
2004	123	24 (20%)	26 (21%)	38 (31%)	35 (28%)
2005	163	39 (24%)	26 (16%)	39 (24%)	17 (10%)

Table 7 : An analysis of induction cases on deputation basis in the rank of Inspectors

Percentage of suitable employees selected

Many managers express a desire to assess the quality of newly inducted employees. A qualitative measure such as an interview, questionnaire or performance management system could be developed to assess the suitability of employees selected. Questions regarding who is in the most appropriate position to assess the quality of an employee (e.g. peers, supervisors, etc.) and what is considered suitable will need to be addressed. Terms such as good, bad, suitable,

The table above shows that in the past three years, the no. of officers not found eligible/suitable is far more than these found suitable. The figures reveal the high standard of selection.

SALARIES & REMUNERATION

Rate of change of average salary

'Average Salary' is the average of the equivalent

annual wage or salary. Rates of change can be measured over any period. In most cases it would be timely to review the rate of change over the financial year. This index can assist in managing changes in classification profiles.

The study indicates that an employee on an average gets an increase 9.5 % per year. The part of the average increase caters to the inflation in the economy. In the structure of Government rules, increments are not related to the employees' performance and are earned periodically. Any variation in the same can result only in consequence of a departmental action against the employee wherein a penalty is imposed.

Proportion of the salary budget expenditure

Like the staffing level index, the proportion of the salary budget expenditure provides an indication of the year-to-date staff usage. The department under study is not a revenue-earning department. About 64.4% of the budget provided to the department accounts for the salary to the employees. A large amount remains unutilized due to prevailing level of vacancies.

Percentage of incorrect payments

This measure may prove to be extremely useful to agencies developing their own personnel/payroll systems. It would be expected that the number of incorrect payments will decrease as more efficient systems are established. It may also be of interest to agencies outsourcing their payroll

function to ensure that the efficiency and effectiveness of the function is maintained. The organization has a computerized pay roll system and thus such instances are almost non existent.

LEAVE ADMINISTRATION

Leave liability as a percentage of the annual salary budget

Leave liability for an organisation is the amount of long service leave or annual leave owing to an employee if that employee was to resign on the day of measurement. As has already been explained, the resignations are very less and the liability on account of accumulated leave occurs only at the time of superannuation of the employees. Here also government rules put a cap and in absence of any umbrella social security scheme, the payment at the time of superannuation largely assumes the shape of a welfare measure.

Study of earned leave, casual leave and other leave availed by the officers:

Details of Earned Leave, Casual Leave and other Leave availed by Officers both Gazzetted Officers and Non Gazzetted Officers were collected from the Branches. Based on the information of about 250 employees received from 17 Branches for the last 3 years, an analysis of the same has been done. The summary of the same is given in the following table in number of days :-

Rank	2003				2004				2005			
	EL	CL	Other	Total	EL	CL	Other	Total	EL	CL	Other	Total
GO	13.7	2.3	2.4	18.5	14.1	5.1	5.9	25.1	10.0	3.9	1.6	15.5
NGO	11.7	3.5	2.2	17.4	9.9	5.8	1.7	17.4	9.2	6.7	3.1	19.0
Combined	12.1	3.3	2.4	17.8	20.6	5.7	2.5	18.8	9.3	6.2	2.8	18.4

Table 8 : Year-wise leaves availed by staff in number of days

The above table indicates the pattern on which the leave has been availed by the employees of the department under study. It may be seen that neither the lapsable leave nor the leave that can be accumulated are being utilized to the fullest possible extent.

Average number of Earned / Casual leave

Leave should not only be considered from a financial perspective by an organisation, but also from a human perspective. In order to maintain a 'healthy' organisation it is important that all employees take regular breaks from the workplace.

Average time taken to process leave forms

The time taken to process leave forms is the delay between the date of receipt of the leave form and the date the employee is informed of the decision regarding his/ her leave application.

STAFF TRAINING & DEVELOPMENT

Average gain in learning per course

Measuring a gain in learning involves a pre-course test and immediate post course test of competency levels. These tests may involve simulations; role plays, etc., and would be an integral part of competency based training. Unless the same instrument or process is used by outside organisations it will also be difficult to obtain external measures for comparison.

Average improvement in on-the-job performance after training per course

Measuring the improvement of on-the-job performance requires some form of pre and post-test of an employee job performance. In some cases, it may be possible to quantify the improvement of on-

the-job performance, while in other instances some form of qualitative assessment will be necessary. Any form of qualitative assessment will require addressing issues such as, who is in the most appropriate position to assess the performance of an employee (e.g. subordinates, peers, supervisors, etc.) and what is considered as an improvement in performance. Terms such as good, bad, suitable, unsuitable, poor, excellent etc should be avoided. Behavioural measures are often more useful as they help to reduce individuals differences in interpretation. Unless the same instrument is used by other organisations it will also be difficult to obtain external measures for comparison.

The department had not set any performance indicator which could quantitatively predict the average improvement in on the job performance after training. However general response received from supervisory officers indicates that there has been perceptible improvement in the functioning of the employees.

Percentage of payroll spent on training

The employees are required to be given training:
- for an employment related skill; designed or approved by an appropriately qualified or experienced trainer; and
- It is necessary to identify the skills, knowledge or competencies to be acquired, the means of imparting the skill, and the expected results before the training is undertaken.

Associated training costs include, but are not limited to:
- costs related to the development of training policy and plans, needs analysis;
- training design, development of training aids, and purchase of training equipment;
- training delivery (including costs of trainers);
- training evaluation;

- salaries and other payments to employees whilst participating in training courses;
- training fees for courses; and
- training co-ordination and administration.

Average number of days training per employee

Due to differences in interpreting training costs, it is often helpful to examine training in terms of the number of days employees undertake training. Further investigations may involve looking at the number of hours training by sex, classification, employment status (part time, full time) and employment type (permanent, non permanent), etc.

The department under study has an inbuilt mechanism and institution for imparting training to its employees. In view of the specialized nature of the work being performed by the department, it is essential for it to have its own infrastructure for the same and scope for outsourcing in a cost-effective is limited. Following table gives the number of employees trained in the organisation during the last five years :

Year	No. of Courses	No. of Participants
2001	45	619
2002	68	1535
2003	101	3095
2004	60	909
2005	66	822
TOTAL	**340**	**6980**

Table 9 : Number of employees trained during last 5 years

It may be seen from the above table that each employee attended almost 1.4 training courses during last five years. This also shows the importance attached to training in the organisation.

Percentage of positive participant ratings per year

Trainers often want to know how positively employees are responding to training. Like measurement of employee quality and on-the-job improvement etc, positive perceptions of training will require some form of qualitative assessment.

Percentage of overdue performance management interviews

This measure relies upon the existence of a performance appraisal/management system within an organization.

The organization has a devised number of short term and long term courses related to investigation techniques and procedures to cater to its requirement and its training institute runs an annual calendar for the same. The number of investigating officers who attended one or the other courses during the last three years are given in the following table :

Year	Sub-Inspector	Inspector	Dy.SP	Addl.SP	Total
2003	154	433	79	26	692
2004	46	236	37	7	326
2005	84	219	27	14	344

Table 10 : Number of IOs who attended one or the other course in three years

It was observed during the study that the number of employees who attended training during 2003 were twice as large as those who attended in subsequent years. This indicates an incoherent attitude, which the organization adopted, or an increased training need due large number of inductions or recruitment.

