Bureau of Police Research & Development

COMPENDIUM ON PROJECTS

NATIONAL POLICE MISSION

'Promoting Good Practices and Standards'

NATIONAL
POLICE MISSION

COMPENDIUM
ON PROJECTS

Bureau of Police Research & Development
4th Block, CGO Complex (Ground Floor)
Lodhi Road, New Delhi - 110003

National Police Mission Compedium on Projects

www.bprd.nic.in

Published by BPR&D, Block No. 4, Ground Floor,
CGO Complex, Lodhi Road, New Delhi-110003

'Promoting Good Practices and Standards'

Dr. Meeran C. Borwankar
Director General
Bureau of Police Research & Development
National Highway (NH) No. - 8
Mahipalpur, New Delhi-1100037
Phone: -011-26781312
Fax: -011-26781315

FOREWORD

Hon'ble Prime Minister of India on October 6, 2005, in his address to Directors General of Police, announced the setting up of a National Police Mission (NPM). The mandate of the NPM is to transform the Police forces in the country as an effective instrument for maintenance of internal security by equipping them with necessary material, intellectual and organisational resources.

Since its inception, NPM has been working for empowering the Police force by - enhancing the skills and competence at the grass root level; promoting a culture of excellence and accountability of Police; meeting challenges such as asymmetric warfare, new trends in urban and social unrest; bring out specialisation in areas like counter terrorism and insurgency; focussing on the strengthening of metropolitan and rural policing; bring in attitudinal changes in police and harnessing technology in aid of policing and adopting community policing etc.

National Police Mission has eight Micro Missions which develop implementable projects for achieving the above mentioned objectives.

I hope that this second edition of Compendium will help the States/UTs in adopting projects that suit their requirements and will be useful for senior police officials and policy makers. It will certainly be relevant for several institutions and departments to offer innovative courses in these areas and enhance capabilities for better policing in our country.

I take this opportunity to thank police officials of States and Union Territories who as members have worked hard on various Micro Missions and their contribution is appreciated. I also, appreciate the efforts of Dr. Nirmal Kumar Azad, Director, and the entire team of NPM Division for publishing the Compendium.

(Dr Meeran C. Borwankar)
DIRECTOR GENERAL

PREFACE

The National Police Mission (NPM) was announced by the Honourable Prime Minister of India in 2005 in his address to the DGsP/IGsP Conference (October 6, 2005). The objective of the Mission is to prepare the police forces for emerging challenges, to bring about specialization in areas like counter terrorism, counter insurgency, cyber and economic crimes, strengthen the metropolitan and rural policing, to bring in attitudinal changes in police by transforming the 'force psychology' into 'service psychology to harness technology in aid of policing and to adopt community policing and ensure effective delivery of services to the citizens.

The Mission continued to work under the aegis of MHA till December, 2008 and was subsequently anchored in BPR&D, in order to coordinate the activities of the Micro Missions and monitor the implementation of various projects in States/UTs.

Eight Micro Missions are working at present to develop projects on various subjects of Policing and Internal Security. These projects deal with Human Resource Development, Community Policing, Communication and Technology, Infrastructure, New Processes (Process Engineering), Proactive Policing, Visualizing Future Challenges and Gender Related victimology and Correctional Administration.

This Compendium presents various projects developed by the Micro Missions, some of which are being implemented in the States/UTs and Central Armed Police Forces. It is expected that this compendium will help the police officers with newer ideas & concepts so as to implement them for effective policing. The first edition was published in the year 2013 and its reprint was released in year 2015

I thank all the Micro Mission members for having developed these projects and also congratulate the team of NPM directorate particularly Dr. Nirmal Kumar Azad Director and the entire team of NPM division for making this Compendium in time.

(Sh Pravez Hayat)
Addl DG BPR&D

'Promoting Good Practices and Standards'

DIRECTOR NPM

The National Police Mission is striving for gathering best practices being followed all over the country and to work on them to form implementable project reports.

Mission is having knowledge based strength of 140 Police Officers from across the country from CAPFs/CPOs/States/UTs.

Since inception mission has completed and circulated 23 project reports to all the States/ UTs for implementation by them. The present second edition of compendium contains 11 completed projects. Presently, we have started receiving positive feedbacks from States/ UTs about the implementable values of such projects.

We are always striving to identify future needs of policing and work towards its resolution. Carrying out work on innovative ideas remains the hallmark of NPM division.

Reconstitution of Micro Missions will certainly bring in more projects to work with and mission will lay down the road map for bringing sustainable changes in the policing in the country.

I hope that the new members added to different Micro Mission shall add value to the current work and they would complete projects on time.

(Dr. Nirmal Kumar Azad)
IG/Director
National Police Mission

'Promoting Good Practices and Standards'

CONTENTS

"Restructuring of Civil Police Organization"

Micro Mission: 01
(Human Resource Development)

1. INTRODUCTION/BACKGROUND

It has been pointed out by various Commissions and Committees that civil police in India has been heavily manned by constabulary. As per 2013 Data on Police Organization. 85% (1507542/1765404) of total civil police India is constabulary. There are many important reasons for which it has been pointed out that civil police in India needs to be more officer-oriented. At the same time, it has been observed that because of the above structure of police hierarchy combined with the system of direct recruitment at different levels there is large scale frustration among constabulary, and even in higher ranks of police, due to lack of timely promotion. Co-incidentally both the hierarchal structure and lack of promotional avenues can be addressed through a single approach.

2. OVERVIEW

2.1 Project Title

Restructuring of Civil Police Organization

2.2 Vision

The present bottom heavy civil police organization structure can be made narrower by restructuring relative strength at different levels, without increasing the total strength of police. It is possible to achieve this without compromising any of the functional requirements of the civil police.

2.3 Organisational Objective

- To make the structure of civil police more officer-oriented.
- To ensure that the frustration on account of lack of promotion is minimized at all levels.
- To improve the quality of services delivered by civil police.

3. THE BUSINESS CASE

3.1 Purpose of the Business Case

Motivation of the constabulary, which constitutes the main bulk of the civil police, can be drastically increased; and the quality of the service delivery by civil police can be improved by restructuring civil police organization by changing the relative size of different ranks. The proposal is independent of any increase in strength. However, whenever such increase in strength is envisaged, in order to make police population ratio more effective and comparable to other well governing countries, it will be necessary to keep the distribution of ranks and promotion policy etc. suggested here through a simple model. Though the number of officers in a police station will increase at the cost of constables, this will require no additional expenditure as the higher salaries in any case are paid as per Assured Career Progression scheme.

3.2 Sponsor

Ministry of Home Affairs, Government of India and State governments

4. SITUATIONAL ASSESSMENT AND PROBLEM STATEMENT

More than 68% i.e. (1193428) out of the total civil police (1765404)[1] in India are constables. According to CrPC the constables are

[1]According Data on Police Organization 2013.

not authorized to do investigation. Therefore, the constabulary is of little use for the investigative work of civil police.

On an average in a police station we generally encounter the following structure:

	Inspector	SI	ASI	HC	Constable	Total
Urban PS	1	10	7	17	70	105
Percentage	0.95	9.52	6.67	16.19	66.67	100.00
Rural PS		1	2	5	18	26
Percentage		3.9	7.7	19.2	69.2	100

Fig. (a)

Fig (a) above structure of police hierarchy combined with the system of direct recruitment at different levels there is large scale frustration among constabulary, and even in higher ranks of police, due to lack of timely promotion. Co-incidentally both the hierarchal structure and lack of promotional avenues can be addressed through single approach.

5. CRITICAL ASSUMPTIONS AND CONSTRAINTS

It is assumed that the state governments will like to bring about the desired changes. There will not be any additional expenditure involved, which will prevent objections from certain sections of the concerned state governments, Police being a very conservative organization, there may be reluctance to adopt any drastic change in organizational structure.

6. IMPLEMENTATION STRATEGY

Functional Requirements of an Urban Police Station

It has been observed that around 80 to 100 Constables/Head Constables are generally posted in urban police stations having annual IPC crime registration about 800. The following functional requirements are fulfilled by the personnel of different ranks in such a police station, Fig (b).

Proposed Changes in Urban PS Structure

It is generally accepted that except for Sentry duty and Assistant Writer's work, most of the duties performed by the Constables can be performed by Head Constables. Therefore, the ratio of the Constables to Head Constables which is nearly 4:1 can be easily changes to 1:1. It is also suggested that Station Writer, Assistant Station Writer and Computer and some of the general duty work can be outsourced and these personnel could be redeployed in other functions of the police station. This way about 8 positions of Constables and Head Constables can be reduced and 8 additional Sub-Inspectors/ASIs positions can be created in detective detachment.

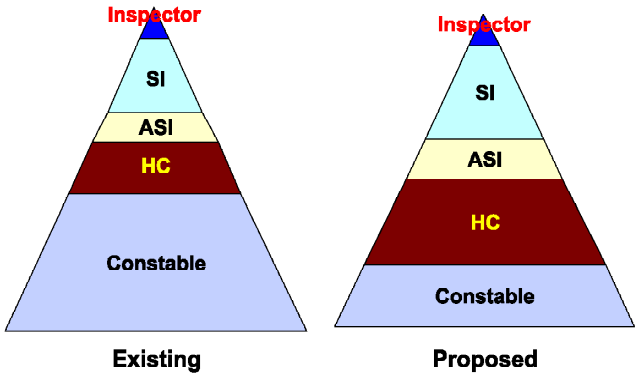
In addition, the guard duty can be performed by district armed police who should be part of the District Armed Police Constabulary. The reduction will have no impact on the core functions of a police station since the guard does not perform any core function of civil police. Since the guard duty will remain part of the district police, the reduction in number has ***not*** been adjusted by increasing number in other ranks of the police station.

Duty	Inspector	Sub Inspector	ASI	HC	Constable	**Total**
SHO	1					**1**
Junior Officers		8	4			**12**
Detective detachment		2	3	4	8	**17**
Day beats				4	12	**16**
Night beats				5	5	**10**
General duty					20	**20**
Leave training reserve				2	8	**10**
Guard				1	4	**5**
Station House Writer				1		**1**
Assistant Writer					2	**2**
Computer					3	**3**
Motor cycle detachment					8	**8**
Total	**1**	**10**	**7**	**17**	**70**	**105**

Fig. (b)

At present, leave and training reserve etc. are generally about 10% of the sanctioned strength which is generally merged into Constables/Head Constables strength. Since a Constable or Head Constable cannot do many of the duties of higher ranks, it is proposed that the leave reserve is counted against each rank separately.

The present and the proposed structure with respect to urban police stations are given below both in tabular forms as well as graphically.



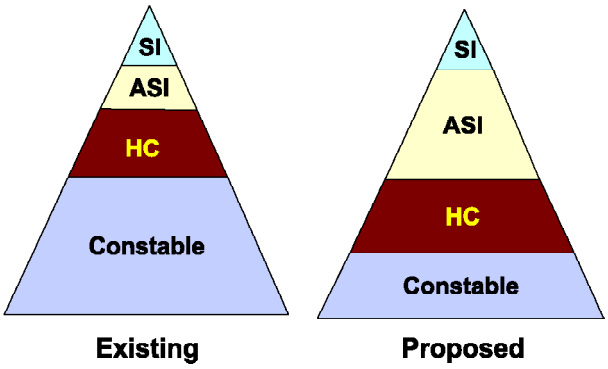
	Inspector	SI	ASI	HC	Constable	Total
Existing	1	10	7	17	70	105
Percentage	0.95	9.52	6.67	16.19	66.67	100.00
Proposed	1	15	12	36	36	100
Percentage	1.00	15.00	12.00	36.00	36.00	100.00

Other PS Structure and Proposed Changes

Out of the above distribution, the SHO, the Station Writer, at least one Assistant Writer, one Computer operator and the Guard are common features of all the police stations Irrespective of their size and type. (However, in some police stations, where arms are not kept, even the guard duty has been reduced and substituted by unarmed watch by one Constable at night). In smaller police stations, the SHO is generally a Sub-Inspector, though rank of the officer in-charge of Police Stations varies slightly from state to state.

Rural police stations have similar but a little more bottom heavy structure with fewer officers. A typical rural police station will have 3 SI/ASI, 4-6 HCs and 16-20 Constables. Applying the arguments given in case of urban police station, the relative distribution of different ranks in rural police station can also be changed. The following change is proposed in case of rural police station.

	Constable	HC	ASI	SI	Total
Existing	18	5	2	1	26
Proposed	10	8	7	1	26



It may be worth mentioning that no increase in the overall strength has been implied in the above discussion except for a few functions, engaging about 5% of the police station strength, have been proposed to be outsourced. (This being a small percentage can be postponed for a later time after initial restructuring has been started). Thus, the proposal has been independent of any increase in strength. However, whenever any increase in strength is envisaged, in order to make police population ratio more effective and comparable to other well governing countries, it will be necessary to keep the distribution of ranks and promotion policy etc. as suggested above. Thus, it will not suffice to simply increase the number of constabulary in civil police in order to increase the overall police population ratio in favour of police. If anything, such an expansion will only increase the command and control as well as career frustration problems in the police and may prove to be counterproductive in the long run.

The overall structure of the entire civil police will also depend on other branches like Crime Branch, Special Branch, Specialized Squads etc. Generally, these branches will have fewer need for constables and higher need for officers. Therefore, combining the strength of rural police station, urban police station and different branches of civil police, the following re-distribution of civil police structure has been proposed.

Suggestions for the Entire Civil Police

Levels of Direct Entry

There are four levels of direct entry into civil police in most part of country. They are (i) Constable, (ii) Sub Inspector, (iii) State Police Service and (iv) IPS. It has been experienced that

it is not possible to motivate the state governments to reduce the number of direct entrance levels. Therefore, the following suggestions are being made keeping all the four levels of direct entry.

Reservation for Promotion at Direct Entry Levels

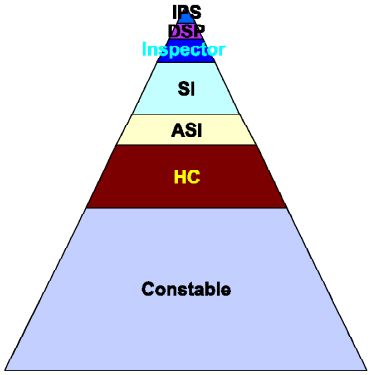
There is a need to increase the quota for promoted officers at different levels. Though this will decrease the proportion of young officers in civil police in comparison to the present situation, in terms of absolute numbers the quantum of young officers will remain same because it has also been suggested that the strength of officers' cadre will be increased simultaneously. Moreover, since this will increase the prospect of promotion, the promoted officers on an average will be younger in age. After careful consideration, it is suggested that:

- Two third of the total strength of sub inspector should be reserved for promoted officers.
- In the rank of DSP a fixed number equivalent to 2.48% of the non-Direct IPS strength of state police should be the annual intake of direct DSP and rest vacancies should be reserved for promoted officers.
- On the other hand for entry to IPS through promotional quota should continue as it is.

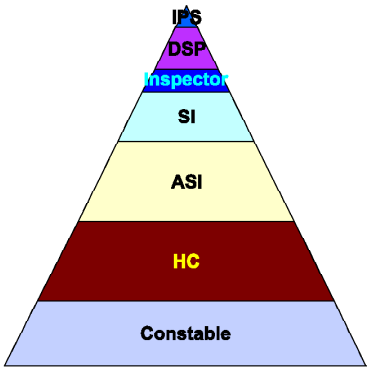
Relative Strength of Different Ranks

Promotional prospect at different ranks will decide the relative strength of different ranks. Since the higher ranks will be increased, this will automatically increase the percentage of the officers at different ranks compared to the constabulary. However, it not expected that there will be any drastic change in the number of IPS officers or in the quota for promotion into IPS. Therefore, no change in the strength of direct DSP and IPS is proposed. Accordingly, the following relative distribution of sanctioned strength at different levels is suggested.

	IPS	DSP/Addl. SP	Insp	SI	ASI	HC	Const	Total
At present	0.4	1.1	2.1	4.8	5.7	18.7	67.2	100
Proposed	0.4	2.7	5.2	7.9	20.9	31.4	31.5	100



EXISTING



PROPOSED

The proposed structure while increasing officer orientation of police will also improve morale of the force by increasing promotion prospect at each level. At present, in order to decrease frustration on this count, Assured Career Promotion Scheme gives higher pay scale after fourteen years of service at one scale. However, this scheme is not completely satisfactory as the incumbent does not get the prestige or job satisfaction of promotion. It is presumed that an incumbent on an average serves for 35 years. It is easy to see that the average number of years officers spends in any one rank depends on the relative size of that rank in a structure. The comparative position is given below for state police organization having total strength of 53074 to show how the proposed structure improves promotion prospects.

	IPS	DSP/Addl SP	Inspector	SI	ASI	HC	Const	Total
Today's Position	200	580	1103	2567	3017	9919	35688	53074
Today's Ratio	0.4	1.1	2.1	4.8	5.7	18.7	67.1	100
Break up according to entry level in today's position								
Direct IPS	129							129
Direct DSP	71	420						491
Direct SI		160	1103	1284				2547
Recruited as Constable				1283	3017	9919	35688	49907
Total Structure	200	580	1103	2567	3017	9919	35688	53074
Proposal Structure	200	1415	2779	4168	11114	16671	16727	53074
Proposed Ratio	0.4	2.7	5.2	7.9	20.9	31.4	31.5	100
Break up according to entry level in the proposed structure								
Direct IPS	129							129
Direct DSP	71	142						213
Direct SI		1273	1389	1389				4052
Reecruited as constable			1389	2779	11114	16671	16727	48680
Total Structure	200	1415	2779	4168	11114	16671	16727	53074
Average no. of years in different ranks in the existing structure								
Direct DSP	5	30						35
Direct SI		2	15	18				35
Recruited as Constable			0	1	2	8	25	35

Average no. of years in different ranks in the Proposed structure								
Direct DSP	12	23						35
Direct SI		11	12	12				35
Recruited as Constable		0	1	2	8	12	12	35

Validation of the Model

The model has been validated through three regional workshops, in which officers of different ranks from different states have been consulted. In these consultation meetings, it was endorsed by different ranks that the decrease in number of constables will not adversely affect police station working and the model has been highly endorsed.

6.1 Deliverables

- Restructuring of civil police.
- Policy for direct entry at different levels.
- Policy for expanding strength of civil police reaches desirable police to public ratio.