INTERNAL PERSONNEL RELATIONS

Number of days lost in disputes

Some agencies will find this measure more relevant than others depending upon the level of disruption within the agency. During the period under study, no incident was found which could have resulted in any number of hours lost due to non-resolution of disputes. There was no disruption of any kind in the organization.

Number of significant recommendations by the consultative committees adopted by the organisation.

With the advent of workplace bargaining, many agencies are establishing consultative committees. This measure clearly relies upon the existence of a consultative committee. Judgements concerning the impact or significance of recommendations will need to be made which could make external comparisons difficult.

Proportion of employee grievances received as a percentage of all grievances

This measure relies upon the existence of a mechanism for lodging formal grievances within an agency. The type of grievance must be identified and allocated accordingly (eg, transfer, promotion, welfare, etc.). This may involve clearly identifying criteria for allocating grievances. Similar criteria would need to be used by other organisations to enable external comparisons.

Grievances as a process measure need to be interpreted with caution. For example, an increase in the number of grievances may simply indicate successful awareness raising.

Proportion of employee grievances successfully handled as a percentage of all grievances.

This measure not only relies upon the existence of a mechanism for lodging formal grievances within an agency, but also some criteria for assessing the successfulness of the outcome. Similar criteria would need to be used by other organisations to enable external comparisons.

SOCIAL JUSTICE

Proportion of the currently identified groups (i.e. underprivileged class (SC/ST), Backward and people with disabilities).

When interpreting these figures it is important to remember that the same individual can fall into more than one of these categories. The recruitment in the department is governed by the government policies which provide for percentage wise reservation for various categories of people e.g SC/ST, OBC, physically handicapped, ex-serviceman etc. A roster is maintained and if a suitable candidate belonging to any of these reserved categories is not available, vacancies are carried forward and not filled by a candidate belonging to other category. Special drives for recruitment of reserved category personnel are also conducted from time to time. Even though the selection process is based on fixed quota for them, parity is maintained at the time of job allocation. No discrimination is made at the work place and act of any person which is considered derogatory to the dignity of such employees is treated as a criminal offence punishable in law. The government guidelines not only provide equal opportunity for work but also provide for accelerated mode of promotion. During the entire period under study very few cases were reported which could be treated as denial of equal opportunity or derogatory to such an employee. Sporadic incidents repeated in the organization were dealt with firmly and those found guilty were brought to book promptly.

Proportion of Social Justice Grievances received as a percentage of all grievances

This measure relies upon the existence of a mechanism for lodging formal grievances within an organisation. The

type of grievance must be identified and allocated accordingly (e.g transfer, promotion, welfare, etc). This may involve clearly identifying criteria for allocating grievances. Similar criteria would need to be used by other organisations to enable external comparisons. Grievances as a process measure need to be interpreted with caution. For example, an increase in the number of grievances may simply indicate successful awareness raising.

Proportion of successfully handled Social Justice Grievances as a percentage of all grievances.

This measure not only relies upon the existence of a mechanism for lodging formal grievances within an agency but also some criteria for assessing the success of the outcome. Similar criteria would need to be used by other organisations to enable external comparisons.

Number of social justice awareness raising strategies implemented

This measure relies upon an agency implementing awareness raising strategies. Judgements concerning the impact or significance of implemented strategies may need to be made which could make external comparisons difficult.

Study of loans & advances taken by the IOs

Details were collected regarding Loans & Advances taken by IOs, both GOs and NGOs. Based on the information received from 17 Branches for the last three years, an analysis of the same is given in the following table :-

Rank	2003 Amount (Rs)	2004 Amount (Rs)	2005 Amount (Rs)
GO	23,928	0	4,884
NGO	3,043	940	621
Combined	6,570	773	1,343

Table 11 : Loans & advances taken by the IOs

Government Rules provide Loans and Advances for various purposes. Normally, the same are part of the welfare schemes of government and are either interest free or interest applicable is less than the prevailing market rates. In normal course, an employee may be encouraged to take advantage of these soft Loans/Advances offered by the Government. Our study shows that these facilities are under utilized.

	No. of employees who took Loan & their %age		
	2003	2004	2005
GO	2.63	0	6.97
NGO	5.88	6.03	8.05
Combined	5.33	4.95	7.87

Table 12 : Percentage of employees who took loans and advances

Statistics age of employees who took Loan/Advances has also been compiled and given in the table above. It may be seen from the above table; very few employees have applied for the Loans/Advances. Even the maximum %age which was observed in 2005 remains less than 8%.

Study of All India LTC & home town LTC availed by the IOs

Details of All India LTC & Home Town LTC availed by officials, both GOs and NGOs were collected. Based on the information received for the last three years, an analyses of the same is given in the following table:-

Government rules provide for Home LTC once in two years. In a period of four years, one of the two can be converted into All India LTC. Thus maximum utilization quotient for a period of four years will be two. Taking proportionate usage for three years, its optimum value should be 1.5. However, the above figures indicate that this facility is under utilized.

Rank	Utilization Quotient						
	2003		2004		2005		Total
	All India	Home Town	All India	Home Town	All India	Home Town	
GO	0.02	0.13	0.07	0.18	0.07	0.07	0.54
NGO	0.04	0.06	0.03	0.11	0.03	0.08	0.35
Combined	0.03	0.07	0.03	0.12	0.08	0.04	0.37

Table 12 :Percentage of employees who took loans and advances

Death/Disability compensation

Government guidelines provide for series of measures aiming to compensate the loss to the family if the person dies in harness. Rupees five lac ex-gratia compensation is given to the family besides other benefit. The government also aims to provide employment to one member of the family.

Following table gives the cases of the deceased in the department during the last three years and the ex-gratia compensation awarded to them.

Year	2003	2004	2005
Cases	2	1	1
Awarded	2	0	0

Table 14 : Cases of the deceased in the department during the last three years and the ex-gratia compensation awarded to them.

The study also revealed that compassionate employment also could not be provided to the depended of all those who died while in service. It was revealed that the number of such cases is much more than the percentage fixed by the government for accommodating such cases. The ex-gratia compensation was also found to be not sanctioned in few cases due to long procedure associated with the same.

Redressal of grievances

The system for redressal of grievances as it exists on date includes an open house session by the Director once a week wherein any official can present his grievances before him. Besides, meetings are being held periodically by other senior officers. It is customary for senior officers to listen to the grievances at the time of inspection of any office. Besides, the officials are encouraged to approach the concerned officer for redressal of their grievances. Feed back on this front indicated that the existing forum provide enough outlets for redressal of grievances.

Conclusions

The aim of this paper is to see the process of reengineering in the HR Sector of Government from the perspective of benchmarking. Systems in government are generally procedure oriented, elaborate and contain lots of checks and balances but they compromise on cost effectiveness, efficiency and at times are not result oriented. The top-down approach and the massiveness of the system, imparts it an inertia which in normal course is difficult to overcome. Even the brightest of ideas do not make a dent in the improvement of system unless there is a political will to carry it through.