6.2 Stakeholders

- Union Government
- State Governments
- Civil police personnel
- Citizens

6.3 Related Projects

- Expansion of State police forces
- Police training
- Separation of Crime and L&O functionaries
- Outsourcing of non-core functions of police

6.4 Work Plan

For changing the present structure to the proposed one, the following steps are suggested:

Restructuring within the present strength:

- Phased increase in sanctioned strength at different levels should be planned to achieve the desired change in structure.
- Separation of L&O from investigation staff in the police stations etc. should be incorporated into the ten years expansion plan.

Restructuring if total strength is also increased

- A desired level of police to public ratio should be set (say 2.5 civil police personnel for one thousand people as compared to present national average of 1.2).
- The desired level should be set to be achieved in ten years time.

Target Date: T + 10 years, where T is the date on which restructuring is initiated.

Estimated Cost: Nil - till outsourcing is undertaken.

Monitoring Mechanism:

A task force of the state concerned will look after the implementation of the project in the state, while NPM division of BPR&D will monitor the progress of the entire project.

"Reformation & Rehabilitation of Professional Criminals"

Micro Mission: 02
(Community Policing)

REFORMATION & REHABILITATION OF PROFESSIONAL CRIMINALS

Some tribes of India, who were forest inhabitants or nomadic, were dependent on forest produce until about two centuries back. They were divested of their traditional means of livelihood with increasing commercial exploitation of forests and large scale land grabbing by influential people. This resulted in abject poverty which forced several such tribes to take to crimes, particularly crimes against property, apart from illicit brewing of liquor and prostitution to eke out a living. During the colonial rule, the British-Indian government enacted the Criminal Tribes Act in 1871 to confine "Notified Tribes" to specified settlements and impose restrictions over their movements with a view to curb their criminal activities. Though these tribes became 'De-notified Tribes' (DNTs) after the repeal of the Act in 1952 by the government of independent India, there was no initiative either from the government or the non-governmental organizations to improve their pathetic conditions, provide them basic amenities, give them alternate means of employment and wean them away from crime. Some vested interests in the Criminal Justice System and receivers of stolen property who were the actual beneficiaries of thefts, burglaries, robberies and dacoities committed by the DNTs ensured that they remain entangled in a web of crime. Though the enforcement measures against the DNTs have always been pretty harsh, these measures did little to reform the DNTs or to reduce their criminal activities. Even today, crimes committed by the DNTs constitute a fairly high percentage of property crimes in India, particularly in the States having high DNT population.

The standard crime prevention measure of the Indian Police, viz., actions u/s 109, 110 CrPC, Habitual Offenders etc, have little impact on the crimes committed by the DNTs because of the difficulty in apprehending them and service of processes on them. The impact of such traditional preventive action on the other professional criminals is also highly doubtful as it is intended to be a statistical exercise, often these complaints are not put up against active criminals and the end result of most of these complaints is discharge.

Hence, there is need for exploring alternative interventions to wean away professional criminals, particularly the DNTs, from pursuing crime as their means of livelihood. Innovative steps taken by some police officers in Rajasthan and Tamil Nadu have demonstrated that reformation and rehabilitation of DNTs and other professional criminals is a low cost and workable initiative that can actually bring down drastic reduction in crimes committed by both these categories. The programme in Rajasthan included measures like providing basic amenities to the settlements of DNTs in order to gain their trust, their counselling by police officers, religious gurus and social workers, arranging alternate means of employment with the help of voluntary organizations etc. In Tamil Nadu, Trichy Police was able to do the same with several professional criminals and a whole village which was involved in criminal activities by using more or less the same methods. Community participation is an essential ingredient of this intervention as the community can assist in provision of basic amenities, offer alternate employment

opportunities, organize counselling and provide volunteers to facilitate one or more of these activities. This proposal intends to draw lessons from the above two interventions and come out with an effective crime prevention technique.

DOCUMENT INFORMATION

Project	**Reformation and Rehabilitation of Professional Criminals**
Project Manager	**Dr. M.K. Devarajan, Member, Rajasthan State Human Rights Commission**
Project Coordinator	**Shri Rajiv Jain, Group Leader, MM-2.**
Version No.	**3**
Draft as on	**06-04-2015**

1. INTRODUCTION/BACKGROUND

Some tribes of India, who were forest inhabitants or nomadic, were dependent on forest produce until about two centuries back. They were divested of their traditional means of livelihood with increasing commercial exploitation of forests and large scale land grabbing by settlers in forests and influential people. This resulted in abject poverty which forced several such tribes to take to crimes, particularly crimes against property, apart from illicit brewing of liquor and prostitution, to eke out a living. During the colonial rule, the British-Indian government enacted the Criminal Tribes Act in 1871 to confine "Notified Tribes" to specified settlements and impose restrictions over their movements with a view to curb their criminal activities.

Though these tribes became 'De-notified Tribes' (DNTs) after the repeal of the Act in 1952 by the government of independent India, there has been no significant change in either their life-style or means of livelihood. There are many reasons for this. Generally they live in separate settlements away from the villages. These settlements lack basic amenities like water supply, drainage, roads, proper housing, sanitation etc. Some vested interests in the Criminal Justice System and receivers of stolen property who were the actual beneficiaries of thefts, burglaries, robberies and dacoities committed by the DNTs ensured that they remain entangled in a web of crime. There was no significant initiative either from the government or the non-governmental organizations to improve their pathetic conditions, or to provide them basic amenities, give alternate means of employment and wean them away from crime.

Though the enforcement measures against the DNTs have always been pretty harsh, these measures did little to reform the DNTs or to reduce their criminal activities. Even today, crimes committed by the DNTs constitute a fairly high percentage of property crimes in India, particularly in the States having high DNT population. The standard crime prevention measure of the Indian Police, viz., actions u/s 109, 110 CrPC, Habitual Offenders etc, have little impact on the crimes committed by the DNTs because of the difficulty in apprehending them and service of processes on them. The impact of such traditional preventive action on the other professional criminals is also highly doubtful as it is intended to be a statistical exercise, often these complaints are not put up against active criminals and the end result of most of these complaints is discharge.

Hence, there is need for exploring alternative interventions to wean away professional criminals, particularly the DNTs from pursuing crime as their means of livelihood. Innovative steps taken by some police officers in Rajasthan and Tamil Nadu has demonstrated that reformation and rehabilitation of DNTs and

other professional criminals is a low cost and workable initiative that can actually bring down drastic reduction in crimes committed by both these categories. The programme in Rajasthan included measures like providing basic amenities to the settlements of DNTs in order to gain their trust, their counselling by police officers, religious gurus and social workers, arranging alternate means of employment with the help of voluntary organizations etc. In Tamil Nadu, Trichy Police was able to do the same with several professional criminals and a whole village which was involved in criminal activities by using more or less the same methods.

Community participation is an essential ingredient of this intervention as the community can assist in the provision of basic amenities, offer alternate employment opportunities, organize counselling and provide volunteers to facilitate one or more of these activities.

After the reformation/surrender of the criminals, one of the major challenge before the Police Department was the rehabilitation of those who had stopped committing crime. Meeting this challenge required interventions at two ends, one, to put down the criminal incidents and second, to ensure availability of alternative sources of livelihoods. Accordingly, the department made several efforts to keep a check on the crime and to link them to other sources of livelihoods. The department also took initiatives to improve their accessibility to basic amenities of life. Given below is a detailed project report, based on the experiences of the above two police forces, about the initiatives that can be launched by the Police Department to bring about lasting crime prevention by reforming and rehabilitating the DNTs.

2. OVERVIEW

2.1 Project Title

Reformation and Rehabilitation of Professional Criminals

2.2 Vision

To prevent crimes committed by professional criminals by weaning them away from crime and resettling them in strictly legal means of livelihood.

2.3 Organisational Objectives

1. To identify DNTs and other professional criminals for reformation.
2. To involve government departments concerned, community leaders, NGOs, other organisations and social workers in solving the problems of such criminals and their settlements.
3. To provide basic amenities in the settlements of professional criminals and facilitate provision of benefits of government schemes for them.
4. To persuade the professional criminals through counselling to stop committing crime and adopt legal means of livelihood.
5. To provide sustainable means of livelihood to the reformed criminals and their family members with the help of government departments concerned, community leaders, NGOs, and other organisations.
6. Thus, to effect real prevention of crime and sustain this by institutionalising the programme.

3. THE BUSINESS CASE

3.1 Purpose of the Business Case

1. To achieve real and lasting prevention of crime.
2. To facilitate provision of the benefits of various welfare and other schemes of the government to this section.

3.2 Sponsor

The programme will be jointly sponsored by both the Central and State Governments.

3.3 Responsibility of the State/UT Governments:

1. The primary responsibility for the implementation of the scheme will be that of the State/UT Government concerned.
2. For the effective implementation of the scheme, and institutionalization of the programme, the State/UT Government will have to play an active role through issue of necessary executive instructions and constitution of State level and district level monitoring committees consisting of the representatives of the Revenue, Police, Rural Development, Medical, Forests, Mining, Social Welfare, Tribal Welfare, Women & Child Welfare and other departments concerned.
3. The state government shall instruct the departments concerned to use their existing schemes, and formulate new schemes, where required, to provide basic amenities in the settlements of the DNTs and to arrange adequate means of livelihood. It shall provide additional budget for the implementation of the program, where required.
4. Once the implementation starts, the State Governments may consider approaching some of the UN and other international funding organizations/foundations for funding.
5. They should ensure independent monitoring of the implementation of the programme.

3.4 Responsibility of the Central Government:

1. To start with, the MHA may provide funds for implementation of pilot projects in at least half a dozen States, as it is proposing to do in some other projects of MM2 and other Micro Missions.
2. Once the implementation progresses, the Central Government through its Ministries for Rural Development, Tribal Welfare, Women and Child Welfare, Social Justice and Empowerment , Rural Development etc will provide appropriate grant-in-aid for the implementation of the scheme and/or develop tailor-made schemes for the decriminalisation and resettlement of DNTs or specific components of the programme.
3. It is reliably learnt that the Ministry of Social Justice and Empowerment is launching an ambitious scheme for the upliftment of the DNTs. The Ministry may consider funding this project from this scheme.
4. The Central Government, through the BPR&D and the members of the MM2, will provide support in terms of the initial briefing of the officers as well as arrange independent evaluation of the programme.
5. A selected group of officers from MHA,

BPR&D and MM2 will be constituted to monitor the implementation of the programme by the States/UTs.

6. MHA may consider increasing the percentage of the grant-in-aid for the States/UTs that are implementing the scheme well and achieving the desired results. MHA may consider taking up the scheme with the Finance Commission and the Niti Ayog for provision of additional resources for the implementation of the project.

4. SITUATIONAL ASSESSMENT AND PROBLEM STATEMENT

The distrust between the common citizens and the police is the highest among the DNTs. Hence, implementing this project would be a huge challenge for the police, but certainly not an impossible task. The task can be achieved by a dedicated team of officers and men. Further, the team and their seniors will have to convince the officers and staff of the other departments concerned as well as the local population, social workers and various organisations about the feasibility of the scheme and the possibility of significant crime reduction through its implementation.

5. CRITICAL ASSUMPTIONS AND CONSTRAINTS

1. It will be possible for the senior officers of police to convince the local police officers and staff about the feasibility and utility of this project and get their willing cooperation and commitment.

2. The DNTs will be willing to abandon their age-old tradition of committing crimes and reform themselves.

5.1 Constraints....

1. Attitudinal road blocks and mind-set issues like unwillingness on the part of police personnel to reach out to the DNTs.

2. Lack of willingness on part of the other departments, the local public and other organisations to cooperate.

3. Recidivism among the DNTs.

4. Difficulties likely to arise in resettling the reformed criminals and in providing them with immediate alternate means of livelihood.

6. IMPLEMENTATION STRATEGY

To wean away the DNTs from crime, it is necessary to have an innovative outreach programme on the part of the police to create an environment conducive for them to give up crime, join the mainstream of the society and lead dignified lives. This would involve a genuine effort by the police station staff, especially the SHO and the beat constables, to remove the age-old prejudices and to establish a dialogue with elders of the tribal community to bridge the gap created by mutual distrust and suspicion. Paying attention to basic amenities that the settlements of DNTs are lacking like availability of water, sanitation, electricity, facilities for education, medical help, etc. would help in reducing the longstanding trust deficit and make them more susceptible to counselling and change. For this, the senior police officers will have to contact their counterparts in other government departments responsible for the development of those settlements. Meetings of all the relevant government officers will have to be held to impress upon them the importance of the project. They should be requested to help the efforts of the police to reform and rehabilitate

the tribals. Various existing schemes of the government can be used to improve the living conditions of the tribals. Close association and involvement of the District Collector and the revenue officers subordinate to him will facilitate such efforts considerably.

Once the police is able to win the trust and confidence of the DNTs, a sustained literacy campaign will have to be launched in these settlements to send their children to schools. The children of most DNTs never go to schools, or even if they do, they drop out early. The other communities also may not permit the children of DNTs in the schools where their children study. The police, administration officials and education department officials may have to intervene to solve the problem. It would be advisable to send the children to residential schools, wherever such facilities are available. 'Bridge Courses' already available in some special residential schools for elder children can be used, where appropriate. Where ever necessary, the Central/State Governments may consider establishing special schools for the children of DNTs, from the funds earmarked for the resettlement of DNTs. Philanthropic organisations can be persuaded to distribute text books, note books, school bags and uniforms to the children to nurture the feeling in them that the community cares for them and wants to bring them into the mainstream.

Since the health status of the DNTs, especially that of the women and children, is generally quite poor, adequate attention should be paid to improve it. Periodical medical check-ups, preferably by organising health camps, taking corrective measures, improving children's nutrition through aanganwadis, etc. will help. Government/private hospitals, aanganwadi workers and philanthropic organisations can be roped in to improve their health and nutrition.

The next step will be counselling of elders of the community and the group counselling of the community at large to wean them away from social evils like excessive drinking, illicit brewing of liquor, prostitution, and crime. Apart from using police officers, social workers, NGOs, etc. for such counselling, use of religious preachers and gurus in whom the DNTs have faith, will be very effective. Rajasthan Police even used yoga and organised Art of Living camps to change the mindset of the DNTs and for inculcating a sense of pride in the community. The counsellors will have to emphasise about the negative consequences of crime. Identifying persons in the community who are in favour of reformation and using them as role models and change agents to supplement the counselling done by social workers, police officers and religious preachers, will be important for persuading them to abandon crime, prostitution, alcoholism and illicit brewing of liquor.

Once the police is able to gain the trust of these DNTs, wanted criminals among them can be persuaded to surrender and undergo trials in the cases pending against them. They can even be persuaded to confess their crime to avoid legal expenses and to get away with lighter punishment. The patels/patelans/elders of the DNT settlements can be persuaded to issue identity cards, maintain attendance register and/or to appoint trustworthy persons from the community as 'Community Police Officers' to ensure that members of the community do not commit crimes. Regular police patrolling and intelligence collection are also necessary to prevent recidivism, especially in the initial stages.

Arranging alternate means of livelihood for those tribals who agree to abandon crime as their means of livelihood will be a major

challenge. Voluntary organizations, traders associations, social workers etc. may be involved and made to interact with the tribals and for ensuring improvement in the living conditions in the villages and for arranging immediate livelihood measures for the community. Existing schemes of the State and Central Governments can also be used for this purpose by involving the district administration and other relevant departments. Many of the members of these DNTs may not be in possession of ration cards, job cards issued under MGNREGS and BPL cards. Getting them BPL cards will make them entitled to the benefits under several government schemes including money for house construction. This should be followed by organizing vocational training for the development of employment linked skill sets. Training of the youth as security guards, drivers, mechanics, etc. should be taken up after ascertaining job opportunities for the trained youth locally. Traders, industry organisations, mine operators, local people, etc. can be persuaded to give employment to the trained youth as it is in their interest to prevent these youth from slipping back into crime. Creating awareness among the DNTs about the opportunities for education and avenues for employment is also very important. Experience has shown that engaging both the women and men of these communities in setting up small enterprises can help the members of communities to improve their economic and living conditions. For this they may need the help of the police and the administration to secure loans from the banks. Efforts should also be made to organise Self Help Groups.

Members of several DNTs traditionally are proficient in arts and crafts. Among such DNTs, efforts should be made to develop and upgrade the skills of such artisans and craftsmen so as to make them a viable source of livelihood. Arrangements for marketing of good products made by tribals are already available through the TRIFED, a Government of India outfit.

Since most of the DNTs tend to reside in or near forest and mining areas, mine owners and senior officers of forest department can render considerable assistance in the rehabilitation of the reformed criminals by arranging job opportunities for them. Forest department should be asked to consider joint forest management with the assistance of the reformed DNTs which can, in addition to giving them gainful employment, prevent deforestation, poaching and other related problems.

Rehabilitation of prostitutes by arranging for alternative employment avenues, and in a few cases even arranging their marriage to DNT youth, who abandoned crime, was a step which significantly facilitated the efforts of Rajasthan Police in reforming DNTs in some places and hence this should be considered where appropriate.

It would be advisable to involve reputed NGOs in these efforts right from the beginning and hand over the running of the programme to it once the major tasks of decriminalisation, rehabilitation and surrender of wanted criminals are achieved. Thereafter, the funding needed for sustaining the project can be routed through the NGO; it can even seek assistance of international funding agencies and philanthropic organisations. Close involvement of the NGO will ensure that the 'predecessor-successor' syndrome does not kill the programme.

6.1 Mission Statement

The mission statement of the project is: **"Reaching out to the most neglected sections in the society and extending a helping hand to pull them out of their age-old problems."**

6.2 Deliverables

1. Implementation of the various schemes of the Central/State Governments in the settlements of the DNTs.
2. Providing basic amenities to the DNT settlements and improving their quality of life.
3. Lasting crime reduction.
4. Community participation in policing and problem solving.

6.3 Stakeholders

1. Government
2. Police
3. Community

6.4 Milestones

1. Drafting of GOs and Standing Orders by MM2 – will be done after getting the approval of the MHA for the project.
2. Submission of the project to BPR&D end-Nov 2013
3. Submission of the project by BPR&D to MHA Mid-Nov 2013
4. Final approval of the project by the MHA
5. Issue of advisory to states/UTs by MHA to adopt the project within 15 days of approval.
6. Meeting of Nodal Officers of states/UTs within one month of approval.
7. Issue of GO by States/UT-'s Home Departments within two months of approval
8. Sanction of Budget by Government within three months of approval
9. Issue of Standing Orders by the DGPs of the States/UTs within three months of approval
10. Implementation of the project by the District SPs/CoPs within four months of approval.