However, many departments in the government sector still operate in monopoly. They do not have to

worry about the edge that their competitors may have over them. It is only the public demand and the vista opened by technology that drives such a department to reengineer its processes to make it more acceptable, convenient, transparent, corruption free, and accessible to its stakeholders. Though benchmarking has been defined as finding a standard for a process and replicating it, in absence of a standard we have to benchmark a process against itself. Fortunately advent of ICT has provided us an unmistakable standard whose applicability is all pervasive, which provides unbridled accessibility, widens public domain to the limits of the globe and speed of execution which cannot be exceeded. This, coupled with well intentioned implementation, ensures a level of transparency, which cuts the scope of corruption to almost zero level.

Benchmarking is a management technique that was developed to improve performance in competitive environments. It may prove to be an extremely useful management tool, particularly in response to recent Public Sector reforms, including deregulation, outsourcing and enterprise bargaining. If the information needs are identified by agencies and can be easily generated from their personnel payroll system, then accurate and reliable data should be available for HR benchmarking.

The measurement of HR can serve to:
- present HR programs as an investment rather than a cost to the organisation;
- identify HR processes which make a positive impact on the organisation's performance;
- assess the efficiency of existing policies and procedures;
- demonstrate the gains which can be made from good management practices;
- reveal the economic consequences of employee behaviour such as absenteeism;
- ascertain trends in employees' behaviour over time;

- identify problem areas within the organisation; and
- assist with planning and forecasting.

Benchmarking goes that step further by providing a framework for comparing performance on a range of HR indices both internally within an agency and externally with other organisations.

In this paper, I have tried to analyse one such process where Government operates in monopoly. In the first process we have tried to throw light on the maze of procedures and guidelines that govern HR management in the Government departments. Some of the findings of our study are given below:

- It was felt that the Organisation might be better placed if it outsources the recruitment of some of the posts to some other organisation as it does not have the required infrastructure for conducting recruitment of all the posts.
- It was felt that since no post can be filled in absence of RRs, hence there is a need to expedite notification of Recruitment Rules in respect of Posts for which these have not yet been notified. Further, Recruitment Rules should be designed in such a manner that it facilitates filling up the posts with ease. It should not act as an impediment. In the fixed pay structure of govt., setting very high qualifications requirement standard, may create such an impediment.
- A large number of vacancies are not filled up due to disparity in the RRs of CBI and that of the other organisations. It may be required that RRs of all such organizations are harmonized in future.
- Exceptions to the applications of austerity measures in line with the stated objectives of the Government need to be spelt out. It was felt that abolition of posts would only undermine the basic needs which necessitated the creation of the posts and may not gel with the role assigned to the organisation.

- It is observed that there is huge communication gap and many officials are not aware of the role of CBI and the process of induction therein. They also appear to be apprehensive of their chance to get into the organization. This lack of information creates a feeling of indifference amongst them and whenever a demand is circulated appropriate response is not received. However, those who have worked in CBI and have seen its working wish to continue in the same and some even want to get absorbed. Senior officers can try to educate and create awareness amongst the eligible Officers about the working conditions and positive aspects of work culture in CBI. This will lead to an increased participation whenever any demand circular is advertised.

- Financial and non-financial incentives play a major role in attracting the personnel in any organization. CBI has to concentrate on making its terms and conditions attractive. However, it needs to be kept in mind that financial incentive is not the major criteria which attracts the officials to this organization.

- In the long process of induction, many candidates lose interest. It may be necessary to expedite the process to retain the interest of the candidates.

- It came out during the study that to maintain high level of motivation and increased productivity, leave, LTC, HTC, etc. should normally be encouraged.

Gap analysis in HR management processes reveals wide scope for improvement. However, it may not be easy to implement the solutions within the existing framework that emphasizes more on adhering to the due process. The inbuilt rigidness of the system, on one hand minimizes discretion in the hands of superior officers; on the other hand, it results in delay.

With number of agencies involved in the recruitment process, which are often external to the department intending to recruit its employees, not much control remains with them and they remain helpless spectators to the delay. Due to the prevalent corruption and nepotism in our country, public service commissions have carved a niche for themselves. They have been able to stand in the eyes of general public and have developed faith and respect. By and large their working has remained transparent and corruption free. In a highly unemployed and low opportunity market, for millions of educated people, these service commissions are the only source of hope. Finding a suitable alternative to this system, even if it has created additional problems and does not come up to expected standards in terms of efficiency in time and cost, will be difficult. Their existence vests in the constitution of the country and it may not be possible to alter the system or bypass it at this juncture. Therefore, it might be time for us to move from requisition based exams as are being held presently, to the creation of a pool of qualified candidates in different fields whose services can be offered to requisitioning department with no loss of time.

Quite often we find conflicting interests coming into play. A deputation oriented department does not have a fixed quota in the corresponding departments whose officials satisfy its eligibility criteria. Often the lending department is found lacking in manpower resources and unable to meet its own needs leave aside that of the borrowing department. The very aim of the deputation to develop multi faceted Human Resource and to break the monotony of job, gets defeated in such circumstances. At the end, if becomes a tool in the organizations to get rid of the undesired manpower.

It has also been seen that the motivational tools available in Government set up are not put to optimum use, even though not much lee way is available in such cases. Leaves are not used for recreational purposes and it has been found that mostly these are being used for attending to personal or family matters. The periodical increase in wages follows a fixed pattern and

is completely controlled by the Government. The department or the superior officers do not have a say over it. Training is available in important and self sufficient departments only. Here also emphasis is often given to statistics rather than the needs of the organisation and its role in shaping up the manpower to attend to organisational objectives. Performance appraisal has been found to be linked to promotions only. Generally tasks and targets are not assigned and even when these are assigned, they bear no or negligible reflections in the performance appraisals. The system of performance appraisal is still considered confidential even though inputs from the employee are taken. An employee, however, gets no chance to participate in the same and hardly comes to know how his work and performance have been evaluated. Utility of this important tool of HR Development still needs to be harnessed.

It is important to remember, however, that benchmarking is not merely establishing quantitative performance goals. Although this is an important first step, HR benchmarking depends upon the identification of best practice performance which can be studied and perhaps improved. As stated by Dr Colin Sharp from Flinder's Institute of Public Policy and Management:

The power of benchmarking may lay [SIC], not so much in the data it produces, but rather in the kinds of questions it leads organisational staff to ask about their

performance, and the way in which it may help increase the sensitivity of the organisation to its environment.

Like many management techniques, however, it is easy to talk about benchmarking and its benefits, but it can be extremely difficult to begin the process. Some of the obstacles to HR benchmarking include:

- a lack of a coordinated framework from which to develop a benchmarking process;
- a lack of common understanding of HR performance indices which can limit the usefulness of external comparisons; and difficulty in finding out what others are doing.

Indian economy has opened in the recent past only. Hitherto largely monopolistic organisations have only now started feeling the heat of competition. With the umbrella of protection gone from over the heads, it is time for us to learn the importance of efficiency and cost effectiveness. We have to start our search for excellence and learn from the best practices being followed in other top organisations. Some of the service providers have learnt their lessons quickly and come to terms with the new ground realities. Technology and manpower are two of the key competitive tools at the command of the winners - and losers - in today's marketplace. Ultimately, however, the most important competitive weapon may prove to be the skilful management and deployment of technology and manpower resources rather than the resources themselves.

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[1] Source: The European Benchmarking Code of Conduct

[2] Source: The Xerox Corporation

[3] Camp, Robert C. Benchmarking: The Search for Industry Best Practices that Lead to Superior Performance. Milwaukee, WI, ASQC Quality Press, 1989. 299 p.

[4] Government of Andhra Pradesh, State Level Enterprises, Performance Appraisal and Review

[5] Public Sector Management, Department of the Premier and Cabinet, Government of Western Australia, 2001, www.dpc.wa.gov.au/psmd/pubs/wac/navbench

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BOOK REVIEW

The Book entitled **The Art of Leading Yourself** written by **Mr. Randi B. Noyes** and Published by M/s Random House U.K.Ltd., 20, Vauxhall Bridge Road, London SW IV 2SA. The Price of the book is Rs. 418/. The book has been reviewed by **Sh. T.G.L. Iyer.**

Tap the Power of your emotional Intelligence

The author, Randi B. Noyes is President of Leadership International, Inc, which has provided leadership coaching to thousands of individuals and corporate clients such as AT&T, Exxon and Mobil oil. After College, she left NORWAY to live in the United States of America. She Co-founded SCANDINAVIA Inc, a successful Ski-apparel distributor's outlet. In the course of Business and frequent travels, she developed an interest in understanding the forces that motivate people to lead a successful and meaningful life. She put down her experiences in Book form, the Norwegian edition of which was published in 1995 and the English Version in 2001. In 2002, 'The Art of leading yourself' won the Business Book of the year Award, from 'forward' Magazine.

The Book is written in six chapters covering 150 pages for creating Self-awareness, Self-management and Self-empowerment. It enables the reader to discover and tap the power of one's own emotional intelligence. By thinking emotionally, we can become better leaders of ourselves and influence those around us. The Book is easy to read, with stories and anecdotes, to convey the impression that reaching certain goals is easy, if we develop the awareness, and focus.

Well, Emotional Intelligence is the intelligent use of thoughts and emotions; heart and mind, working harmoniously. It is the ability to use the Power of our emotions as a source of motivation. Research has repeatedly revealed that we need a high level of Emotional Intelligence to become good team-players. It enables us to create trust and become authentic. If we can't access and manage our emotions, we can't be fully aware of how to influence other people or interact with others with Self-confidence, and compassionate understanding.

The First chapter is Self-introduction i.e. knowing yourself, your inner voice, your expectations and taking responsibility, to run your own life. The secret is to build on your strengths and concentrate on what you are passionate about. No one can successfully confront a World in constant change, without knowing his or her assets and how to use them?

The Second chapter is about setting goals, figuring out where we want to go? As we are responsible for solving our own problems, we should be true to ourselves, leading our own life, creating goals, generating the driving force and ultimately reaching the target that we have set for ourselves. The author says that there are three kinds of goals 1) the goal of acquiring 2) the goal of achieving and 3) the goal of being. She recommends "Never abandon a goal that resonates deeply in your Heart".

The Third chapter deals with the Real Meaning of Life, which is easy to find out. What makes you happy;

what makes you rejoice, is the real meaning. Those who give meaning to their own lives give meaning to the rest of the World too. We go through life in a routine fashion, not noticing the treasures that we can give to each other. The art of living requires that we accept the facts of life and make the best use of them.

The Fourth chapter deals with managing our feelings. It takes a lot of courage to share our feelings with others. It demands the Art of listening to become part of others as a team member. Listening, Sharing and loving are really at the core of our existence. We have the right and potential to choose what we want out of life.

The Fifth chapter teaches us, how to get our feelings unblocked. Many of us retreat in to a shell, suppress our feelings and thus get isolated from the mainstream of life. We should be consistently in touch with our emotions, our inner voice and successfully use them to inspire ourselves and others. A shared vision with others enables us to make this World a better place to live than we found it.

The Sixth chapter tells the reader to make a personality-inventory of oneself i.e. searching and finding our talents, discovering who we are, establishing an identity, to be unique, than be a member of a crowd. Each one of us is unique, with no duplicate and it is our responsibility to remain that way, developing and perfecting it, to soar and reach the Top.

The book is easy to read, with stories, exercises, instructions and lessons. So make use of the tools offered in this book, by applying them to grow and continue growing, till you reach the target you want. The author quotes the Former President of Iceland VIGDIS FINNBOGADOTTIR, who said: "When the storm surrounds me, I feel completely calm, because I know who I am and what I want". By reading this Book that is what exactly we should experience!

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

R.C. Arora, IPS

BPR&D, being a nodal agency at the National level in the field of police and prison matters, it sponsored 29th All India Criminology Conference of the Indian Society of Criminology held at Madurai Kamraj University, Madurai from 16th to 18th February 2006.

The main themes of the Conference were:

1. ***Cyber Crime and***

2. ***Crime against Children***

The conference was attended by over 400 delegates from all over the Country comprising of academicians, members of the Criminal Justice System, members from the social organization working in the field of Crime Prevention and Correctional Administration. There were a total of 5 working sessions, one business session and a scientific open session for the ***Best Research Paper Award*** held during this conference. During deliberations, issues relating to problems and recent trends of cyber crimes in existing legal perspective were discussed besides the issues related to Child abuse, Child Pornography and Child Trafficking. Around 77 research papers were presented by the eminent professionals in these fields on the above referred themes.

The conference was inaugurated by the Hon'ble Chief Justice of Tamil Nadu, Justice Shri A.P. Shah. During his thought provoking address, he emphasized that the legislature should give the mandate and teeth to curb the growing crimes like cyber crimes and crimes against children.

Dr. B.V. Trivedi, Assistant Director represented BPR&D in this conference and chaired one of the technical/working sessions on ***Child Trafficking and their Exploitation.*** In this session a keynote address was made by Prof. S.P. Srivastava of Lucknow University. During the discussion in this session, it was unanimously felt that effective steps should be taken both by the State as well as Central Government to protect this vulnerable group of our society. The trend as crime against children has been showing a disconcerting increase. This has posed a real challenge before the Law Enforcement Agencies to translate the law in the interest of Children, the citizens of tomorrow.

Dr. E.M. Sudarsana Natchiappan, Member of Parliament and Chairman of Parliamentary Committee for Personnel, Public Grievances, Law and Justice, Government of India, delivered the valedictory address in this conference and shared his thought provoking views with the participants.

The General Body meeting of the Indian Society of Criminology and all the eminent personality present at this occasion appreciated the gesture shown by the BPR&D not only to sponsor this National Conference but also for valuable professional contribution made during deliberations of the conference.