7. BUDGET REQUIREMENTS

It is suggested that the project be implemented in about half a dozen States on a pilot basis – two projects per State, in different districts. Since the size of the settlements, their requirements in terms of basic amenities and other facilities would differ and since many of the requirements can be met out of the existing schemes, it is difficult to come to a specific calculation of the budget required for implementation of the project. Hence it is suggested that the Central Government may sanction Rs. 25 lakhs per project, ie. a total of Rs. 3 crores, as grant in aid for implementation of the project in 12 DNT settlements in 6 States on a pilot basis. This funding may be provided by the Ministry of Social Justice & Empowerment from the scheme it is launching for the upliftment of DNTs.

The budget of Rs. 25 lakhs will be spent more or less on the following activities:

1. Organizing Counselling Sessions – Rs. 25,000 per session – 8 sessions : Total Rs. 2 lakhs
2. Organizing Medical Camps – Rs. 25,000 per camp – 4 camps : Rs. 1 lakh
3. Organizing awareness campaigns for literacy, de-addiction programmes, campaigns against social evils like prostitution etc; arranging immediate alternate means of livelihood; upgrading the skills already available among the community members; skill development among those who lack any employable

skills – all to be done through a suitable NGO or other agency. – Rs. 22 lakhs.

Note: all the above activities would cover a period of approximately 2 years.

8. RELATED PROJECTS

1. Community Policing Programme for Low Intensity Conflict Areas.
2. Community Policing Programme for Slums
3. Overarching Model for Community Policing
4. Soft Skills Training for Police Personnel

9. WORK PLAN

1. Issue of advisory by GOI to State/UT governments
2. Issue of GO by state government
3. Sanction of budget GoI/State Government
4. Issue of Standing Orders and appointment of Nodal Officers by DGPs
5. Meeting of Nodal Officers
6. Setting up Project Co-ordination Committees at the national and states levels.
7. Organising soft skills training of police station staff
8. Selection of the NGO, if it is decided to run the project through an NGO.
9. Organising meetings with other government departments concerned at the district level
10. Organising meetings with DNT elders, social workers and representatives of various organisations at the project implementation site.
11. Actual implementation of the project as per details given above.
12. Continuous monitoring and review by the state's Nodal Officer and Project Coordination Committee
13. Laying down judging criteria for internal and independent evaluation
14. Annual evaluation and audit by an external agency approved by the State/ MHA/BPR&D

10. CONCLUSION

The steps spelt out in the above scheme provide an opportunity to the police not only to prevent crime on a lasting basis, but also to use its influence and good offices to bring succour to the most needy sections of the society, with the assistance of the community and other government departments. **Though the write up of the project concentrates only on the decriminalisation of DNTs, it needs to be emphasised here that the same steps can be used to reform and rehabilitate other individual professional criminals.** Both the Rajasthan and Trichy Police forces have reformed individual professional criminals through counselling and rehabilitated them. Hence, the efforts of reform minded police officers should extend to such criminals as well.

* * * * *

EGMM Training Programs

INTRODUCTION

English Work Readiness and computers (EWRC):

English Work Readiness and Computers (EWRC) is the flagship program of Employment Generation and Marketing Mission (EGMM). The course is of 90 day duration during which time the youth will be inducted through a module which is designed and developed by experts after through understanding of the rural youth and their aspirations. So far 20000 people have been trained and employed in entry level and supervisory level jobs in leading companies in service sector and retail industry.

Demand Vs Supply gap in the entry level labour market: While the market demands skills instead of degrees, youth are increasingly having degrees which do not match the required skills. Thus, in English Work Readiness at EGMM, emphasis is laid on developing the raw youth into a confident, energetic and positive thinking manpower who can work his way to become a dignified soldier part of the workforce. This comes from the back drop of India being projected the youngest nation by 2026. If India were to achieve economic superpower status by then, most of the young Indians should be willing to work. This course addresses the need and is considered the very important first step in the process of gearing up for the bigger challenge ahead.

Process/ Milestones of the course:

- Sensitizing and coordinating with the Community Based Organization (CBOs), Women and tribal welfare departments for mobilization of the most eligible underprivileged youth.
- Developing Database of all the unemployed youth from the Villages.
- Mobilize them for training based on database generated call letters.
- Establishing training centres
- Selection of Trainers
- Conducting ToT (Training of Trainers)
- Developing modules, diagnosis, study material, audio-visual aids, etc.
- Setting up the required infrastructure
- Training the selected candidates
- Regular diagnosis and quality control through quality team visits.
- Exposure visits to youth and search for jobs on their own to appreciate the value and importance of a job
- Placement to the candidates after successful completion of the training.
- Post placement support for sustainability on Job.
- Forming an Alumni Network with the youth successfully got jobs and sustained on that. Sectors for placing youth: Based on the experience of placing youth, we have identified tertiary sector as a major focus area since services is witnessing a logarithmic growth. Industries which are recording phenomenal growth in this sector are
- Retail
- Pharmaceutical industry and health care

- Hospitality
- IT and enabled services

Key objectives of the program:

- To create robust model training centres with fully equipped audio-visual tools supported by special English software
- To develop English and Personality Skills among the rural unemployed youth.
- To create a comprehensive suite of skills delivery programmes to meet main industry needs.
- To develop and promote career pathways to support the recruitment of people in the entry levels.
- Ensuring employers' needs are met by good quality trained people with adequate skills and capable of meeting all the challenges for good performance.
- Develop and implement a sustainable employment model which is based on English, Work Readiness and Computer training.

Methodology followed: Adapting a unique training methodology is the USP of EWRC program. The methodology provides platform for an interactive and easy to learn manner. Methodology focuses widely on three major areas.

Basic Skills	**Higher-Order thinking skills**	**Affective skills traits**
1. Oral Communication (Speaking & Listening) 2. Reading, **Understanding&** Following Instructions 3. Basic Arithmetic 4. Writing	1. Problem solving 2. Learning skills 3. Creative, innovative thinking 4. Decision making	1. Initiative & Leadership 2. Working as a team 3. Adaptability 4. Enthusiasm, motivation 5. Personal presentation (Appropriate dressing & grooming) 6. Honesty & Reliability 7. Positive attitude towards work 8. Punctuality

Expected outcomes and impact: EWRC course is planned with an intention of setting up an example for quality conscious trainings which will lead to placements, in turn facilitating a poor family to come out of poverty through sustained monthly income.

1. 1 Job to a poor family brings the family out of poverty with this vision EGMM's efforts will help at least 10,000 families coming out of poverty through the successful implementation of this program.
2. Youth energies get channelized positively reducing social problems arising out of unemployment related unrest.
3. Youth acquire self confidence and self-esteem through dignified jobs.

4. Sustained income improves the quality of life of the family.
5. Triggers village economy growth in turn giving back the lost economy of village thus checking the negative impact of urbanisation.
6. Improve and sustain productivity and income-earning opportunities at work.
7. It serves to enhance their mobility in the labour market and offer the potential for increased career choices. By investing in their human resources, enterprises are able to improve productivity and compete more successfully in increasingly integrated economies.
   ii) Training Centers across the state - updated
8. iii) Major Recruiters-
9. In Retail Sector : More (Aditya Birla Group); Big Bazaar (Future s Group), Reliance Fresh; Heritage Fresh; ITC Choupal and Futures group
10. In Security: Raxa/G4 Securitas.
11. In Sales: Hindustan Unilever; Reliance telecom; Tata Indicom; Vodafone; Airtel; Eenadu
12. Rural BPO: HDFC Bank
13. Manufacturing : Apache (Adidas Shoes)
14. Hospitality: Mc Donald, KFC, Pizza Corner, Cafe Coffee Day
    iv) Success Stories will be provided
    b) Other Trainings Single page
    i) Training Program
    ii) Description with Eligibility
    iii) Training Centers with Addresses

Textiles

Introduction:

Clothing is the basic necessity of any human being. The textile garment industry is the largest foreign exchange earner. It is also the Second largest employment provider next to agriculture. About 15 million people are employed in textile sector. Today, world over "Fashion and Garment Industries" is looked at as an Industry of future. No wonder, because, these industries open up some of the Biggest Job opportunities for the new millennium especially for women sector. The current trend shows more and more opportunities for this sector in both domestic and export opportunities

Comparatively, the attention on export opportunities seems to be more. Ready made garment industry in India has a vast potential for growth. According to experts the Indian garment Industry is termed as a sleeping giant. Eighty percent of people employed in the Indian garment Industry are women. World wide the garment industry is the third largest employer of women, after Agriculture and Fishing Knitwear occupies a significant place in India's textile exports. Around 40-45% in terms of quantity is knitwear exports. Key centers of knitwear exports in India are Tirupur, Ludhiana, Delhi, Kolkata, Mumbai and Bangalore in the order their contribution to the over all exports. Tirupur contributes around 60% of knitwear exports from India

The Socio-Economic changes and the rapid growth of electronic media have resulted in the increased development of ready to wear garments. Being well dressed has become part of everyday life as it is one of the factors for enhancing the personality of a person and receiving appreciation in social life. This in term has led to rapid industrialization and growth of fashionable garment

manufacturing units. These manufacturing units employ well-trained manpower, which is aware of present fashion trends, quality expectation and modern techniques of garment manufacturing. Keeping this aspect in view the present demand in the market for variety garments the present curriculum of fashion and garment making has been developed so that the youth acquires training suited to the garment industries and related areas.

OBJECTIVE:

1. To train the youth to use modern industrial garment machinery
2. Ability to construct paper patterns
3. Develop the skill of designing fashionable garments
4. Create awareness for self employment in garment units

SPECIFIC OBJECTIVES:

- Understand, Analyze and apply principle and elements of design related to textiles fashion garments.
- Mobilize them for training based on database generated call letters.
- Know about different types of fabrics
- Use pattern making techniques and grading methods to create patterns
- Decide an economic way for cutting fabrics
- Understand and operate various machinery used in garment constructing
- Stitch and finish garments
- Quality assessment of garments
- To develop awareness of career opportunities in the garment industry
- Exposure visits to youth and search for jobs on their own to appreciate the value and importance of a job
- Placement to the candidates after successful completion of the training.
- Post placement support for sustainability on Job.
- Forming an Alumni Network with the youth successfully got jobs and sustained on that.

SKILLS:

1. Illustrate fashion figures skilfully
2. Design garment which are functional and decorative
3. Know to select appropriate fabrics suited to the design of the garment with special reference to colour, texture and design of the fabric
4. Operate industrial modern machines
5. Stitch and finish garments
6. Quality assessment
7. Finishing and packaging

Security

Security: EGMM has Security Training Centers in all the districts of Andhra Pradesh. The youth are trained on concepts relating to Spoken English for 15 days at the district level and on

safety & security for 12 days at the state. The training module is developed in consultation with the leading & world renowned security agencies. After successful completion of the training, the trainees will get placed with a minimum salary of Rs. 6200/-

EGMM- Direct Placements:

Background

Direct Placement - Industry Understands Better is a new initiative of EGMM. Before universalising the concept EGMM has tested the model in different parts of the state i.e. Chittoor, Vishakapatnam, Karimnagar and Rangareddy. The results from all the regions are positive and encouraging. EGMM as part of its strategy for 2010-11 has decided to place 30000 youth through direct placements.

Concept:

Provide employment to the qualified youth equipped with skills preferred by the industry by bringing both youth and the employer on a common platform. The employer will select the youth and the youth accepts the job when the terms are mutually agreed upon.

Implementation Strategy: It is a three-staged process

Stage-1: Finalizing the employer

EGMM- HO and District teams will identify potential employers. Employers willing to recruit manpower from EGMM will register online. This online registration is an initial step. Once registered EGMM-HO will assess the company/ organisation on its credentials and once satisfied with the company EGMM will enter into anMoU with them. After signing the MoU the company can place the manpower requirement with all the details briefing about the nature of job, location of work, Salary structure etc online.

Stage-2: Selection of Youth

When the requirement is placed with the district, district teams will identify the youth from the existing database or through normal mobilisation process. The mobilisation will be followed by a screening and counselling phase, which is very crucial step. In the screening stage the youth who are mobilised will be assessed for the skills and qualifications required for the company and the youth meeting the criteria will be shortlisted for the final selection by the company. District team will conduct the screening. Effective screening will improve the selection rate in selection.

Stage-3: Induction

The youth selected in the final interview will undergo a 10 days induction program. The training centre which conducts the induction will act like a finishing school. These centres are maintained and run by the district teams. For this special trainers are appointed for every district. Though this ten days induction is compulsory there are exceptions that are to be decided on case to

case basis. Youth selected for Companies which have facility to train their employees will undergo a 2 day orientation program before they report to the organisation. When the youth are placed in the organisation the District teams have to collect the details of candidates reported and update the status in the EGMM software. After 15 days of youth reporting at the organisation district team has to conduct a post placement verification and address issues if any.

Strategic advantage:

This creates a win-Win situation as companies get access to the EGMM youth database to identify the right employee and the youth will get an opportunity to work in reputed organizations.

Sl.No	**Partner Name**	DownloadMoU
1	Sahithi Systems Pvt Ltd	
2	National Academy of Construction	
3	Skylark	
4	CMC Ltd	
5	Tally India Pvt Ltd	
6	Global College	
7	IIHM	
8	NIIT	
9	Satyam Computers	
10	Jeans Apparels	
11	Hyderabad Gems SEZ Ltd	
12	Ants and Partners	
13	Dr. Reddys Foundation	
14	DataPro	
15	Sri Ram Ednl. Society	
16	Apparel Retail Trainings & Jobs Solutions (ARTJS)	
17	Design Operations Pvt. Ltd.	
18	Windows Software Tech.	
19	Synchro Serve Global Solutions Pvt. Ltd.	
20	OCFIT	
21	BIT Computers	
22	Redox Laboratories	
23	India Skills	

"Golden Hour Trauma Care Center"

Micro-Mission: 03
(Communication & Technology)

1.0 INTRODUCTION/BACKGROUND

The project is based on a project by the same name being done in City of Salem developed by Shri K.C. Mahali, ADG (Welfare), Tamil Nadu. Proposal has references to this model.

It has been observed over the years that accidents on the roads are the biggest killers and threat to society in India. NCRB Figures show that reported deaths due to accidents on the roads is approximately 4.5 times the deaths due to murders. It is also a fact that with the passage of time and the increasing number of automobile, this figure of death due to accidents on roads is showing an uptrend. Therefore, it is imperative to take steps for minimising these deaths. One step to minimise deaths would be to provide prompt medical care to the victims of road accidents in our cities and town specifically the metros or the cities with more than 10 lakh population and those having higher automobile density so that society is better served and better protected on the roads. Hence, a plan is being proposed through Golden Hour Trauma Care Project to reduce deaths due to road accidents.

Golden Hour is defined in many ways but for this project Golden Hour is the First one hour after the occurrence of an accident/injury. It will be of immense help to the accident victims, if accident victims can be provided immediate medical care during this period. Chances of survival go up many times, if arrangements could be made to extend Pre-hospital Trauma Care to the victim and he could be transported to the nearest medical facility to provide life saving treatment.

2.0 OVERVIEW

The emerging challenge of road accident has to be tackled by the active participation of members of public, corporates and the Government Authorities. This scheme is based on a PUBLIC - PRIVATE - PARTICIPATION (PPP) Model. Depending on the population, traffic situation, rate of accident etc., more and more Private Hospitals and Private Ambulance Owners have to be requested to provide their services voluntarily for helping in resolving the problem of death on roads due to accidents by employing and engaging their ambulances to pick up the accident victims from the place of accident after giving them Pre-hospital Trauma Care and transport the victim to nearest hospital free of cost for further treatment during Golden Hour Trauma along with the Government EMRI-108- or similar Ambulances. All the Ambulances private and Government have to be integrated with Police Communication Network from Police Control Room for exchange of information so as to facilitate the Golden Hour Treatment.

2.1 Project Title

"GOLDEN HOUR TRAUMA CARE"

2.2 Vision

2.2.1 To render the medical assistance to the road accident Victim during precious period of Golden Hour.

2.2.2 To involve the people on road safety and Trauma Care as Community Police initiative.

2.2.3 To reduce the gap between police and public and save the precious lives of the road accident victims.

2.2.4 To involve the people at grass root level and provide trauma care.

2.3 Project Objective

(i) Objective of Golden Hour Trauma Care is to provide quickest medical treatment to the road accident victims by involving Public – Private –Participation (PPP).

(ii) Co-ordinated approach will be adopted to face the emerging challenges of fatal road accident and deaths on roads by involving the Government hospitals, Private hospitals, Police, Auto drivers and general public.

3.0 The Project – With increasing size of automobile including two wheelers, three wheelers and cars on the roads of cities and towns, number of fatal accidents are increasing exponentially with every passing year and injury as well as death is rising due to road accidents. The worst part is that the victims don't get timely help and medical assistance which, if provided, might reduce the agony and death in accidents to a great extent. The emerging challenges of death on the roads and providing timely medical care and assistance has to be tackled in co-ordinated manner involving all stakeholders like Government hospitals, Private hospitals, Private and Government ambulances, Auto drivers, Police and Public. Hence, the capacity building exercise has to be carried out by associating all the stakeholders to create a working mechanism by combining the local resources under the head of Local Police.

The proposed system and mechanism will have its control with the City Police. Police Control Room of the City will function as nerve-centre to Control, Co-ordinate and Command the local resources available to tackle the challenge of road accidents and resulting trauma and deaths.

3.1 Purpose of the Project:

(i) To improve the safety of the people on the road and in the event of any road accident by providing quickest medical assistance (Golden Hour Trauma Care) in terms of first aid and pre-hospital care.

(ii) To study the accident prone zone (hotspot) where the frequency of accidents is comparatively high and station the Private / Government ambulance for rescuing the accident victims and shifting them to the nearest hospital for further treatment.

(iii) To reduce the response time by increasing the number of ambulances in the accident prone zone.

(iv) To train the Auto drivers of the Cities on first aid and to provide medical aid to the accident victims and shift them to the nearest hospital since autos are available on the roads round the clock.

(v) To train the City Police on first aid and Pre-hospital trauma care.

(vi) To eliminate the gap between accident victims and medical assistance by involving voluntary service of the people as an aspect of Community Policing initiative.