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POLICE MEDAL FOR MERITORIOUS SERVICE AWARDED ON REPBLIC DAY -2006

Andhra Pradesh

1. Shri P. Hari Kumar,
   Supdt. of Police/Dy Director,
   Andhra Pradesh-'' Police Academy, Hyderabad

1. Shri Mohd. Azmath Hussain,
   Commandant, Home Guards, Telangana Region

3. Shri G. Mohan Reddy,
   Dy.supdt. of Police, Toopran,

4. Shri K Raja,
   Asst. Commandant, 10th BN.APSP, A.P.

5. Shri K. Yadav Reddy,
   Dy.supdt. of Police, Security Wing Intelligence,
   Hyderabad

6. Shri D. Narahara,
   Circle Inspector, Spl. Branch Ongole, A.P.

7. Shri R. Ravinder Reddy,
   Inspector, ACB CIU, Hyderabad

8. Shri M. Raj Sekhar,
   Reserve Inspector/Security Wing Intelligence,
   Hyderabad

9. Shri V. Prakash Rao,
   Inspector, Special Intelligence Branch,
   Hyderabad

10. Shri Zorawar Khan,
    Sub-Inspector, Kachiguda

11. Shri Z.J.P. Jayaraj,
    Sub-Inspector, CID, Hyderabad

12. Shri C. Jamman Reddy,
    Sub-Inspector, SI Cell/Intelligence, A.P.

13. Shri K. Bhaskara Rao,
    Sub-Inspector, SIB,
    Visakhapatnam

Arunachal Pradesh

14. Shri R. Monpa,
    Inspector, PHQ, Itanagar

Assam

15. Shri Rohini Kumar Bania,
    Dy. Inspector General of Police, Guwahati

16. Shri Nabendu Kishore Sinha,
    Commandant 1st A.P.T.F. BN., Dakurvita,
    Goal Para

17. Shri Pradip Chandra Saloi
    Supdt. of Police, Dibrugarh

18. Shri M.N.A.S.F. Haque,
    Supdt. of Police, North Lakhimpur

19. Shri Rathindra CH.Nath,
    Asstt. Comdt, Kahilipara

20. Shri Abdul Gafur, ASI/OPR,
    Borpathar OP, Karbi-Anglong DEF

21. Shri Debi Prasad Das,
    ASI/OPR, APRO HQ, Guwahati

22. Shri Dhiren Bhuyan
    Head Constable, CID Orgnization, Ulubari

23. Shri Hemanta Kumar Bez,
    Constable, City DEF, Guwahati

24. Shri Nareswar Deka,
    Constable, APRO, Ulubari, Guwahati

Chhattisgarh

25. Shri Jay Ram,
    Section Commander, 9th BN, Chhattisgarh

26. Shri Ram Singh,
    Const No. 2, Police Line, Durg,
    Chhattisgarh

27. Shri Dashrath Lal Manhar,
    Supdt. of Police, Bijapur

28. Shri Pravir Kumar Das,
    Supdt. of Police, Dantewada

29. Shri Kishor Kumar Agrawal,
    AIG, PHQ, Raipur

N.C.T. of Delhi

30. Shri Shio Balak Singh Tyagi,
    Dy. Commissioner of Police, Delhi

31. Shri Hoshiyar Singh,
    Asstt. Commissioner of Police, Nanakpura

32. Shri Ajay Kumar Sharma,
    Inspector, FRRO, Delhi,

33. Shri Ashok Mahana,
    Inspector, SO to Spl. C.P. Admn, Delhi

34. Shri Priya Mitra Kaushik,
    Inspector, SO to Jt. CP/Hqrs Delhi,

35. Shri Hashim Sheikh,
    Sub-Inspector, Traffic, Delhi

36. Shri Darshan Singh,
    Sub-Inspector, 4th BN Delhi

37. Shri Satya Pada Sarkar,
    Sub-Inspector/W.O., Delhi,

38. Shri Satya Vir Singh,
    ASI, PTC Delhi,

39. Shri Nassu Ahmed,
    Head-constable, PS Darya Ganj

Gujarat

40. Shri Govindsingh D. Solanki,
    Dy Supdt. of Police,
    CM Security Gandhinagar

41. Shri Jayendrasinh A. Jadeja,
    Inspector, L.I.B.Mehsana

42. Shri Parbatsinh M. Parmar,
    Sub-Inspector, R.R.Cell Range DIG
    Gandhinagar

43. Shri Sudambhai Limbabhai Samudre,
    Sub-Inspector, SRPF GR.XI, VAV,
    Distt- Surat

44. Shri Ganshyamsinh Lalubha Zala,
    ASI, Control Room,Rajkot City

45. Shri Somabhai Ditaji Patel,
    Head Const., Local Crime Branch,
    Himatnagar

46. Shri Narsanghai D. Chaudhari,
    Head Constable, Task Force, Surat City

47. Shri Indrasinh R. Vaghela,
    Head Const, Shahibaugh, Ahmedabad

48. Shri Jivan Ratanshi Bhoraniya,
    Head Const., Economic-cell, Rajkot City

49. Shri Devshibhai N. Varu,
    Constable, Kodinar

50. Shri Sanatkumar V. Bakshi,
    Constable, A.C.B.Rajkot Police Station,

Haryana

51. Shri Mohammad Akil,
    DIGP, Panchkula

52. Shri Balbir Singh,
    Supdt. of Police, Panchkula

53. Shri Hari Singh,
    Inspector/Telecom, Panchkula

54. Shri Ram Bhaj,
    Sub-Inspector, Panchkula

55. Shri Lakhu Ram,
    Sub-Inspector, HPA/Madhuban

Himachal Pradesh

56. Shri Shiv Pal Singh Verma,
    Comdt., 1st , IRB, Bangarh

57. Shri A K Sharda,
    Supdt. of Police, Kinnaur,

58. Shri Padam Dass,
    Sub-Inspector (CID).CM Security, Shimla

Jharkhand

59. Shri Satya Narayan Pradhn,
    DIG (Provision), Ranchi

60. Shri Nand Kishore Singh,
    Sub-Inspector, Ranchi

61. Shri Rama Shankar Mishra,
    ASI, P.T.C., Hazaribagh

62. Shri Sheo Charan Murmu,
    Havildar, CID, Jharkhand

Jammu & Kashmir

63. Shri Z.H. Chisti,
    DIG/Home Guard & CD, Jammu & Kashmir

64. Shri Ranbir Singh Manhas,
    Dy SP, Reasi (ARNAS), Jammu & Kashmir

65. Shri Amanat Ali Shah,
    Dy SP, VIG Org, Jammu

66. Shri. Puran Chand Kilam,
    Dy SP, J&K CID, Delhi Cell, Jammu & Kashmir

67. Shri Hardip Singh Gill,
    Inspector, SHO/PS GRP, Jammu

68. Shri Ghulam Hassan Kozgar,
    Inspector, CID SBK Hqrs, J&K

69. Shri Kuldeep Krishan Raina,
    Sub-inspector, (Now Inspector) PA to DGP,
    Jammu & Kashmir

Karnataka

60. Dr. B E Umapathy,
    Inspector General of Police, Bangalore

61. Shri Sanjay Sahay,
    DIG, Police Advisor (UN), WAU, Sudan

62. Shri Sanjay Vir Singh,
    Dy. Inspector General of Police, COD,
    Bangalore

63. Dr. P Ravindra Nath,
    Dy. Inspector General of Police Hqrs- II,
    Bangalore

64. Shri Krishna Ganesh Bhat,
    Principal, APTS Yalahanka, Bangalore

65. Shri D.jayaprakash,
    Supdt. of Police, MTO Bangalore

66. Shri Mohd. Raffiq A. Mulla,
    Dy. Supdt. of Police, Under Posting,
    Karnataka

67. Shri L Shivashankarappa,
    Dy. Supdt. of Police, Nelamangala, Sub-division,
    Bangalore

68. Shri M C Thimmaiah,
    Asstt. Comdt, 8™ BN, Shivamoga

69. Shri M.T.Ali,
    Inspector, Mysore

70. Shri A S Joyappa,
    SPL RPI.7™ BN KSRP, Mangalore

71. Shri S D Managuli,
    Assistant Sub-Inspector,
    Amingad PS Bagalkot Distt.

72. Shri V.L.Chandraiah,
    Head Const, IX BN, KSRP, Bangalore

Kerala

73. Smt. B. Sandhya,
    Dy. Inspector General, Thrissur

74. Shri E. Anwar,
    Dy Commandant, Kochi City

75. Shri B. Chandrasekharan Nair,
    Assistant Commandant, SAP,
    Thiruvananthapuram

76. Shri P K Mohanan,
    Asstt. Sub-Inspector, Meenangadi

77. Shri K P Gopalakrishnapillai,
    Head Constable, Alappuzha

Madhya Pradesh

78. Shri P.M. Mohan,
    IGP, Bhopal

79. Shri Govind Pratap Singh,
DIG, SP, Bhopal

80. Shri P S Phalanikar,
DIG of Police, Indore Range

81. Shri I P Kulshrestha,
Suptd. of Police, AJK, Bhopal

82. Shri K L Parteti,
Addl. Suptd. of Police, Seoni

83. Shri Santosh Kumar Upadhyay,
Reserve Inspector, Ujjain

84. Shri Karun Kumar Upadhyaya,
Inspector (M), CID PHQ, Madhya Pradesh

85. Shri Gajraj Singh,
Head Contable, Chhatarpur, Bhopal

86. Shri Krishna Kumar Dubey,
Head Contable, CID, Gwalior

87. Shri Satya Narayan Singh,
Head Contable, Bhopal

88. Shri Prabhu Lal Shahasta,
Head Contable, Distt. Rajgarh

89. Shri Iqbal Beg Mugal,
Constable, Distt.Mandsaur

90. Shri Mahendra Prasad Shukla,
Constable, Distt.Anuppur

91. Shri Ramnarayan Pateria,
Dy. Supdt. of Police, SPE, Jabalpur

92. Shri Ramesh Prasad Napit,
Head Contable, S.B.I.E.O., Bhopal

Maharashtra

93. Shri S.P.S. Yadav,
Commissioner of Police, Nagpur City

94. Shri S.S. Barve,
Dy Inspector General of Police,
S.R.P.F. (HQ) Mumbai

95. Shri D. Kanakratnam,
Dy. Inspector General of Police,
Maharashtra State Police,
Head Quarters, Mumbai

96. Shri Bhanudas Shankar Thorat,
Adjutant, SRPF, GR-I, Pune

97. Shri Dilip Arjunrao Shinde,
Inspector, Crime Branch, Pune City

98. Shri Ramesh Pandurang Shivdas,
Police Inspector, Uran Police Station,
Navi Mumbai

99. Shri Babu Raju Pillai,
Inspector, Andheri Police Station, Mumbai

100. Shri Pramod Pralhad Kale,
Asstt. Police Inspector, Akola (R)

101. Shri Prabhakar Shravan Kamatkar,
Armed Police, Sub-inspector, SRPF Gr, IX,
Amravati

102. Shri Bhaskar P. Sonawane,
Asstt.Sub Inspector, Nashik City

103. Shri Ganpat Shankar Kumbhar,
Asstt. Sub-Inspector, SRPF, Pune

104. Shri Sitaram Haribhau Nikam,
Asstt. Sub Inspector, Nashik City

105. Shri Bansilal Shripat Borse,
Asstt. Sub-Inspector, Nashik (R)

106. Shri Bhagwan Bhau Suryavanshi,
Asstt. Sub-Inspector, Mulund Police Station,
Mumbai

107. Shri Arun Baburao Jadhav,
Asstt. Sub-Inspector, LA-II, HQ, Worli, Mumbai

108. Shri Dinkar Baburao Nikam,
Head Constable/DVR, Nadurbar

109. Shri Dilipkumar Dnyandeo Magdum,
Head Constable, Spl.squad Kolhapur,

110. Shri Shaikh Ismail Mohammed Khaja,
Head Constable/Intelligence Officer, SID,
Omanabad

111. Shri Shankar Vithoba Jadhav,
Head Constable, Karvir Police Station,
Kolhapur

112. Shri Dashrath Abaji Karad,
     Head Constable, D.S.B. Nashik (R)

113. Shri Dnyaneshwar Baburao Choudhari,
     Head Constable, SRPF, GR-I, Pune

114. Shri Anant Bhikoba Deshmukh,
     Head Const., Ghatkopar Police Station,
     Mumbai

115. Shri Shivaji Jotiba Bokade,
     Naik, Satara

116. Shri Manohar Bhauso Jadhav,
     Naik, Traffic Branch, Kolhapur

117. Shri Pradeep Ganpat Supal,
     Naik, Dapoli Police Station, Ratnagiri

118. Shri Shyamrao Bhajaba Madne,
     Constable, LCB, Satara

Manipur

119. Shri K. Radhashyam Singh,
     Commandant 11th BN, Manipur Rifles

120. Shri W. Ashok Kumar Singh,
     Sub-Inspector, Imphal West District

Meghalaya

121. Shri Aee Warjri,
     Sub-Inspector/Armed Branch, 1st MLP BN,
     CWS Shillong

122. Shri Pradip Khongrymmai,
     AB/SI, Shillong

Mizoram

123. Shri Saizela,
     Asst. IGP-II, Aizwal

124. Shri Thanmawia Chongthu,
     Supdt. of Police, Lunglei, Mizoram'

125. Shri Saphmingthanga,
     Sub-Inspector, 1st BN.
     Map Aizawl

Nagaland

126. Shri Liremo Lotha,
     Commandant, 9 NAP BN (I R), Nagaland

127. Shri Akumba Yimchunger,
     Supdt. of Police, Mokokuchung

128. Shri Kewetso Mero,
     Commandant, 1st NAP BN., Nagaland

Orissa

129. Shri Pradeep Kapur,
     Inspector General of Police (Tech.), Cuttack

130. Shri Shyam Sundar Hansdah,
     Inspector General of Police (Intelligence),
     Cuttack

131. Smt. B.radhika,
     Dy. Inspector General of Police (Vigilance),
     Cuttack

132. Shri Dhirendra Kumar Das,
     Inspector, Sambalpur Division

133. Shri Pramod Kumar Sahoo,
     Sub-Insprector, Puri

134. Shri Khetrabasi Sahu,
     Havildar, Headquarter APR, Sambalpur

135. Shri Bankim Chandra Behera,
     Havildar OSAP 5th BN, Baripada

Punjab

136. Shri Roshan Lal Bhagat,
     Dy. Inspector General of Police/C&T,
     Chandigarh

137. Shri Sham Lal Gakhar,
     Dy. Inspector General of Police, Chandigarh

138. Shri Arpit Shukla,
     Supdt. of Police cum Joint Director, Chandigarh

139. Shri Mukhtiar Singh,