(vii) To provide the first aid and ambulance service to the accident victims without cost.

(viii) To improve the *es prit de corps* by co-ordinating all concerned departments and stakeholders.

(ix) To enlist the support and goodwill of the people through Golden Hour Trauma Care, this helps in maintenance of Law and Order.

(x) To improve the image of the police since their work in protecting citizens and

providing post accident assistance will project them as good Samaritans.

3.2. Sponsor

There is no sponsor from any individual or any organisation to run the project. The Golden Hour Trauma Care project will be run by the City Police with voluntary participation of Private hospital owners, Private ambulance owners, Government hospitals, Government ambulances, Auto drivers, Police and Public without any cost for providing first aid and ambulance services.

3.3. Financial Benefits

There is no financial benefit out of Golden Hour Trauma Care project. The entire Golden Hour Trauma Care project is based on voluntary Public – Private - Participation (PPP). The primary objective of the project is to render the voluntary public service without expecting the financial benefit out of it.

4.0 SITUATIONAL ASSESSMENT AND PROBLEM STATEMENT

Road accident is the reality and it is a frequent phenomenon. As is borne out by the NCRB data produced below in tables 1 and 2, deaths in road accidents are more than four times than the total number of murders in India. As against a figure of *33201 deaths due to murder in 2013, 137423 persons were killed on the roads.*

Table. 1: Showing number of murders in the year 2013

Sl. No.	Crime Heads	Cases Reported	% To Total IPC Crime	Rate of Crime	Charge-Sheeting Rate	Conviction Rate
(A)	**VIOLENT CRIMES**					
1	Murder	33201	1.3	2.7	87.1	36.5
2	Attempt to Commit Murder	35417	1.3	2.9	91.1	26.6
3	C.H. Not Amounting Murder	3380	0.1	0.3	89.2	34.2
4	Rape *	33707	1.3	5.7	95.4	27.1
5	Kidnapping & Abduction	65461	2.5	5.3	66.3	21.3
6	Dacoity	4539	0.2	0.4	79.6	19.7
7	Preparation & Assembly for Dacoity	3159	0.1	0.3	97.5	21.1
8	Robbery	31927	1.2	2.6	67.5	29.8
9	Riots	72126	2.7	5.9	90.4	18.9
10	Arson	9357	0.4	0.8	64.2	16.2
11	Dowry Deaths *	8083	0.3	1.4	94.0	32.3
	Total Violent Crimes	300357	11.3	24.4	83.3	25.4

Table 2.
Incidence, Share & Rate of Accidental Deaths by Causes attributable to Nature and Un-natural Causes during 2013

		2013		
Sl. No.	**Cause**	**No.**	**% share (w.r.t. All India)**	**Rate**
(1)	**(2)**	**(6)**	**(7)**	**(8)**
A.	**CAUSES ATTRIBUTABLE TO NATURE:**			
1	Avalanche	52	0.0	0.0
2	Cold and Exposure	946	0.2	0.1
3	Cyclone/Tornado	52	0.0	0.0
4	Starvation/Thirst	109	0.0	0.0
5	Earthquake	9	0.0	0.0
6	Epidemic	57	0.0	0.0
7	Flood	700	0.2	0.1
8	Heat Stroke	1216	0.3	0.1
9	Landslide	264	0.1	0.0
10	Lightning	2833	0.7	0.2
11	Torrential Rains	142	0.0	0.0
12	Other causes attributable to nature	16379	4.1	1.3
	Total (A)	**22759**	**5.7**	**1.9**
B.	**UN-NATURAL CAUSES**			
1	Air-Crash	45	0.0	0.0
2	**Collapse of Structure:**	**2832**	**0.7**	**0.2**
	(i) House	947	0.2	0.1
	(ii) Building	432	0.1	0.0
	(iii) Dam	33	0.0	0.0
	(iv) Bridge	53	0.0	0.0
	(v) Others	1367	0.3	0.1
3	**Drowning:**	**30041**	**7.5**	**2.4**
	(i) Boat Capsize	585	0.1	0.0
	(ii) Other Cases	29456	7.4	2.4
4	Electrocution:	10218	2.6	0.8
5	**Explosion:**	**449**	**0.1**	**0.0**
	(i) Bomb explosion	90	0.0	0.0
	(ii) Other explosion (Boilers etc.)	359	0.1	0.0

6	**Falls:** (i) Fall from Height (ii) Fall into Pit/Manhole etc.	**12803** 10822 1981	**3.2** 2.7 0.5	**1.0** 0.9 0.2
7	Factory/Machine Accidents	955	0.2	0.1
8	**Fire:** (i) Fireworks/Crackers (ii) Short-Circuit (iii) Gas Cylinder/Stove Burst (iv) Other Fire Accidents	**22177** 462 1690 3395 16630	**5.5** 0.1 0.4 0.8 4.2	**1.8** 0.0 0.1 0.3 1.4
9	Fire-Arms	1203	0.3	0.1
10	**Sudden Deaths:** (i) Heart Attacks (ii) Epileptic Fits/Giddiness (iii) Abortions/Child Birth (iv) Influence of Alcohol	**31278** 19930 4752 1078 5518	**7.8** 5.0 1.2 0.3 1.4	**2.5** 1.6 0.4 0.1 0.4
11	Killed by animals	998	0.2	0.1
12	Mines or quarry disaster	387	0.1	0.0
13	**Poisoning:** (i) Food Poisoning/Accidental Intake of Insecticide (ii) Spurious/poisonous liquor (iii) Leakage of poisonous gases Etc. (iv) Snake Bite/Animal Bite (v) Other	**29249** 7550 497 139 8746 12317	**7.3** 1.9 0.1 0.0 2.2 3.1	**2.4** 0.6 0.0 0.0 0.7 1.0
14	Stampede	400	0.1	0.0
15	Suffocation	2187	0.5	0.2
16	**Traffic Accidents:** (i) Road Accidents (ii) Rail-Road Accidents (iii) Other Railway Accidents	**166506** 137423 1318 27765	**41.6** 34.3 0.3 6.9	**13.6** 11.2 0.1 2.3
17	Other Causes	45917	11.5	3.7
18	Causes Not Known	20113	5.0	1.6
	Total (B)	**377758**	**94.3**	**30.7**
	Grand Total (A+B)	**400517**	**100.0**	**32.6**

These deaths also constitute a major chunk (34.3%) of total accidental deaths and are 82.5% of total deaths due to "Traffic Accidents".

Thus deaths due to accident on Indian roads is a bigger threat to the society and society can be made a lot safer and happy if something could be done to reduce and minimise these deaths.

It is an established fact that most of the deaths due to accidents on roads happen during initial period after the accident specifically first one hour. These deaths and the trauma to the

victims could be brought down to a large extent if the medical help is available during this period of "Golden Hour".

This situation can be addressed by organising speedy help and care with the cooperation of Government and Private medical resources like hospitals and ambulances and also by creating awareness in public and especially in auto drivers who could be trained and utilised in this work.

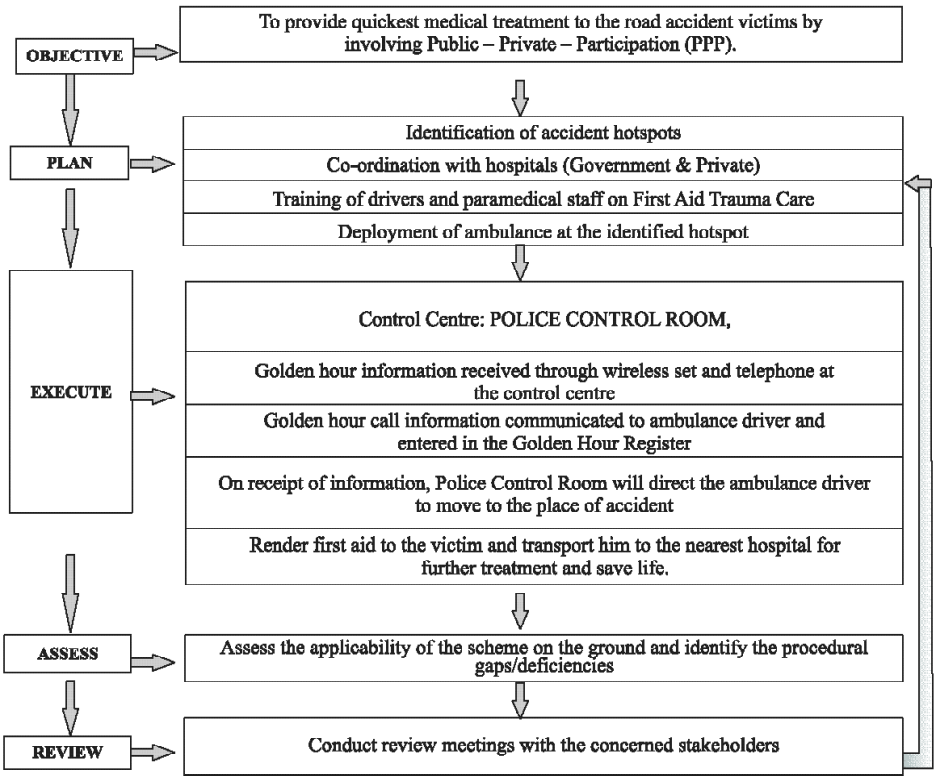
5.0 CRITICAL ASSUMPTIONS AND CONSTRAINTS

Though, death due to road accident is an increasing phenomenon, but by capacity building and co-ordination with various stakeholders and by involving public, the death due to road accidents can be brought down considerably as has been the experience in city of Salem.

There is no significant constraint in implementing the Golden Hour Trauma Care project. Residents of the city including auto drivers and general public, if involved, will respond positively and will actively participate in Golden Hour Trauma Care project. This project is basically based on the premise that people want to help each other and involve themselves in community work, if motivated and organised.

6.0 IMPLEMENTATION STRATEGY

Highly Pragmatic, lucidly designed, people-friendly participatory methodology can be adopted for Golden Hour Trauma Care in as depicted in the flow chart below. Well defined objective with meticulous planning, systematic and organized methodology could be precisely executed on the ground. Periodically, practical difficulties in the system could be assessed and critically reviewed. Lacunae in the system or any operational difficulties experienced by the stakeholders may be thoroughly analysed, remedial measures recommended and difficulties be rectified immediately.



6.1 Implementation strategy

6.1.1 Accident Mapping:

Accident mapping is one of the most important techniques which is done to find out the accident prone zone. A map of the City / District has to be prepared, clearly indicating the major and minor roads. One year fatality data may be taken from the City / District based on the case diary file. A thorough study has to be done on accident pattern, road condition, type of vehicle, time of occurrence, health condition of driver, mechanical worthiness of the vehicle etc. Whenever, accident takes place on the road that spot may be visited and yellow circle may be drawn. The yellow circle is drawn on the road to indicate that an accident has already taken place so that road users are cautioned to be careful while driving. Secondly, on the spot, study is conducted to find out remedial measures to prevent accident in future. Later on, a hotspot is put on the map corresponding to the ground. Once all the hotspots are marked on the map, a particular pattern will emerge which will indicate the accident prone zone. Ambulance has to be stationed at the stretch of accident prone zone so that the "Golden Hour" time can be reduced.

6.1.2 Coordination with Hospitals (Government and Private):

Meetings will have to be conducted with the hospitals as well as Ambulance owners both Government and Private Hospitals and convince them to voluntarily resolve to provide "Golden Hour" treatment to road accident victims free of cost in association with City Police.

6.1.3 Capability building of drivers and police officers:

Police officers and Auto-drivers are the first Responders in the event of any accident besides the bystanders. Therefore capability building programmes on Pre-hospital Trauma Care Training for Auto-drivers and police personnel have to be carried out in coordination with the associated hospitals and other related experts from the similar field.

6.1.4 Maintaining Golden Hour Register:

Golden Hour register will be maintained in the Police Control Room. This register will contain each and every detail regarding the services rendered for each case. The data in the register can be analysed to calculate the mean response time for each accident case handled under this scheme.

6.1.5 The Procedure:

(i) When, an accident occurs on the road, the information will be communicated to the Police Control Room through VHF/ Wireless communication channel or through Police Control Room Phone No.100.

(ii) The time of accident and place of accident will be recorded and nearest ambulance will be directed to pick up the victim. The Police Control Room will have record of the Phone numbers and Cell Phone numbers of Hospitals as well as Ambulance Drivers.

(iii) Immediately, on receipt of information, Police Control Room will direct the Ambulance Driver to move to the place of accident and render Pre-hospital Trauma Care to the victim and transport him to the nearest hospital for further treatment and save life.

6.1.6 Review Meetings:

Deaths due to accidents can be further reduced by making thorough field study, collecting past records/data, critically analysing the data, sustained planning and co-ordination

with stakeholders. Every month, Golden Hour Trauma Care review meeting should be conducted in the office of the Commissioner of Police, of the concerned city wherein all stakeholders sit together to review the mean response time along with City Police and Government Doctors. All problems faced by them may be discussed, immediately action may be taken based on discussion and field experiences to improve the system.

6.2. Deliverables:

Following benefits will accrue by implementing the project:-

6.2.1 Faster help to the accident victims:

The road accident victims will not have to worry about immediate medical care because the project when implemented will generate a well oiled system which will take care and provide speedy help to the needy on the roads.

6.2.2 Reduction in number of deaths:

The system will result in reduction in number of avoidable deaths on the roads since medical care will be available to the victims when it is really required on urgent basis. Even if number of deaths could be brought down by 50%, this will be largely helpful to the society.

6.2.3 Police Community Partnership:

Since the project envisages involving Private Hospitals, ambulances on voluntary basis besides Govt. Hospitals, General Public and auto drivers, it is expected that a society with values of cooperation will be created and this cooperation could be further utilised in some other social initiatives.

6.2.4 Reduction in mean response time:

In the beginning of the project, there may be some problems and providing medical care could be a little sluggish. But with the experience, a system will evolve where mean response time will also come down and the victims will get faster care.

6.2.5 Identification of hotspots:

A bigger benefit of the project will be that the spots where accidents are more likely (hotspots) will be clearly identified in a city and by giving special attention lowering the number of accidents can be ensured at these spots in terms of deploying more resources.

6.3 Stakeholders

Golden Hour Trauma Care project has various stakeholders. The project will need active participation of all the stakeholders. The followings are the stakeholders of Golden Hour Trauma Care:

(i) **Private Ambulance Owners –** As many as possible, Private Ambulance owners of City have to be involved to pick-up the road accident victims voluntarily and free of cost from place of accident to the nearest hospital and admit them for further treatment, after giving first aid.

(ii) **Private Hospital –** Directors of the Private hospitals have to be pursued to agree to admit the accident victim till the arrival of the Police or relatives of the victims. Later on, relatives of victim may shift the patient to Government hospital or other specialised hospital.

(iii) **Government Ambulance and Government Doctors –** All big Cities have Government General Hospital with trauma care facility. Specialists in Trauma Care are also available to give treatment to the accident victims. At many places Government sponsored EMRI-108 Ambulance is available with

life-saving equipment, medicine and Para-medical staff to render immediate medical assistance to the road accident victim. This facility can be included in the project.

(iv) **Auto Drivers –** In every big city, Auto-drivers are available on round the clock basis. They can be motivated and coopted in the system to help the victims. Auto drivers can be trained in First Aid (Pre-hospital trauma care). They, if trained and motivated could be of huge help in picking up the accident victims round clock and admitting them in the nearest hospital.

(v) **City Police –**City Police can be trained in First Aid (Pre-hospital trauma care). A trained police force will be useful in rescuing, giving First Aid and admitting the accident victims in the nearest hospital. City Control Room will be designed to co-ordinate the entire operation of Golden Hour Trauma Care.

(vi) **People of City –** People of City will also positively respond and will actively participate in activities of Golden Hour Trauma Care Project.

6.4 Related Projects

Many cities might be having EMRI-108 Ambulances. Due to the availability of EMRI - 108 ambulance service, people may be getting quickest ambulance service and they might be benefitting out of it. EMRI-108 Ambulance has State-wide network and availability. However, in Golden Hour Trauma Care Project, Participation of Private ambulances is sought for multiplying the number of ambulance and reduce the mean response time to render quickest medical assistance to save life of critically injured road accident victims.

6.5 Work Plan

Prior to implementation of the Golden Hour Trauma Care Project, meticulous planning will have to be made to execute the people-friendly project.

(i) **<u>Starting the project:</u>**

(a) To start with, an accident map of the city will be drawn based on number of accidents and deaths in previous five years. Based on this fatality data and frequency of accidents at different locations, hotspots have to be decided put in the map to locate the accident place.

(b) Private Hospitals and Private ambulance owners will be motivated to contribute in the system.

(c) Depending upon initial availability of the ambulances (Private and Government), these will be deployed according to priority decided by frequency of accident at a place and the grading of the accident prone zone.

(d) More number of Police personnel will have to be posted in the City Police Control Room to handle VHF-set (wireless set), Phone and Cell phone for quick communication during Golden Hour.

(e) Golden Hour Register will be created and maintained in the City Police Control Room to record the Response time.

(f) Road safety awareness campaign will be conducted.

(g) This will be done initially for six months.

(ii) Review and monitoring:

After establishing the system in first six months, the work will be reviewed to find out mean response time and the methods to reduce it by inducting more and more Private Hospitals and ambulances who will be ready to join in view of the good work done.

(iii) Inducting and training Auto drivers:

Auto drivers will be motivated and will be trained in first aid, pre-hospital treatment of accident victims and shifting them to nearest hospitals.

(iv) Training Policemen:

Alongwith the auto driver, city police will also be trained in various activities of the system so that they could take control of the activities and coordinate with all stakeholders.

(v) Continuous review and monitoring mechanism:

A mechanism will be created for continuously monitoring and reviewing the emerging problems and their solutions. The ways to improve the system by providing quickest possible help by evolving better strategies will also be found out.

"Establishing Social Media Labs & Collection of Intelligence from the Social Media"

Micro-Mission: 03
(Communication & Technology)

"ESTABLISHING SOCIAL MEDIA LABS & COLLECTION OF INTELLIGENCE FROM THE SOCIAL MEDIA"

1.0 INTRODUCTION/BACKGROUND

Internet provides easy accessible information and multifarious source of datas are available from social media network sites, people, news agencies, website of government and commercial agencies and variety of other organizations. Communication is witnessing a paradigm shift with the proliferation of people communicating on social media and network sites which has shortened and almost obliterated the geographical boundaries and internet has evolved as one of the most preferred mode of communications which will certainly grow in times to come.