     Supdt. of Police, Nawanshahar

140. Shri Vijay Kumar,
     Suptd. of Police, Hqrs, Bathinda

141. Shri Rajinder Singh,
    Dy Supdt. of Police, Jalandhar

142. Shri Devinder Singh,
    Dy Suptd. of Police, CID
    Nawanshahar, Punjab

143. Shri Daljit Singh,
    Dy Supdt. of Police, Phillaur

144. Shri Karnail Singh,
    Sub-Inspector, Chandigarh

145. Shri Ram Singh,
    Sub-Inspector, Crime Against Woman Cell
    Ludhiana

146. Shri Sukhchain Singh,
    Sub-Inspector, MT/CPO,
    Chandigarh

147. Shri Daya Singh,
    Asstt. Sub-Inspector, Ropar

148. Shri Santokh Raj
    Head Constable, DPO, Gurdaspur

149. Shri Hardial Singh,
    Inspector, Police Lines, Mansa

Rajasthan

150. Shri Mahadev Prasad Yadav,
    Addl. Supdt of Police, CID (CB)
    Jaipur

151. Shri Bhagwat Singh Udawat,
    Addl. Supdt. of Police, Rajasthan Police Centre,
    Jodhpur

152. Shri Goverdhan Singh,
    Dy Supdt. of Police,
    Distt- Banswara

153. Shri Jagannath Goswami,
    Dy Supdt. of Police, Rajasthan Police Academy,
    Jaipur

154. Shri Laxman Singh Manda,
    Inspector, Police Academy Jaipur,
    Rajasthan

155. Shri Kailash Singh,
    Company Commander, Police Training Centre,
    Jodhpur

156. Shri Ratan Lal Yadav,
    Sub Inspector, Central Store, Police (Hqrs),
    Rajasthan

157. Shri M C Sharma,
    Sub-Inspector, CID(C.B),
    Jaipur

158. Shri Mahesh Kumar Sharma,
    Asstt. Sub-Inspector,
    Distt-Jhunjhunu

159. Shri Banwari Lal,
    Head Constable, 4th BN. R.A.C. ,
    Jaipur

160. Shri Sarwan Singh,
    Head Constable, 11th BN. R.A.C. (I.R.)
    Posted at Vijay Ghat, Delhi

161. Shri Ganga Ram Verma,
    Head Constable, Anti-corruption Bureau,
    Jaipur

162. Shri Mubarak Ali,
    Constable, Police Line, Jaipur (City)

Sikkim

163. Shri B B Rai,
    Supdt. of Police, Hqrs, Gangtok

164. Shri Bal Krishna Sharma,
    SDPO, Rongli

Tamil Nadu

165. Shri Karan Singha,
    Commissioner of Police, Coimbatore

166. Shri A. Alexander Mohan,
    Dy. Inspector General of Police
    Ramanathapuram

167. Shri P.Kandasamy,
    Dy. Inspector General of Police
    Chennai

168. Shri A.M.S. Gunaseelam,
     Dy. Inspector General of Police,
     Thanjavur

169. Shri M.S. Nazimuddin,
     Supdt. of Police, Chennai

170. Shri V. Rajendran,
     Addl. Supdt. of Police
     Karur-District

171. Shri M.Vallinayagam,
     Addl. Supdt. of Police,
     Krishnagiri-District

172. Shri R.Perumalsamy,
     Dy Suptd. of Police, V & A.C.,
     Thoothukudi

173. Shri R. Govindarajan,
     Dy Supdt. of Police, V & A.C.,
     Pudukottai

174. Shri S.Rajendran,
     Dy Supdt. of Police, V & A C,
     Chennai

175. Shri R.viswanathan,
     Dy Supdt. of Police, Cuddalore

176. Shri L.Panneerselvam,
     Dy Supdt. of Police, Salem

177. Shri P.krishnan,
     Asst. Commr. of Police, Chennai

178. Shri A.Periyasamy,
     Inspector of Police, V&A.C., (Now Dy. SP),
     Tiruchirapalli-distt, Salem

179. Shri S Name Ira Jan,
     Inspector of Police V&AC, Madurai

180. Smt. P. Fathima Rohini,
     Inspector, Tamil Nadu

Uttar Pradesh

181. Shri Yashpal Singh,
     Director General of Police,
     Lucknow, Uttar Pradesh

182. Shri Gopal Lal Meena,
     Director General of Police, Lucknow

183. Shri Safi Ahsan Rizvi,
     DIGP, Devi Patan Range, Gonda

184. Shri Abhimanyu Tripathi,
     Supdt. of Police, Hqr, Lucknow

185. Shri Om Prakash Singh,
     Dy Supdt. of Police, Distt-Basti

186. Shri Jai Narayan,
     Dy Supdt. of Police, ACO Bareilly

187. Shri Uday Shankar Jaiswal,
     Addl Supdt. of Police, PHQ.,
     Allahabad

188. Shri Rajendra Singh,
     Addl. Supdt. of Police, Distt-Bareilly

189. Shri Gajendra Singh,
     Dy Supdt. of Police,
     Distt-Firozabad

190. Shri Azad Singh,
     Dy Supdt. of Police, Dr. Bhim Rao Ambedkar
     Police Academy, Moradabad

191. Shri Muin Ahmad,
     Constable/Dvr, UP, Vig Estt.
     Allahabad

192. Shri Ram Daras Singh,
     Inspector, PTC Sitapur

193. Shri Raghuvansh Mani Mishra,
     Coy Comdr, 32 BN PAC Lucknow

194. Shri Madhav Raj Pandey,
     Inspector (M)/CA, DGP, HQ,
     Lucknow

195. Shri Nafisul Hasan,
     SI (Compu), UP Police Computer Centre,
     Lucknow

196. Shri Yogendra Nath Dubey,
     Head Constable, Mirzapur

197. Shri Mohd. Mazher ISA,
     SI (M), UP, Vigilance Estt.
     Lucknow

198. Shri Kamla Pandey,
     Constable, Kushi Nagar

199. Shri Digvijay Singh,
     Inspector/SHO, Lucknow

200. Shri Ram Bux Singh,
     Constbale, Sitapur

201. Shri Zordar Yadav,
     Head Constable,
     35 BN PAC Lucknow

202. Shri Devki Nandan,
     Head Constable, Rampur

203. Shri Virendra Pal Singh,
     Head Constbale, Saharanpur

204. Shri Rajesh Kumar Chaudhary,
     Inspector, Bulandshahr

205. Shri Jawahar Lal Gupta,
     Head Constable, Mau

206. Shri Ganesh Kumar Trivedi,
     Constable, Unnao

207. Shri Ram Kishor,
     Head Constable, UP Police,
     Computer Centre, Lucknow

Uttaranchal

208. Shri Ashok Kumar,
     DIG (Hqrs), PHQ, Dehradun

209. Shri Daya Krishna Joshi,
     Asstt. Commandant, 31 BN.PAC,
     Rudarpur

210. Shri Fakir Ram Tamta,
     Sub-Inspecotr, Armed Police,
     Distt.-Nainital

211. Shri Anand Prakash,
     Head Constable (P) 25 C.P,
     Distt.-Haridwar

West Bengal