However, easy access and anonymity in communication have also made internet and social media vulnerable for misuse by anti social elements, interested groups and even criminals. Exploitation of internet for unethical, criminal activities and spreading disharmony is not only significant threat to the society but is also becoming a serious concern for the law enforcement agencies.

Social Media networks in India are growing exponentially at an annual rate of fifty percent. More than 120 million users are hooked to social sites and internet growth is main-streaming communication and connectivity in India. With over 250 million internet users and expected growth to over 400 million, every third internet user is having a personal profile on Facebook, Twitter, Orkut, Linkedin or on email. Increased penetration to smart phones has seen shift towards WhatsApp, Instagram and Tumblr. As per existing trend, it is evident that online advertisements, shopping, e-commerce will dominate the mind space in the digital world in near future.

Internet has created communities and sub-community user groups which use this unbounded medium to access, share and transmit information openly. This information should be studied by police and law enforcement agencies. The study of information flow on social media has helped police in various countries and analysis of Facebook, Twitter and other social media will provide fundamental advantage to police in understanding the buzz on the internet and can be used as an investigating tool in collecting actionable intelligence and even criminal intelligence.

Nevertheless, misuse of internet may aid the law enforcement agencies in identifying behavioural profile, tracking of suspicious alarming communication pattern over internet which has significant connotation on ground.

This project aims to increase capacity building of police forces in appreciating the immense power of social media and provides a blue-print to set up a social media lab to cover actionable intelligence and provide a template for police forces in States and districts to emulate.

2.0 OVERVIEW

2.1 Project Title

"Establishing Social Media Labs & Collection of Intelligence from the Social Media"

2.2 Vision

Building police capacity in understanding information available on social media platforms and to convert the existing openly available information into actionable intelligence and suggest timely intervention through real time analysis to prepare police forces in handling sensitive issues, protests and mischief.

2.3 Project Objective

The objective of the project is to provide workable template which can be used as a standard for establishing a Social Media Lab which can be used to gather intelligence through social media platforms in any State or District in the country.

- Analysis of internet content may also provide actionable inputs to police by collecting and analyzing on public domain
- Criminal profiling of suspects and tracking online communities by segregating public open source data
- Identifying network communities and sub-communities of criminals by linking his or her associates from various communication channels on the web
- Monitoring social media platforms, blogs and other public forums for malicious, violent, deleterious discussion and sentiments which may lead to public disaffection, agitation, riots, etc

3.0 THE PROJECT

Purpose of the Project

The Social Media Lab shall track public views and sentiments on various social media platforms enabling police to enhance its preparedness in handling sensitive issues and protests. The Social Media Lab shall provide public sentiment analysis, identify behavioural pattern, influences and advocates, track the change and increase in chatter and generate alerts in real time for police to take suitable action.

The advanced social media monitoring tools shall help in gauging and analyzing the public media and sentiment, draw-up predictive analysis of projected events and provide indicators to police regarding the size and seriousness of these public emotions. It shall provide pre-actionable intelligence regarding increase in digital chatter and participation of general citizens or community groups on social media websites. Police shall be able to find out anti-social groups, actively participating in creating disturbance and take timely and preventive measures such as deployment of force as well as providing direct information to curb rumours and to even alter the manipulated mood and emotion of citizens and take early corrective actions. The idea of this project shall be to raise red flag over any inflammatory posting which might have bearing on the law and order situation.

4.0 SITUATION ASSESSMENT AND PROBLEM STATEMENT

The rapid growth of internet and social media network allow constant sharing of information and social media platforms have created communities and sub-communities and their online interaction impact, public sentiments and has law & order implications. However, while police forces across the globe have embraced social media networks in community engagement and collection of openly available information for police response and action in India barring few cities is negligible. Presence of police on social media networks is negligible as social media networks can be used by police to gain real time information and the analysis can provide public sentiments and opinion. The monitoring of social media is the need of the hour and cannot be over emphasized.

5.0 CRITICAL ASSUMPTIONS AND CONSTRAINTS

Assumptions

It is assumed that no such infrastructure is available with State Police Organizations especially in the Districts at present.

It is also assumed that computer literate police officer upto the rank of ACP/Dy.SP are available for training and participation.

It is assumed that government will provide adequate resources to police to enable the setting up of Social Media Lab for effective interventions by police at appropriate levels.

Critical Constraints

Non-availability of adequate funds, difficulty in identification and standardization of resources, lack of consistent administrative will and time delay in execution.

Suggestions

It is suggested that the social media lab may be housed in the Special Branch unit of the State Police Organizations. It can also be housed in the CB/CID in case of criminal intelligence is to be tracked.

Social Media Lab shall only collect information available in open source media and has no issues with invasion of privacy.

6.0 IMPLEMENTATION STRATEGY

Setting up of Social Media Labs will consist of creation of civil infrastructure such as air-conditioned rooms, access control, furniture, work stations with computers along with dedicated internet connection linked to network printers and server. This project of creation of Social Media Lab will be a minimum standard lab with possibilities of scalability and additional consoles network to enhance capabilities.

(i) Civil Works

		Amount in Rs.
Room	One Room 15 ft. x20 ft. with false ceiling & lighting.	4,00,000
Air Conditioner	Two Nos., Split ACs with 3-star rating and their installation complete with electric wiring/stabilizers/MCs.	1,50,000
Access Control	Providing of one Biometric Finger Touch Sensor for Security access door control complete with electromagnetic lock, wiring and UPS complete.	1,25,000
	Providing of one Swipe Card Security Access Door Control System complete with electromagnetic lock, wiring and UPS complete.	
	Providing of 02 Nos. Remote emergency switch for access control lock complete with wiring.	

(ii) **Work Station** (Modular Work Station) - **06 in Nos.**

		Amount
Chair	10 Nos. Computer Chairs	38,000
Visitor Chair	02 Nos. medium back	25,000
Executive Table	01 - 5 ft. x 2 ½ ft.	
Work Station	06 in Nos.	65,000
Wooden Storage racks	62 Sq. ft. 1-6" deep	1,25,000
Metal Locker	01 having 10 lockers and shoe racks	
Glass Partition		1,20,000
Toughened Glass Door		

(iii) **Computer and Printer**

Computer	06 Nos. Desktop Computer Model No. HP/3330 or equivalent with pre-loaded operating system.	2,45,000
Printers	03 in Nos. HP Laser Jet Pro M1136 multi-functional printer or equivalent (Print Copy and Scan)	34,000

(iv) **Network Printer**

Colour Printer	Laser	
Print Speed	Min. 35 ppm for colour 35 ppm for black/white	
Print quality	Max.1200x1200 dpi colour as well as black and white	2,30,000
Connectivity	1 Hi speed USB1 10/100/1000 T	

(v) **Internet Connection**

Internet	One 30 GB internet connection	@Rs.2500/ Month= 30,000
	Total:	Rs. 15,87,000

(vi) **Server**: 01 number. Specifications as per **Annexure-A.** Rs. 14,00,000

Grand Total: **Rs. 29,87,000**

Rounded off to: **Rs. 30 Lakhs**

(II) Manpower: (All staff should be computer literate)

Manpower will be made available along with training infrastructure for two weeks training and hand-holding.

Three Shifts : **(i) 6.00 a.m. to 2.00 p.m.**
(ii) 2.00 p.m. to 10.00 p.m.
(iii) 10.00 p.m. to 6.00 a.m.

Overall In-charge: Assistant Commissioner of Police/Dy.Supdt. of Police

Shift	Inspector	Sub-Inspector	HC	Const
Morning	01	06	06	06
Evening	01	06	06	06
Night	01	06	06	06
Total	03	18	18	18

* 15% of the above staff may also be kept as reserved for the leave etc.

(III) **Training**

10 days training on social media monitoring and analysis by different agencies (i.e. Indraprastha Institute of Information Technology, Delhi, Google, Microsoft or any other operator)

6.2 Deliverables

Advanced Application for Social Media Analytics (AASMA) is the tool developed at IIIT Delhi and funded / supported by Department of Electronics & Information Technology (DeitY). The tool is currently being used by 5+ Central and State law enforcement / intelligence agencies in the country. AASMA shall be given **for free** for installation and hardware and Internet bandwidth shall be provided. Some of the salient features of the tool are:

- Live data collection and analysis of topics done 24x7 eg. #KissOfLove, burdwan blast etc.
- Live tracking of user posts eg. @narendramodi, @ponguru
- Multiple social networks monitoring – Twitter, Facebook, YouTube, Flickr, and Google+ and more
- Advanced search to monitor and track content on the basis of location, time, language is possible
- Sends alerts to officers through email and SMS depending on the criteria set by the officers eg. 100 tweets or more in a given time like 10 mins for the next 15 days
- Built on Ruby on Rails, MongoDB, Node.js, HTML5, CSS, JavaScript, Bootstrap, D3.js, jQuery
- Multi-user support with multiple roles i.e. Admin user and Normal user
- Gives Single Dashboard view of all information in the system. Supports starting, pausing, deleting the data collection from the Dashboard. Entire Dashboard is based on the philosophy of finding Who, When, Where and What.
- Supports various operators (AND, OR, etc.) that can be used in search queries
- Supports queries in other languages (Urdu, Bangla, etc.) for analysis
- Can analyze common followers between any number of given user handles
- Users can download the data of interest, download the analysis / output in an image

format and generate a complete report of all the analysis present in the Dashboard

- Some sample Analyses done: Source (device used for posting), Tweet vs. Retweet, User location, Post location, Network analysis, Top users, Top URLs, Geo analytics on world map, Word Tag cloud, Sentiment analysis (positive and negative sentiments) etc.
- Entire system is Desktop friendly, and can be used in Mobiles as well as Tablets

The IIIT Delhi team can visit the organizations interested in making use of the tools and provide training to the officers and installation of the tool. (The user organization shall take care of the expenses including TA / DA, logistics, accommodation etc. for the visit).

Annexure-A

CONFIGURATION OF SERVER/FIREWALL

(1)	**Server with on Board Storage**	
	1. CUP	2x Intel Xeon E5-2600 v2 series with minimum 6 cores each @ 2.5 GHz or higher.
	2. CPU Soket	Exandable to 2 physical processor Socket.
	3. L2 Cable	15 MB minimum.
	4. Chipset	Intel Xeon E5-2600 v2 series.
	5. Memory	64 GB fully buffered DIMMs or better upgradable to 128 GB.
	6. Memory slots	Propositional for accommodating memory as per (5).
	7. Memory	Memory mirroring.
	8. Buo Type	PCle.
	9. PCI slot	Min. 2 PCle expansion slot with full length, full slot, low profile slot.
	10. HDDs	4x2Tb 3.5” or 2.5” SAS/SATA expandable to 24 Tb.
	11. HDD Bays	Bays to be provided proportionately to accommodate HDDs as above.
	12. RAID Controlled	Serial attached SCSI (SAS) with battery, min. 256 MB cache to support RAID 0, 1, 1+0, 5.
	13. Official drive	DVD Combo
	14. Onboard Gigabit Ethernet	2 x Gigabit Ethernet port - 2x10 GBDA/SFP+”.
	15. Redundant power supply	Dual hot plug redundant power supply.
	16. Add ons: Accessories	USB Key board USB Mouse.
	17. System Mgt Feature	System Mgt software for managing server.
	18. Form Factor	2U.
	19. In built OS	Ubuntu Server 12.04 64 bit.
	20. Bench Mark	TPC Certified.
	21. Rack	Min 22 U.
	22. Monitor	17”TFT.
	23. Covered by pre-failure warranty	HDD/Memory/Processer.

WS		
	1. Processor	2.7 GHz Intel Corei7 Processor.
	2. RAM	16GB RAM DDR3
	3. HDD	750 GB 2.5'/3.5" SAS/SATA, HDD
	4. OS	Win 8.1 64 bit.
	5. Monitor	24" TFT Display
	6. Ethernet	Gigabit Ethernet (on board).
	7. Ports	3xUSB 3.0. 1xUSB 1.0. 1xe Sata. | Minimum
	8. Ports	Display. HDMI. VGA.
	9. Anti Virus	1 yr (standard).
	10. Graphic Cord	NVIDIA Quardo K 31xx series with min. 4 GB RAM.
	11. Accessories	USB Key Board & USB Mouse.
Switch		
		Unmanaged 8 port gigabit s/w.
		Desktop model.
		8x10/100/100 port.
		Poe optional.
Firewall		
		Standard firewall (desktop model) with VPN, IPS, Application Control URL, Filtering, Anti Virus, Anti Malware: Anti, Spam & Email Security with the following minimum Specifications.
	Firewall through port	750 Mbps.
	IPS through port	720 Mbps.
	Located on internet edge	
	VPN through port	140 Mbps.
	Ports Min.	8x10/100/1000 LAN interface.
		1 GBE DMZ interface.
	1 ADSL port	1 RJ 45 Console port.

"Automated Traffic Monitoring System"

Micro-Mission: 03
(Communication & Technology)

AUTOMATED TRAFFIC MONITORING SYSTEM

1. INTRODUCTION / BACKGROUND

Increase in population and urbanization in India are going hand in hand and as a result many smaller cities in India have become million cities. The increase in the number of million cities have created pressure on the exiting recourses in terms of infrastructure, traffic, roads, lights, housing etc. This has led to an alarming increase in the number of vehicles plying on roads on each of these million cities. It has brought congestion and huge traffic jams resulting in increasing the commuters' journey time and reduced speed. If it goes unabated we are sure to see choked roads, frail environment leading to health problems and in a long run these cities will not be conducive for human living.

We have ignored the problems of traffic for quite some time and have been conservative in our preparedness to tackle it. The time has come when we need to bring in scientific technology and innovations to deal with traffic problems squarely. Some of the significant problems leading to traffic congestion in Indian cities are:-

(i) rising demand for travel due to increased population and other activities;
(ii) concentration of land use in certain areas such as central business districts and office areas;
(iii) mixed nature of traffic;
(iv) inadequate facilities segregating slow traffic;
(v) insufficient road space;
(vi) inadequate width of pedestrian sidewalks and their encroachment by hawkers;
(vii) inadequate facilities to meet the heavy demand for parking requirements;
(viii) lack of road sense and indiscipline on the part of road users;
(ix) ineffective enforcement measures;
(x) inadequate funds to meet the increasing demand for essential improvements; and
(xi) non existence of a specific organization with specialized personnel to deal with traffic problems.

Above problems have largely contributed to huge traffic congestion in almost all Indian cities. Though majority of traffic problems are due to faulty urban planning by civic agencies, traffic police is most often blamed for chaotic traffic situation.

Today Indian Metros like New Delhi, Mumbai, Kolkata, Chennai, Bangalore and Hyderabad have between them nearly 20 million vehicles. As a consequence there are too many vehicles occupying disproportionately inadequate quantum of roads. Therefore, the greatest challenge for City Police Managers is Traffic Management at par with maintenance of order and prevention of crime.

Apart from enormous growth of vehicles, poor traffic enforcement is one of the major causes for traffic congestion and poor discipline on roads. Road users do not follow traffic rules and violation of these rules has become norm rather than an exception. Existing manual monitoring and challaning system prevalent in most of the cities is not effective, as deterrence level is minimum. In manual monitoring and challaning system, there is no mechanism to punish repeat offenders. The system is also not transparent as manual booking system breeds corruption and harassment.

Existing Traffic Enforcement System has the following shortcomings;

(i) Existing system of manual booking of traffic violation cases consumes lot of time and energy.

(ii) As enormous time is required for manually challaning the traffic violators, Traffic Police officers do not give adequate time for traffic regulation and clearing traffic jams.

(iii) Manual system of booking of traffic violation case is not transparent. It leads to corrupt practices.

(iv) In manual system, there is no record of previous traffic violations by the vehicle. Due to this, repeat offenders escape higher penalties.

(v) There is a scope of pilferage and misappropriation of fine amount collected by Traffic Police. Many a times, unscrupulous police officers use duplicate receipt books.

In order to bring transparency in the whole process of older methods of challaning traffic violations, a new system **'Automated Traffic Monitoring System'** is envisaged as one of the projects under Micro Mission -03 (Communication and Technology) of National Police Mission.

2. OVERVIEW

2.1 Project Title

The **Automated Traffic Monitoring System** is one of the effective tools for enforcement of traffic rules on Indian roads in a transparent manner. The system aims at harnessing strength of technology and minimise human intervention to bring about the speed and transparency in the whole process of traffic regulation which will go a long way in solving the problems of traffic on roads to a great extent. The Automated Traffic Monitoring System for enforcement of traffic rules has been in existence in one or the other forms in Western Countries for more than 50 years.

Automated Traffic Monitoring System will have following advantages over the manual Traffic monitoring and Challaning System:-

(i) Will help in bringing more safety on roads.

(ii) Will result in reduction of rash and negligent driving.

(iii) Will avoid conflicts between police and public.

(iv) Will Increase awareness of traffic rules and regulations.

(v) Will reduce processing and disposal time of traffic violations.

(vi) Will bring transparency in enforcement of traffic laws and rules.

(vii) Will be used as effective tool of e-governance to manage, monitor and administer.

(viii) Will empower traffic police personnel who monitor the traffic on the field by giving them wider reach and capabiliy to penalize the erring motorists.

(ix) Will be helpful in enabling wider use of punitive actions such as suspension of Driving License, Registration Certificate and permits as provided in the IMV Act.

(x) Will be great facilitator in identifying frequent violators and initiating appropriate correctible action.

(xi) Will help in gathering complete data of motor vehicle owner's address, license holder's particulars and violation particulars.

2.2 Vision

The project "**Automated Traffic Monitoring System**" is being proposed to bring substantial changes in the Traffic Enforcement system. The system has been conceived with following vision.

- To bring transparency in enforcement of traffic laws and rules and in Challaning traffic violations.
- To reduce rash and negligent driving by quality enforcement.
- To avoid conflicts between police & public during traffic law enforcement.
- To increase awareness of traffic rules and regulations among road users.
- To expedite processing of traffic violation cases and ensure speedy disposal.
- To use this as effective tool of e-governance to manage, monitor and administer law enforcement in the field of traffic monitoring and enforcement of traffic rules.
- To enable Traffic police personnel monitoring traffic in the field in tackling the erring motorists/drivers in a transparent and efficient manner.
- To ensure better execution of IMV Act which allows suspension of Driving License, Registration Certificate whenever required.
- To identify frequent violators and initiate appropriation corrective action for better compliance of rules and discipline on roads.
- To assure availability of experts in this line who can very well provide valuable assistance in traffic law enforcement and software related issues.
- To provide on line and web-interactive assistance experts in best use of aid in various traffic law enforcement issues throughout the country.

2.3 Organizational Objective

- To establish a self sustaining Traffic Management System with no financial implications.
- To improve the quality of traffic law enforcement at all levels with the aid of best ICT tools and available manpower.
- Project also envisages setting up of TRAFFIC MANAGEMENT CENTRE at each District Headquarter.
- Involving general public in better management of traffic in cities.

3. THE BUSINESS CASE

3.1 Purpose of the Business Case

There are many big cities of more than 10 lakh population in India and with the passage of time more and more urbanisation is taking place. This will lead to a situation of hundreds of big cities in future. With increasing urbanisation, prosperity and availability of easy credit, more and more citizenry is opting for private automobile. The roads are cramped and the traffic management is becoming a gigantic problem. The uncontrolled traffic on the roads is leading to rampant traffic violations resulting in multiplication of problems, chaos and accidental deaths.

Traffic Managers in Indian cities are way behind their counterparts in many other countries in use of technology for monitoring, controlling, regulating and managing traffic problems and rampant violations, chaos and deaths on the roads.

Present traffic situation on Indian roads therefore calls for immediate deployment of technological means for traffic regulation and handling the challaning of violations on the roads of big Indian cities of population of 10 lakh or more.

Bangalore traffic police has pioneered a very good system called “BTRAC” for overall traffic management. They started the system in rudimentary form in 2009 and went on adding

to it to create a very good facility for traffic management. **The best part and beauty of the system is that after initial investment, the cost can be recovered and it becomes completely financially self sustaining. The State Governments need not to invest much for its long term maintenance and into adding and upgrading the system.**

The system is basically built on three components for its smooth functioning:-

1. Traffic Management Centre
2. Automation Centre
3. Communication Network

(i) The Automation System for Traffic Management works based on a well established communication network and where an automated technical process is used for capturing and processing the traffic violations received through various inputs such as:-

(a) Inputs reported from the police personnel of the Police Station, complaints by the public (SMS, E-mail, Facebook),

(b) Analysis of the live images/videos captured by the Enforcement / Red light Cameras

(c) Field Traffic Violations noted by the Traffic Police Personnel on the field etc.

(i) All these inputs are fed manually into a centralized Database server accessed through the workstation by the personnel at the automation center.

(ii) The data so collected and organized properly is made available to all Police Stations over internet and can also be accessed over internet by hand held enforcement devices provided to the personnel on the field.

(iii) This facilitates the general public to go to the nearest police station or to the Traffic personnel with hand held enforcement device to pay fine and compound the offences attributing to the "Anywhere Anytime" fine collection and disposal mechanism.

(iv) Facility for online payment fines can also be provided.

Basically this systems works by the inputs given by:-

(a) Enforcement/ Red light Camera
(b) Surveillance camera
(c) Field Traffic violation reports through digital cameras
(d) Public complaints through
  (i) IVRS
  (ii) e-mail
  (iii) Face book
  (iv) SMS

4. CRITICAL ASSUMPTIONS AND CONSTRAINTS

(a) The system of Automated Traffic Monitoring System depends largely on the availability of data of all vehicles registered in the concerned state. It means, information regarding ownership data of vehicles registered in the State should be made available to traffic police for sending challans for traffic violations.

(b) There shall be a mechanism for automatic transfer of ownership information from Transport Department to Traffic Police. In case of change of ownership, the transfer details should be automatically get updated in traffic police database, on a real-time basis.

(c) It is assumed that the wireless or wired connectivity is available on mobile vehicles for data as well as voice in the area where project will be implemented.

(d) Initially the operation and use of hand held and related software should be imparted to the cities where this project is desired to be implemented.

(e) On completion of projects the States will be willing to take upon themselves to continue the work and take the project objective down to all police station levels

(f) District Traffic Management Centre experts will undertake training program for resource building with respect to assisting and solving field problems and update software wherever required.

(g) All the States will outsource the maintenance and management of the system initially till the department officers sufficiently assimilate required skills in maintaining and managing the system themselves.

5. PROPOSED PLAN & IMPLEMENTATION STRATEGY

5.1 Deliverables:

(a) Once the project is implemented, the system will deliver following for the benefit of the public:-

- A well regulated traffic resulting in reduced probability of accidents.
- Reduced number of injuries and deaths due to accidents.
- Discipline on the roads.
- A fast and people friendly and less corrupt traffic system.
- Better enforcement of traffic rules.

And the police will be benefited in following manner:-

- A well established communication network which could be utilized in future for other policing work as well.
- Surveillance network which will be very useful in monitoring not only traffic flow and its violations but also to monitor other crimes on the road like theft, bank dacoity etc.
- An automation centre.
- A Traffic Control Centre.
- A small traffic training centre which could be upgraded in future.

(b) In order to deliver all this and implement Automated Traffic Monitoring System in a city with a population of one million, the following resources are required:-

(i) Database server and their connectivity with Transport Department server.

(ii) 100 Nos. hand-held enforcement devices along with Bluetooth enabled printers.

(iii) Back-end connectivity between hand held devices and database server through a service provider.

(iv) 50 Nos. surveillance cameras with connectivity to Traffic Management Centre.

(v) 4 Nos. Enforcement cameras with connectivity to Traffic Management Centre.

(vi) 200 Nos. digital cameras with online connectivity facility through a service provider to data base server.

(vii) Printed blank challans for generating notices under Section 133 of IMV Act.

(viii) 75 Nos. Traffic Police Officers of and above the rank of Assistant Sub Inspector of Police.

(ix) 250 Nos. Head constables / Police constables.

(x) Computer trained Police constables to man Traffic Management Centre and Automation Centre.

5.2. Stakeholders

1. MHA
2. BPR&D
3. Public
4. State Police
5. Traffic Courts
6. Traffic Training Institutes.

5.3 Related Projects

Nil

5.4 System Architecture

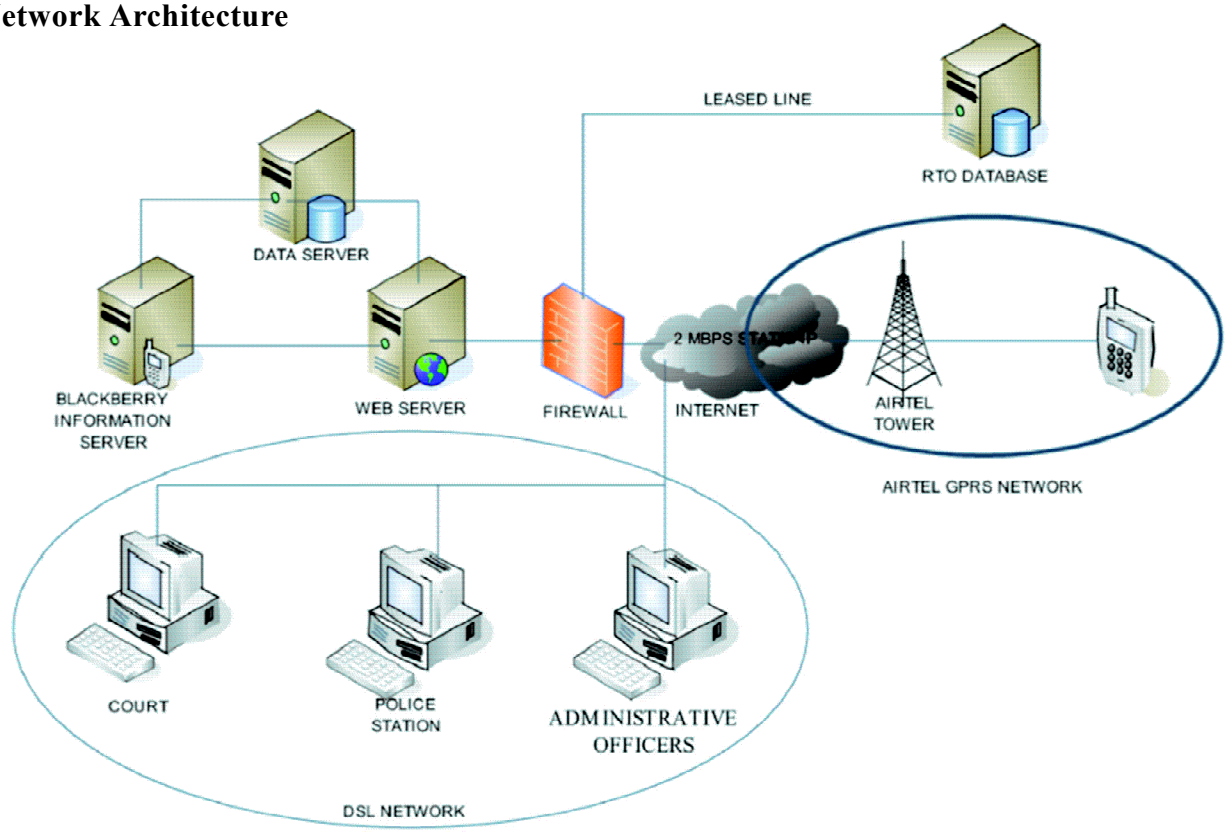
Traffic Enforcement System Architecture

- The solution enables traffic field personnel to access the backend infrastructure through a mobile handheld with ease in a high secured manner.
- The handheld application will have the capability to print data from the screen on a Bluetooth / Wi-Fi enabled printer.
- Push technology for data transfer. 'Always ON feature'.

Network Architecture

- The handheld devices with application will be using mobile packet data network (GPRS/EDGE/3G/4G) to reach the servers placed at State Data Centre.

Network Architecture

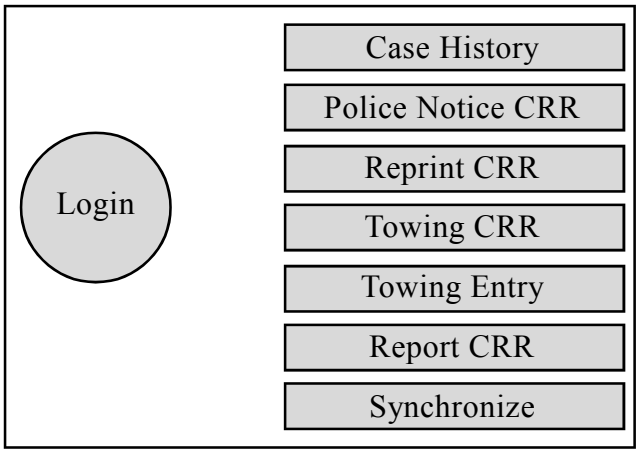


- The application sitting on the handheld enables the officers to collect fines online.
- In case of any network issues or server related issues, the data gets stored on the handheld and gets uploaded to the server automatically once the network connectivity is restored.

Server architecture:

- Redundant infrastructure to enable with high availability
  - o Application Servers
  - o Data Base Servers
  - o Mail Servers
  - o Storage

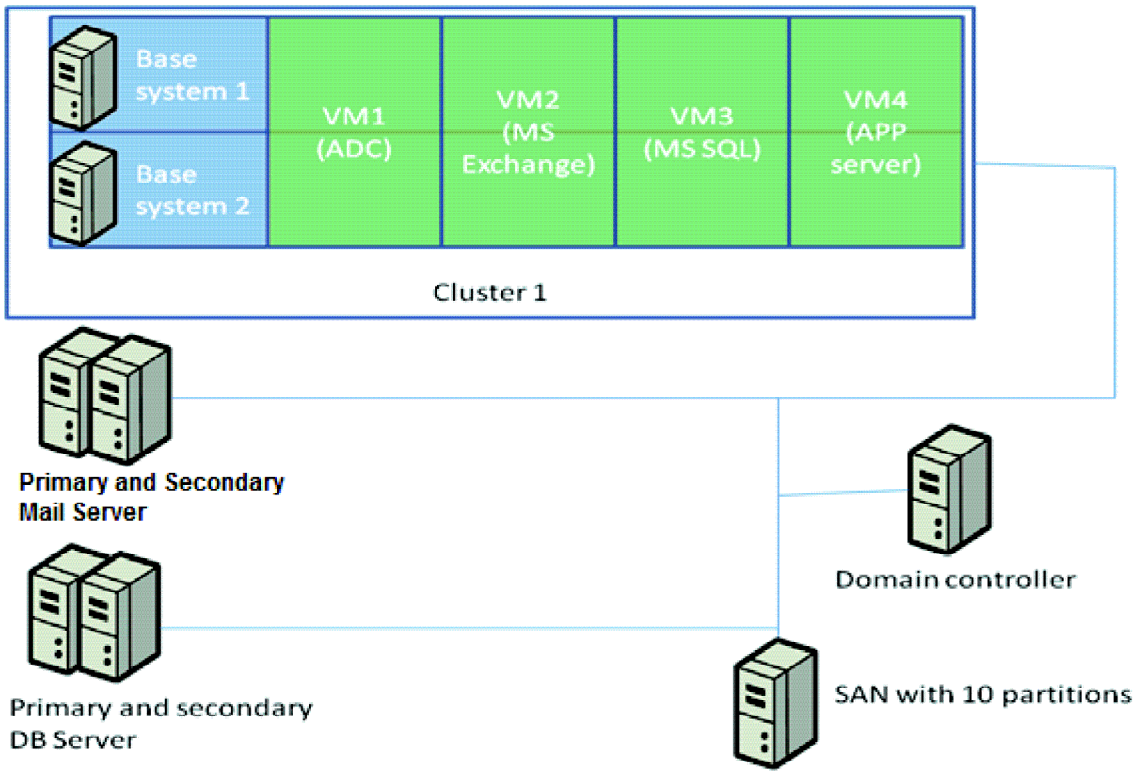
Features of the Enforcement Applications Software:



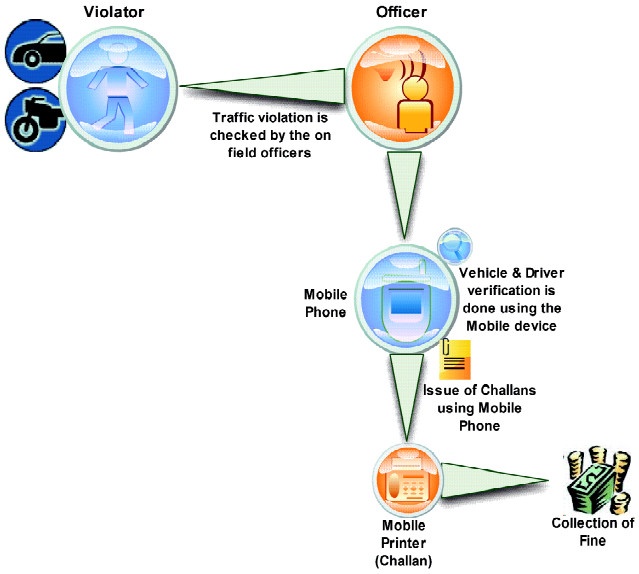
Typical Management Information System Reports:

Reports will be provided to senior officers to monitor the activities. Web reports will be

Server Architecture



Process flow Diagram



provided with the login and password to protect the data from unauthorised access. A hierarchy based MIS report sub modules can be designed as per the state police requirement.

Following are the reports that are generated for MIS purposes:

- Vehicle wise offences daily/monthly or weekly reports.
- Police station wise offences.
- Station wise case booked report.
- Station wise amount collection report.
- Station wise issuance of police notice and ON THE SPOT FINE.
- Station wise Charge sheet generation report.
- Officer wise case booked and fine amount collected report.
- Subdivision wise reports.
- Report on cases booked and fine collected report.
- Report of Cancellation of licenses.
- Suspension & revocation for permit.

5.5 System Components

Main Automation Centre:

The Automation centre depends on the computerized process of capturing the violations

through various inputs discussed below. Processing the inputs reported from the police personnel of the Police Station, complaints by the public (SMS, E-mail, Facebook), Analysing the Live images/Videos captured by the Enforcement/Red light Camera, Field Traffic Violations noted by the Traffic Police Personnel on the field etc. All these inputs are fed into a centralized Database server accessed through the workstation by the personnel at the automation center.

The data so collected and organized properly is made available to all Police Stations over internet and can also be accessed by hand held enforcement devices provided to the personnel on the field. This facilitates the general public to go to the nearest police station or to the Traffic personnel with hand held enforcement device to pay fine and compound the offences attributing to the "Anywhere Anytime" Fine collection and disposal mechanism.

Basically this system works by the inputs given by:-

(1) Enforcement/ Red light Camera.

(2) Surveillance camera.

(3) Field Traffic violation reports through digital cameras.

(4) Public complaints through

(a) IVRS

(b) e-mail

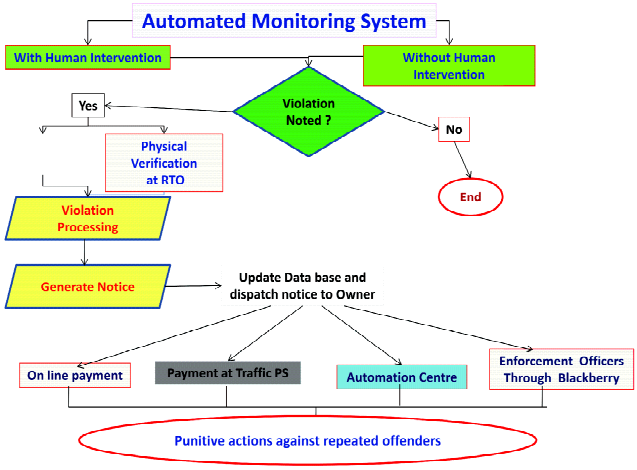
(c) Face book

(d) SMS

1. **Red light camera** is a traffic camera that captures the image of a vehicle that goes through an intersection where the light is red. This continually monitors the traffic signal and the camera is triggered by any vehicle entering the intersection above the preset minimum speed and following a specified time after the signal has turned red. The image of captured vehicle's registration number is perused and fed manually to the computer. The address of the Vehicle registered with the RTO is obtained through a interface with the RTO's Vehicle registration Database, along with details like, the owner of the vehicle, Make, Model, Class of vehicle. Based on the address obtained, a Notice under the provisions of Sec 133 of IMV Act is generated in an automated process, in which the details like Owner of the Vehicle, Date and time of Violation, make model, the fine amount and location, where the violation sent to the Owner on the address.