212. Shri Biman Ghosh,
     DSP, Vigilance Commission,
     Salt Lake, Kolkata,

213. Shri Supriya Krishna Datta,
     AR. Inspector, Doltala Police Line, North 24
     Parganas

214. Shri Debasish Mookharjee,
     Inspector, INT. Branch, West Bengal

215. Shri Zulfiquar Hasan,
     Joint Commissioner of Police,
     Kolkata

216. Shri Daniel Tshering Lepcha,
     Dy. Inspector General of Police,
     Siliguri

217. Shri Arun Kumar Sharma,
     Spl. SP.Int. Branch, West Bengal

218. Shri Ranjit Kumar Dey,
     Sub-Inspector, Doltala, North 24
     Parganas Distt.

219. Shri Prasanta Kumar Bhattacharya,
     Sub-inspector/Reserve officer, Paschim,
     Medinipur, West Bengal

220. Shri Jiban Kumar Mukhopadhyay,
     Inspector, EOI Cell, Kolkata

221. Shri Paresh Nath Chatterjee,
     Sub-Inspector, SAP 7th BN,
     West Bengal

222. Shri Azim Dastur,
     Asstt. Sub-Inspector, CID, West Bengal

223. Shri Amrit Lal Biswas,
     Asstt. Sub-Inspector, SAP 7th BN, West Bengal

224. Shri Prallahad Chandra Mondal,
     Constable, Balurghat

225. Shri Kartick Chandra Laha,
     Asstt. Sub-Inspector, Balurghat

226. Shri Siddhinath Singh,
Constable/Watcher,
Balurghat

227. Shrj Chitta Ranjan Biswas,
Constable, Vigilance Commission,
Kolkata

228. Shri Tapan Kumar Guha,
Constbale, Jalpaiguri

A & N Islands

229. Shri V.shekharan Pillai,
Sub-Inspector, SHO, Hut Bay

230. Shri Chacko Mathai,
Sub-Inspector, SB (CID), A&N

Chandigarh (Ut)

231. Shri Shish Pal,
Asstt. Sub-Inspector, Chandigarh

Lakshadweep

232. Shri E. Muthukoya,
Head Constable, Amini

Pondicherry

233. Shri A.Kandanathan,
Supdt. of Police, South Sub-division,
Pondicherry

234. Shri S. Kuppusamy,
Supdt. of Police, Rural Sub-division,
Pondicherry

BSF

235. Shri Virendra,
DIG, HQ Dte. Genl., BSF,
New Delhi

236. Shri Guravtar Singh Sandhu,
DIG, HQ ADG (W),
Chandigarh

237. Shri Prem Mohandass,
ADIG, SHQ BSF
Barmer

238. Shri P S Tomar,
Addl. DIG, STS BSF, Delhi

239. Shri Zahur Khan,
Addl.DIG, FTR HQ BSF,
Jalandhar

240. Shri B N Sharma,
Commandant, HQ DTE Genl.,
New Delhi

241. Shri. Jorawar Singh,
Commandant, 24 BN BSF,
Khaju Wala, Rajasthan

242. Shri Vikash Chandra,
Commandant, TC&S, BSF, Meeru Camp,
Hazaribagh

243. Shri S Manral,
Commandant, SHQ, Jaiselmer-II,

244. Shri R P Kukreti,
2IC, 18 BN BSF, Panisagar,
Tripura

245. Shri Partap Singh,
Dy Comdt, 106 BN BSF, Digbaria,

246. Shri Ramphal Khatri,
Dy. Commandant, 76 BN BSF Jaisalmer,
Rajasthan

247. Shri Balbir Sharma,
Assistant Commandant, 40 BN BSF,
Ramgarh, (Rajasthan)

248. Shri Gurdev Raj,
Asstt. Comdt, 77 BN BSF, Ramtirath,
Rajasthan

249. Dr. Sudhir Chandra,
SWAR, CMO (SG), Base Hospital,
Kadamtala

250. Shri Manohar Singh Rana,
Inspector, 129 BN BSF,
Mandi Mandir

251. Shri Mitra Singh Rana,
OS/SM, TC&S, BSF,
Hazaribagh

252. Shri S M Mubarak,
Inspector, SRO BSF
New Delhi

253. Shri Amalendu Acharjee,
Inspector/COMN,
STS Bangalore

254. Shri Sher Singh Rathore,
Inspector,
Sriganganagar (Rajasthan)

255. Shri Janak Raj Sharma,
Inspector, 120 BN BSF,
Jalipa, Rajasthan

256. Shri Suraj Mal,
Insepctor, SMT Workshop,
Indreshwar Nagar

257. Shri N T Baby,
Inspector, FHQ, BSF,
New Delhi

258. Shri P V Pillai,
Sub-Inspector (RO),
STS BSF Bangalore

259. Shri Hoshiyar Singh,
Sub-Inspector, SIW BSF,
New Delhi,

260. Shri Surindra Prasad Singh,
Sub-Inspector,
91 BN BSF

261. Shri Bajrang Singh,
Head Constable, 141 BN BSF, Khanetar Nallah,
Poonch

    Shri Ram Kumar,
Head Constable, 153 BN BSF, Achhad,
Poonch

262. Shri Dhanattar Singh,
Head Constable, 43 BN BSF,
Bareilly

263. Shri M Selva Raj,
Head Constable,
SRO BSF New Delhi

264. Shri Devendra Roy,
Constable, 74 BN BSF,
Agartala

265. Shri Prithi Ram,
Constable,
91 BN BSF

266. Shri Noor Mohd,
Constable, SHQ BSF,
Silliguri

267. Shri Bishan Singh,
Constbale,
24 BN BSF

268. Shri Mathura Dass,
Tailor, 31 BN BSF,
Dobasipara, Tura

269. Shri Dharam Singh,
Sweeper, 96 BN BSF,
Gulshan Nagar

270. Shri Sunder Lal,
Cook, 88 BN BSF,
Alamgang, Shillong

C.R.P.F.

271. Shri A.P.Maheshwari,
DIGP, Dte.General, CRPF,
New Delhi

272. Shri Sanjeev Ranjan Ojha,
DIG(OPS) CRPF,
Srinagar (J&K)

273. Shri Sat Sarup Singh,
DIGP, RAF-2, CRPF, Sector-38,
Kharghar Mode, Taloja Navi Mumbai

274. Shri B.S.Negi,
DIGP(OPS) CRPF,
Doda (J&K)

275. Shri N.C.Bhatt,
ADIG, O/O Addl.DG.,
Eastern Zone Hqrs, Kolkata

276. Shrj Rohit Kumar Singh,
     ADIG, O/O DG CRPF,
     New Delhi

277. Shri R D Sharma,
     Addl DIG, O/O DG CRPF,
     New Delhi

278. Shri A.K. Sharma,
     ADIG, GC CRPF,
     Nagpur (Maharastra)

279. Shri T.D.Kamble,
     ADIG, GC, CRPF, Bilaspur,
     Chattisgarh

280. Shri Bharat Kapoor,
     ADIG, L.S.College,
     Mujaffarpur, Bihar

290. Shri Inder Singh Yadav,
     Comdt 51 BN, CRPF, Lalwas, Ramgarh Road,
     Jaipur(Rajasthan)

291. Shri V.K. Shukla,
     Comdt 21 BN, CRPF. MH Stadium,
     Rajendra Nagar, Patna, (Bihar)

292. Shri Dharampal Sehrawat,
     Comdt., O/O DIG CRPF,
     Gandhi Nagar

293. Shri V.S. Sahi,
     Comdt. 86 BN, CRPF, Singarbill,
     Airport Agartala, West Tripura

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

Areas covered include

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

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