A view of surveillance camera

2. **Surveillance camera(s)** installed at junction provide live video streams/still images to the Traffic management Center via a leased line network. The personnel at the automation Center look through the videos, still images and note down the violation. The Surveillance cameras are PTZ cameras and hence the personnel have flexibility of viewing the video/Images in various angles, enabling them to view the Images/Video with clarity while noting the violation. Some of the violations noted are - not wearing helmet, crossing stop line, parking on zebra crossing etc. After Carefully observing the violation, the same is updated into the violation database for further processing.



3. **Field Traffic Violation Report:** This involves the constabulary noting down the details like the Registration Number, Type of Vehicle, Color and make in a pre-printed proforma called FTVR (Field Traffic Violation Report). The data on the FTVR

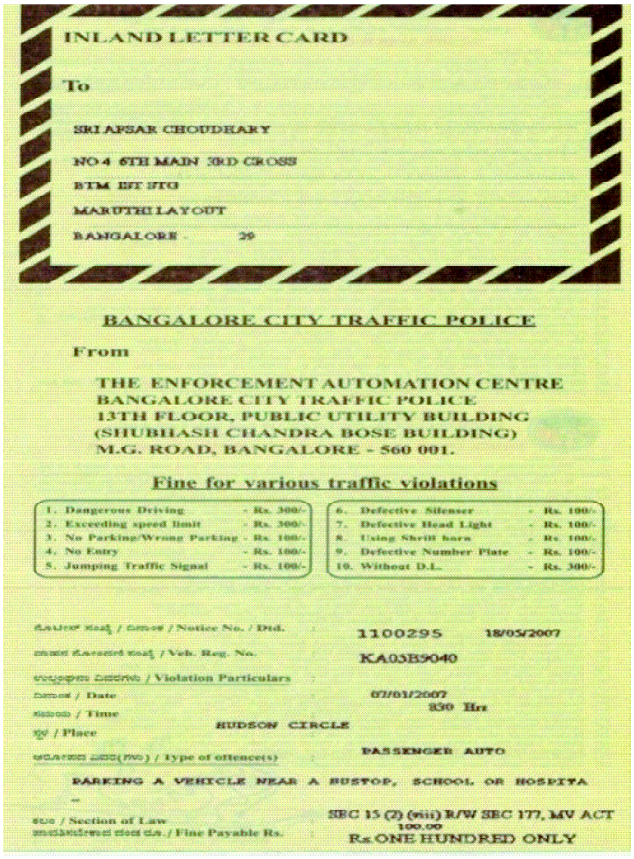
is fed into computer at the police station and sent to the Automation Enforcement Center equipped with computers, software and vehicle database provided by the M.V Department.

These violations are processed as earlier for surveillance camera and Section 133 notice is generated.

4. **Public complaints** which came to the traffic police through various models are processed as earlier and Section 133 notices are generated.

How 133 notice is served and compounded

Notices are served through the post and sometimes they are served through the courier service. If the owner of the vehicle pays the fine it gets deleted in the server. If not it comes up in the hand held hand set of traffic officer. If the owner wants to clear the pending fine by approaching –



INLAND LETTER CARD

To

SRI AFSAR CHOUDHARY
NO 4 6TH MAIN 3RD CROSS
BTM IST STG
MARUTHI LAYOUT
BANGALORE - 29

BANGALORE CITY TRAFFIC POLICE

From

THE ENFORCEMENT AUTOMATION CENTRE
BANGALORE CITY TRAFFIC POLICE
13TH FLOOR, PUBLIC UTILITY BUILDING
(SHUBHASH CHANDRA BOSE BUILDING)
M.G. ROAD, BANGALORE - 560 001.

Fine for various traffic violations

1. Dangerous Driving	- Rs. 300/-	6. Defective Silenser	- Rs. 100/-
2. Exceeding speed limit	- Rs. 300/-	7. Defective Head Light	- Rs. 100/-
3. No Parking/Wrong Parking	- Rs. 100/-	8. Using Shrill horn	- Rs. 100/-
4. No Entry	- Rs. 100/-	9. Defective Number Plate	- Rs. 100/-
5. Jumping Traffic Signal	- Rs. 100/-	10. Without D.L.	- Rs. 300/-

Notice No. / Dtd. : 1100295 18/05/2007
Veh. Reg. No. : KA03B9040
Violation Particulars :
Date : 07/01/2007
Time : 830 Hrs
Place : HUDSON CIRCLE
Type of offence(s) : PASSENGER AUTO
PARKING A VEHICLE NEAR A BUSTOP, SCHOOL OR HOSPITA
Section of Law : SEC 15 (2) (viii) R/W SEC 177, MV ACT
Fine Payable Rs. : 100.00
Rs.ONE HUNDRED ONLY

owner wants to clear the pending fine by approaching –

(1) Any traffic police station.
(2) Any traffic ASI, PSI, PI.
(3) Payment at centralised automation center.
(4) Online payment.

Citizens can settle the traffic violation challans issued against their name as well as parking violation issued to them by visiting the Traffic Automation Center or any other traffic police station or traffic police center. These places are connected using a dedicated network to the Central Application Server kept at Traffic Management Center. Citizens can also pay their traffic violation notices online through traffic police website from the comfort of their home.

Other advantages of the system

- To provide more transparency in enforcing traffic law by using cameras and e-enforcement.
- Effective e-governance to manage, monitor and administer.
- To empower police with a better system for enforcing traffic discipline.
- Facilitate in identifying frequent violators and initiate appropriate corrective action.
- To have complete data of motor vehicle owners address, license holder's particular, and violation particulars.

Respective offenders automatically tracked and notices with enhanced fines are sent to repeated offenders.

6. PREVIOUS EXPERIENCE

Bangalore Traffic Police under B-Trac project has already implemented Automated Traffic Monitoring System from the year 2003. Some other cities also had initiated Automated Enforcement in a limited way. On an average

Bangalore Traffic Police books around 8000 traffic violation cases through cameras and another 8000 through hand held Blackberry devices. Bangalore Traffic Police has booked over 5.2 million cases against traffic violations in the year 2012 and has collected a fine amount of Rs. 54.52 crores during the same period. Bangalore Traffic Police is presently using 5 Enforcement Cameras, 175 Surveillance Cameras and around 500 digital cameras for online booking of cases. This system has brought dividends for Bangalore Traffic Police in the form of greater transparency and effective enforcement of traffic laws. Apart from this, the ready availability of data on past violations has enabled Bangalore Traffic Police to send 4587 driving licenses for suspension. Annexure 3 to 8 provides details of traffic violations booked by Bangalore Traffic Police through Automated Traffic Monitoring System.

7. TRAINING

7.1 Training of Traffic Police Personnel for Automated Traffic Monitoring System

Training is one of the important requirements for successful implementation of any new project. Generally Police officers and men are trained in maintenance of law & order, prevention and detection of crime. They are seldom given any specialized traffic management training. It is important that before implementation of Automated Traffic Monitoring System, traffic officers and men should be given adequate training to enable them to handle hand held enforcement devices, sophisticated cameras and other equipments.

Bangalore City has a specialised Traffic Training Institute with good training facilities for traffic policemen of the State. Bangalore Traffic Police has an expertise in Automated Traffic Monitoring System with 10 years experience. The Automated Traffic Monitoring System has started in Bangalore City in the year 2003.

Initially the Bangalore Traffic Police Training Institute can be used for training traffic police personnel for the pilot project. Traffic police officers from the selected cities can be trained at this center till the completion of the pilot project. Bangalore Traffic Police undertakes to provide training facility free of cost.

8. SUMMARY OF FINANCIAL IMPLICATIONS

8.1 Financial implication for introducing Automated Traffic Monitoring System in a city of one million population

(Rs.)

Hardware / Software	Component	Qty	Cost (in crores)
Hardware	Hardware Surveillance Camera with leased line connection (Costing for passive components not considered like Poles, Civil works, UPS & Batteries /Solar system)	50	5.00
	Enforcement Cameras	4	1.00
	Servers	4	0.20
	Computers	60	0.30
	Printers	10	0.25
	Network Storage		0.30
	Handheld Devices	100	0.15
	Handheld Printers	100	0.28
	Back-end connectivity for handheld devices for 3 years		1.20

(Contd. next page)

	200 Nos. Digital Cameras with back-end connectivity for 3 years	0.24
Software	IVRS software	0.20
	Automated Challan Generation	0.30
Others	Printing	0.30
	Manpower	0.50
	Integration of all Equipments	0.10
	TOTAL	**10.32**

8.2 Pilot Project

It is proposed to introduce Automated Traffic Monitoring System as a pilot in two one-million plus cities. After the success of the pilot the same can be rolled over to entire cities of India. Government of India should release the money to States for implementation of the project in one instalment.

8.3 Cost Benefit Analysis

The Automated Traffic Monitoring System is a revenue generating model. The initial investment of Rs. 10.32 Crores for a city of one million population can be recouped within one year. This is due to fine amount collected from violators of traffic rules through Automated Traffic Monitoring System. Therefore, entire system is self sustaining and does not require any funds for expansion. The State Governments may be advised to give all the fine amounts collected to police for expansion of the programme within the city.

Annexures

Annexure – I

NUMBER OF POLICE COMMISSIONERATE CITIES AS ON 01-01-2013

Sl. No.	Police Commissionerate Cities in India
1.	Amritsar
2.	Bangalore
3.	Barrackpore
4.	Bhubhaneswar
5.	Chandigarh
6.	Chennai
7.	Coimbatore City
8.	Faridabad
9.	Gurgaon
10.	Hubli-Dharwad
11.	Hyderabad
12.	Jaipur
13.	Jalandhar
14.	Kolkata
15.	Ludhiana
16.	Madurai
17.	Mangalore
18.	Mumbai
19.	Mysore
20.	Nashik City
21.	New Delhi
22.	Pune
23.	Salem City
24.	Tirunelvelli
25.	Trichy
26.	Vijayawada

Annexure – II

TOTAL NUMBER OF VEHICLES REGISTERED IN INDIAN METROPOLITAN CITIES

(***in thousands***)

Sl. No	**Cities**	**2001**	**2004**	**2008**	**2012 (Approx)**
1	Ahmedabad	846	1075	1410	N.A
2	Bangalore	1593	1891	3175	4500
3	Chennai	1257	2015	2240	3500
4	Delhi	3635	4237	4844	7200
5	Hyderabad	951	1356	1811	3000
6	Kolkata	664	875	1120	2500
7	Mumbai	1030	1199	1640	1500

Annexure – III

TRAFFIC VIOLATION CASES BOOKED THROUGH AUTOMATED TRAFFIC MONITORING SYSTEM IN BANGALORE CITY FOR THE LAST 3 YEARS

Month	**2010**	**2011**	**2012**
Jan	132382	221839	211836
Feb	140072	190690	257798
Mar	187595	224413	319600
Apr	228155	217959	293504
May	258349	231563	298386
Jun	230831	240773	260539
Jul	246687	230442	230148
Aug	253645	215563	229699
Sep	235410	253037	208385
Oct	220465	254537	203812
Nov	212295	282411	21530
Dec	235537	250303	240490
Total	**2581423**	**2813530**	**2775727**

Annexure – IV

FINE AMOUNT COLLECTED THROUGH AUTOMATED TRAFFIC MONITORING SYSTEM IN BANGALORE CITY FOR THE LAST 3 YEARS

(Amt. In Rs.)

Month	2010	2011	2012
Jan	15687400	23742600	20399000
Feb	16485900	20306800	25351100
Mar	21233700	23921900	30932100
Apr	25630700	23093600	28622600
May	28690600	24372800	30709500
Jun	25376500	23788100	26777100
Jul	26844700	21136800	23280200
Aug	27585400	21111200	22840600
Sep	25552300	24845400	20615500
Oct	23828300	24520800	20012700
Nov	23022800	25055500	20374900
Dec	25050600	23128500	23839800
Total	**284988900**	**279024000**	**293755100**

Annexure – V

TRAFFIC VIOLATION CASES BOOKED THROUGH SURVEILLANCE CAMERAS IN BANGALORE CITY FOR THE LAST 3 YEARS

Month / Year	2010	2011	2012
Jan	0	19390	34794
Feb	2059	15982	30697
Mar	14903	15814	30390
Apr	8852	10641	25195
May	5811	10085	38094
Jun	7683	11773	37182
Jul	7415	12853	41221
Aug	7037	8600	42141
Sep	4860	13505	36131
Oct	4265	20954	40628
Nov	21883	30002	42845
Dec	22555	30138	43523
Total	**107323**	**199737**	**442841**

Annexure – VI

TRAFFIC VIOLATION CASES BOOKED THROUGH ENFORCEMENT CAMERAS IN BANGALORE CITY FOR PERIOD 2010-2012

Month / Year	2010	2011	2012
Jan	0	0	8447
Feb	0	0	3708
Mar	229	190	4669
Apr	386	50	3295
May	880	2399	4604
Jun	2852	1538	3762
Jul	966	984	3226
Aug	768	2577	1224
Sep	520	2080	2576
Oct	8	3217	1183
Nov	0	5150	12
Dec	0	4840	26
Total	**6609**	**23025**	**36732**

Annexure – VII

TRAFFIC VIOLATIONS BOOKED THROUGH FTVR (FIELD TRAFFIC VIOLATION REPORT) IN BANGALORE CITY FOR THE PERIOD 2010-2012

Month / Year	2010	2011	2012
Jan	83404	83383	152897
Feb	87047	75057	160928
Mar	89291	82581	160360
Apr	73560	74767	99546
May	67411	83361	115350
Jun	74956	91312	146136
Jul	87087	100598	176606
Aug	100183	94940	159710
Sep	92573	183596	126986
Oct	72537	223398	141763
Nov	89935	209924	126237
Dec	101225	177042	125344
Total	**1019209**	**1479959**	**1691863**

Annexure – VIII

TRAFFIC VIOLATIONS BOOKED THROUGH IVRS, SMS, FACEBOOK, INTERNET AND PUBLIC-EYE FOR THE PERIOD 2010-2012

Year	IVRS	E-mail	SMS	Public Eye	Face book	Total
2010	91	169	0	—	0	**260**
2011	433	949	669	—	495	**2546**
2012	1133	1563	1209	557	1058	**5520**
Total	**1657**	**2681**	**1878**	**557**	**1553**	**8326**

Annexure – IX

REDUCTION OF ACCIDENTS IN BANGALORE CITY FOR THE PERIOD 1993-2012

Sl. No.	YEAR	Total Accidents	Killed	Injured
1	1993	7648	608	5095
2	1994	8198	587	6616
3	1995	8677	678	6966
4	1996	8474	715	6566
5	1997	8722	704	6637
6	1998	8360	726	6358
7	1999	7896	639	6026
8	2000	8391	659	6347
9	2001	9026	703	6929
10	2002	9856	820	7577
11	2003	10505	883	7980
12	2004	9101	903	6921
13	2005	7578	836	5899
14	2006	7561	915	6048
15	2007	8426	981	6591
16	2008	7772	892	6150
17	2009	6875	761	5668
18	2010	6483	858	5343
19	2011	6024	762	4976
20	**2012**	**5502**	**755**	**4471**

Annexure X

STATEMENT SHOWING THE VIOLATION OF TRAFFIC RULES BOOKED AND FINE AMOUNT COLLECTED BY BENGALURU TRAFFIC POLICE FOR THE YEAR 2008 TO 2016

Sl. No.	YEAR	M.V. Act Cases	Towing Cases	Cases through automated challaning system	Total Cases	Total Fine Collected
1	2008	1,784,590	111,246	178,352	**2,079,071**	**295,014,800**
2	2009	2,310,479	118,811	203,160	**2,640,286**	**376,125,370**
3	2010	2,999,303	124,549	200,612	**3,333,112**	**475,586,852**
4	2011	3,177,992	123,974	164,592	**3,475,474**	**505,661,525**
5	2012	3,505,344	65,894	1,624,715	**5,204,800**	**538,517,929**
6	2013	3,652,285	72,908	1,696,185	**5,433,516**	**569,809,260**
7	2014	4,516,130	84,074	2,826,945	**7,436,336**	**659,221,449**
8	2015	4,456,509	99,236	3,066,052	7,626,671	**704,438,276**
9	2016	4,217,238	79,340	4,882,373	9,180,438	**669,761,526**

Kerala Police Cyberdome

INTRODUCTION

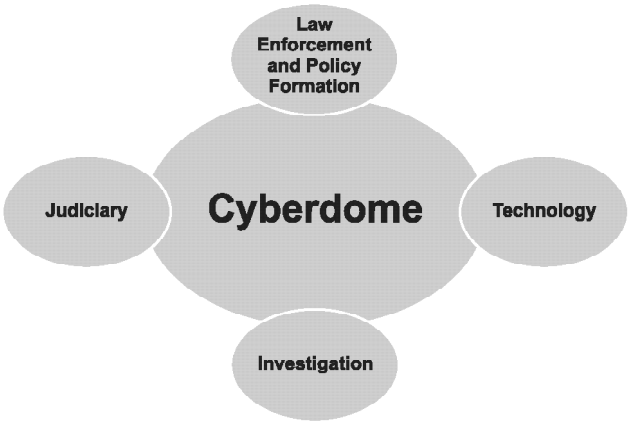
In this 21st century, we are living in a technology driven world where almost everything we use in our daily life is directly or indirectly connected to awesome technologies. The enhancements and Innovations have made Information and Communication Technologies (ICT) more common and cheaper, accessible to everyone in the society. Even the initial goal of the internet was to connect computers to share information, but in the last few years there has been a tremendous change and the today's Internet is very different than as it was 15 years back.

The transition of mobile phones as smart phones and prevailing 4G networks blew up the number of internet users in Kerala. The statistics shows that the mobile density of Kerala is almost reaching to 100%. Number of internet users and e-literacy rate of the state are also sound to adapt with technology augmented services. The spread of Information Technology has led to many drastic changes in our economic, social and political life. The Internet has the benefit of being able to make public information and government services available on an "anytime, anywhere" basis. These services can be delivered to citizens, businesses, government employees and within the government. The word 'cyber' is often used in relating to information technology, computers or the Internet, hence the word 'Cyber World' is pertinent to this virtual world where people communicating and collaborating in a great extent in their day to day life for online services such as banking, shopping, e-Governance services, trading, ticket booking as well as entertainment and social networking.

Along with the evolution of internet and information technology there was also a silent evolution of Cyber Criminalism. Since one of the specific characteristics of Internet that is Anonymity (to a certain extent) of the persons who deal in internet was being exploited by the criminals. As the complexity of the computer software increased, the vulnerabilities in it also became very common. The existence of these vulnerabilities helped the criminals. Criminals make use of this vulnerable nature of software to take control over the internet connected devices for their advantages. Hence the security of our cyber space is under the threat of these Cyber Criminals as the large amount of private and public confidential digital assets are kept connected to the internet. It is clearly evinced that even the most secured networks have been compromised by intruders. Cyber bullying, online cheating, harassing women and children online, defacement through social media, identity theft, online financial frauds, hacking, website defacement, prostitution, human trafficking, piracy etc. are some of the cyber crimes very common now a day. Besides these, Cyber Terrorism, Cyber Warfare and Darknets (Invisible Web) are some of the emerging challenges in the Cyber space. The impact of cyber crime is more dangerous when it comes to Air Traffic Control Systems, Nuclear Power Plants, and Health Care Systems. These equipments are relying on technology that can be penetrated by cyber criminals easily. Data and Information security of both Government and Private firms are also a great concern.

The investigation of cyber crimes, ensuring Cyber Security for citizens still remain as challenging areas for Law Enforcement Agencies (LEAs), since cyber crimes involve most modern

Bridging the Gap & Policy Formation



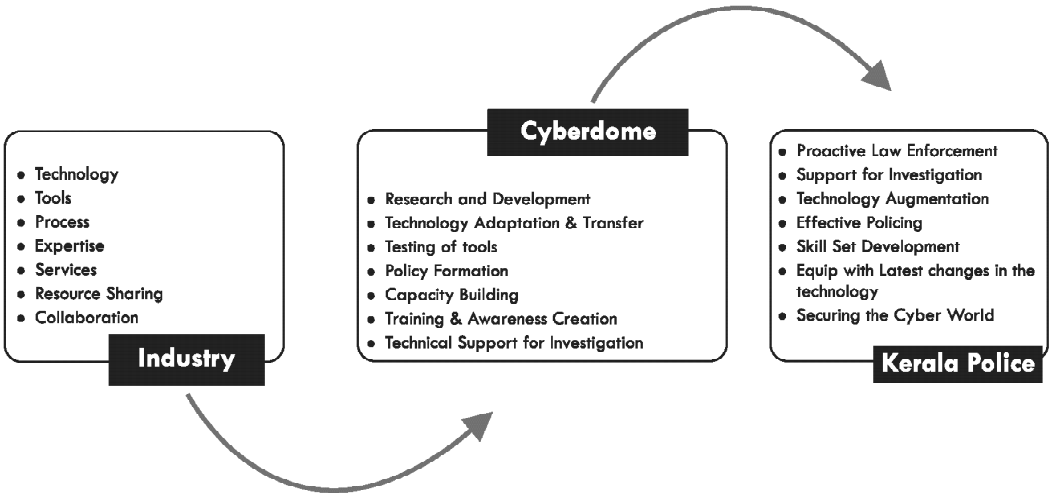
and sophisticated technologies and having an international nature as well as anonymity over the internet. The criminals are working in a borderless environment with laws of multiple jurisdictions and having a cumbersome procedures are to be followed to get the details of criminals. Cybercrime has evolved at an astonishing rate, and for a number of reasons cited above, but, unfortunately, our police agencies are not equipped to take a large role in cybercrime investigations and prevention of cyber crimes. Police don't have enough resources and expertise to catch crooks to any meaningful extent. Now a days almost every crime has a technological aspect, hence Police department need to become proficient in adequate sets of cyber-skills that can help while handling with cyber crimes and Confronting Cyber criminals in effective manner.

Taking into account the broader impact of cyber crimes and challenges over a secure cyber space, Kerala Police initiated a proposal for the establishment of a Hi-tech Centre for Cyber Security and Innovations, to the Government. The Government examined the matter, and after consulting various studies and expert committees, accorded administrative sanction to setup the Cyberdome at Technopark Campus through Public-Private Partnership model.

What is Kerala Police Cyberdome

Cyberdome is a technological research and development centre of Kerala Police Department conceived as a cyber centre of excellence in cyber security as well as technology augmentation for effective policing. It envisages as a high tech public-private partnership centre of collaboration for different stakeholders in the domain of cyber security and handling of cyber crimes in a proactive manner. One of the main objectives of the Cyberdome is to prevent cyber crimes through developing a cyber threat resilient ecosystem in the state to defend against the growing threat of cyber attacks by synergizing with other departments and nodal agencies of the state. Cyberdome makes a collective coordination among the Government departments and agencies, academia, research groups, non-profitable organizations, individual experts from the community, ethical hackers, private organizations, and other law enforcement agencies in the country with an aim of providing a safe and secure cyber world for each and every citizen in the state. We are also linked up to many national and international cyber security collaborations as well as to the law enforcement agencies to fight against the borderless nature of the cyber crimes. In order to address the highly challenging and dynamic nature of cyber threats, apart from the Government stakeholders, the centre is also working hand in hand with industry fraternity in public-private partnership model for equipping the Kerala Police by adapting the latest technologies of rapidly changing environment. The Industry and the software/ technology companies are providing their technical expertise and capabilities to assist the police in various fields of cyber security and technology augmentation for effective policing such as developing new software, providing technical assistance, sharing of their resources, giving extensive training and knowledge sharing

Cyberdome Role and Strategy



sessions, awareness creation, contributing to the research and adding development activities in the pertinent domains, and being a host of other areas as well. Centre is also aligned with lot of individual experts those who are having domain knowledge, unblemished background and committed to serve the society for a better tomorrow. Cyberdome is operating an online office of technical experts, ethical hackers, and competent cyber security professionals who can assist the police in the area of cyber security, cyber crime investigation and domain knowledge updating. This online office is also holding a group of specially selected experts having professional competency who can given assistance and suggestions to the police to tackle the various cyber policing issues cropping up in the cyber world. As mentioned above, Cyberdrome is a Centre of Excellence of Kerala Police to meet long term security challenges in the digital arena of modern world by bridging the gap between latest changes and innovations in the cyber space and skill set development of Kerala Police in combating the emerging cyber threats, and a collaboration centre for both public and private fraternity to converge and share the information as well as resources that will escalate the safety of our cyber space.

Major Divisions of Cyberdome

1. **Cyber Intelligence:** Cyberdome has a key role in providing insights for cyber intelligence by tracking and analyzing the activities of the cyber world. Social media analytics, anti-piracy measures on the internet, virtual policing, monitoring of online sex rackets, preventing child pornography, and countering cyber terror activities are the key focusing areas.

2. **Cyber Security:** Primary focusing area of Cyberdome is cyber security as the protection of departmental systems, networks and data in cyberspace. Cyberdome is to provide continuous attention that requires for protecting sensitive government and personal digital assets to safeguard national security.

3. **Incidence Response:** Cyberdome is engaged with incidence response activities such as identifying the perpetrators of attack, assessment of damage and taking adequate steps to minimize the loss by using tools, techniques and resources at our disposal. Objective is to detect and react to the computer security incident.

4. **Cyber Forensics:** Cyberdome is setup with a cyber forensic division to provide technical support for investigation teams dealing with cyber crimes which involve scientific processes of identification, seizure, acquisition, authentication, analysis, documentation and preservation of digital evidence.

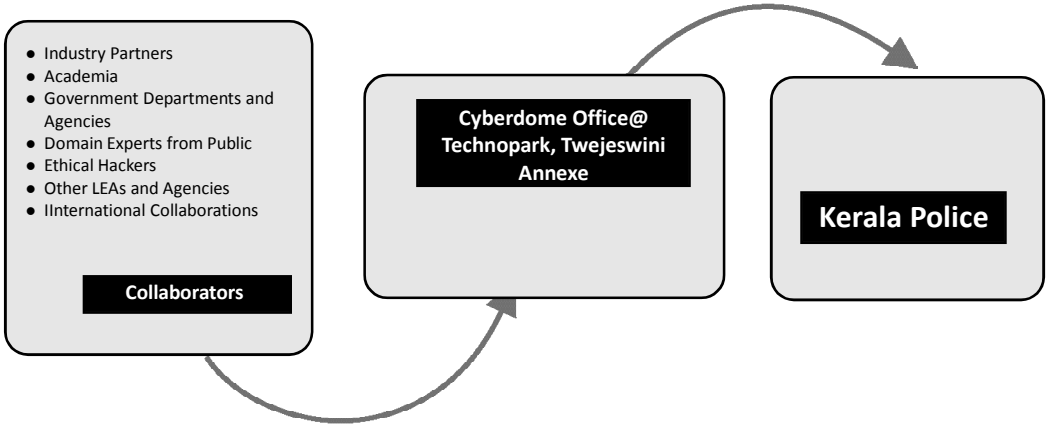
5. **Research & Development:** Cyberdome is aimed to play a major role in the area of cyber security as well as cyber threat resilience research by collaborating with academic partners. Catering the technological advancements for Police to increase the effectiveness of the policing is another objective of the centre.

6. **Training & Awareness Creation:** Cyberdome is holding the responsibility of keeping the police personnel in touch with the latest developments and trends in cyber world. Cyberdome is also designed to engage and educate public through events and initiatives with the goal of raising awareness about Cyber security.

7. **Consultancy & Service:** Cyberdome is offering Consultancy and Services in cyber security domain with joint ventures of private companies in a paid service model.

Why Cyberdome?

Cyber crime rate is rapidly increasing in Kerala day by day. Each crime involves a technology aspect in terms of a gadget or tool that is highly sophisticated. With the Internet assuming a central role in the society, its weaknesses have also come to the fore. The worldwide interconnected digital information and communications infrastructure collectively known as cyber space which underpins almost every aspect of modern society and renders vital support for the economy, governance, civil infrastructure, public safety, and national security, increasingly, now a days it is observed that cyber criminals are frequently exploiting network vulnerabilities, terrorists are using the internet for information exchange and communication. Online sexual violence and child sex abuse imagery, online frauds, terrorist activities, data loss and data breaches and identity theft as well as defacement are also common. The dark nets and cyber warfare are emerging areas of cyber threat. Hence a threat in any form in this cyber space is always a matter of concern for a law enforcement agency. Two major challenges to the law enforcement include jurisdiction issues and discovering the identity of a cyber criminal. Since the world is ever more dependent on the information and



communications technology, the Kerala Police is supposed to deal with crimes unheard of a decade earlier. The issue of cyber security needs to move beyond traditional policing activities and requires a different outlook to deal with technology. To ensure effectiveness and coordinate response in tackling the emerging cyber security threats prevailing in the state, a technology centre is required to foster the capabilities and expertise of Kerala Police as well as to develop strategies to deal with this dynamic challenging environment of technology. Cyberdome is a visionary initiative of Kerala Police to curtail and fortify the notoriously widespread cyber menaces from various criminal sources and dimensions towards our cyber space.

Why Public-Private Collaboration?

The dangers of cyber threats continue and pose significant challenges for a law enforcement agency not only in imparting the latest technologies for effectiveness of policing but also in deploying adequate manpower with sufficient skill sets to undertake the evolving dangers in the cyberspace. Since the highly sophisticated cyber threats continue to evolve and spike at a pervasive rate in Kerala, without expert collaboration and knowledge sharing, police lessen their ability to respond to cyber threats and may potentially expose themselves and their stakeholders to greater risks in cyber space, as perpetrators learn to exploit national, regional and global information and communication technology weaknesses one-by-one. Cybercrime is borderless by nature - this also creates difficulties in criminal investigation and makes more complicated for law enforcement authorities. To effectively tackle cybercrime, adequate cross-border provisions are required and international cooperation and mutual assistance within law enforcement, and between the other agencies, needs to be enhanced. Governments cannot contain these cyber threats single-handedly through domestic measures alone. Neither should governments be left to grapple with this danger on their own any longer, as the expertise and skill to combat these cyber threats are largely dispersed across the globe. Hence the solution is that to create collaboration with private sector and academia to conform rapidly changing technology world. National cyber security policy also affirms in developing effective public-private partnerships models. Active partnership with the private sector is essential, not only to share intelligence and evidence, but also in the development of technical tools and measures for law enforcement to prevent online criminality. The academic community also has an important part to play in the research and development of such measures.

Cyberdome Motto

"Partner us in making a secure cyber world"

Objective of the Cyberdome

Create an active partnership with the private sector and adopt latest technologies, tools as well as services to the Kerala Police Department, and to equip the force to meet the real challenges of the cyber world, for fighting against the emerging cyber threats towards the society.

Cyberdome Vision

"To establish a professional understanding and thereby carrying out skill development initiatives, impart knowledge about digital space, develop cyber defense skills and expertise, which in-turn will protect citizens, businesses, critical infrastructures of the state, and e-

governance services by establishing a collaborative platform for cyber security to prevent, combat, investigate and mitigate cyber crimes in a proactive manner, which in-turn will provide a secure cyber space to the society."

Cyberdome Mission

"Create a platform which brings together Government Departments, Law Enforcement Agencies, Industry, Academia, International Organizations and Experts from Public Domain for collaborating on Cyber Security to enhance the capabilities of the state in dealing with cyber threats as well as to provide security to the Digital Assets of the state."

Collaboration with Individuals and Companies

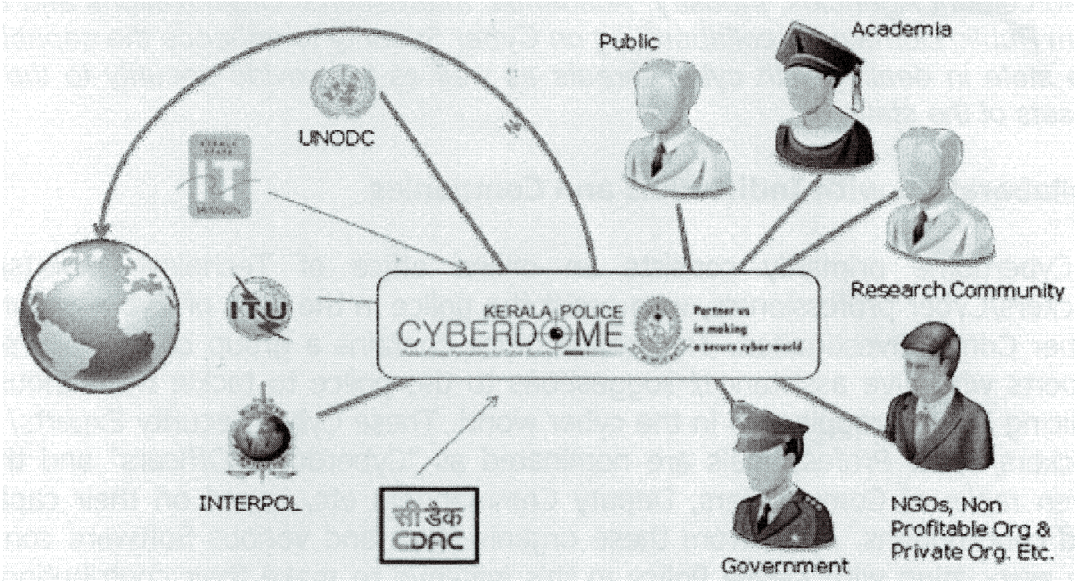
Cyberdome primarily consists an online office of Technical experts/Ethical Hackers/ Cyber professionals, who assist the police in the area of Cyber Security and Cyber Crime Investigation. This online office contains a group of specially selected experts who give assistance/ suggestions to the police to tackle the various cyber policing issues cropping up in the cyber world. These Cyber Security Experts/Ethical Hackers/Cyber Professionals are nominated as "Cyberdome Officers" and they are given ranks of Commanders, Deputy Commanders etc, based on their capabilities and contributions. Apart from these organisations and various Software companies are associating with Kerala Police in this initiative to make their contributions for a secure cyber world. Some of the features of the collaboration are as follow:

As an Individual

1. All nominations were scrutinized and based on their professional competency, unblemised background and domain knowledge they are placed as online officers of Cyberdome.
2. They are given ID Cards/Stars/Ranks based on their contributions to the Cyberdome project.
3. Since the Cyberdome is a contributory project and so the volunteers are not entitled to any payments whatsoever. Persons who have a sense of social responsibility and who are already employed and well settled were preferred.

As a Company

1. NGO's/Organisations/Software companies also enter into a mutual agreement with Cyberdome to develop various Policing software's and cyber solutions.
2. The Industry software companies have provided their technical experts to assist the police in various fields of crime monitoring, policing the web, assistance in the investigation of cyber crimes, development of new software for police and a host of other areas.
3. Some companies were willing to support the Police, as a Company itself, in specific tasks, without any financial costs to the department and they are separately coordinating with the police in providing various solutions for cyber security.
4. The company is free to sell the software to other police forces in the country or outside.
5. All contributions are on a voluntary basis to Cyberdome and in the interest of Cyber Security.



Project Status

Government accorded sanction for the Cyberdome vide Government Order (MS) No. 167/2014/ Home dated 22.08.2014 and 2523 sq. ft. of space has been allotted at Technopak and the Centre has started functioning with direct partnership with around 30 companies including some industry toppers, apart from this, in terms of academic partnerships, association in a research venture with IITMK is sealed and joint research projects are underway in various areas of cyber security. Around 500 ethical hackers have also registered and are presently working with Cyberdome from various parts of the Globe, in the online office set up at Cyberdome.

Major achievements

1. **Social Media Lab-** with Social Media becoming the major medium of Communication and the nature of crimes shifting from traditional to cyber crimes, a new Social Media Lab for tackling all the challenges that the Social Media poses for the police department is opened under Cyberdome. The Centre is using various software's, including the one developed by IIT Delhi for social Media analytics and also Cyberdome has tied up with various Private companies for Social Media Management and analytics, free of cost.

2. **Cocon Conference-** An annual International conference titled 'COCON' has successfully been organised for last few years by Kerala Police, to create a rapport with Industry, academia and International colaborators in this domain.

3. **VAPT Analysis-** VAPT (Vulnerability Assessment and Penetration Testing) was done on all major Government websites and Cyberdome reported the vulnerabilities to the concerned departments for correction.

4. **WiFi Security-** Provided WiFi security for the 20th International Film Festival of Kerala 2015 conducted in December 2015 at Thiruvananthapuram and also conducted a WiFi audit in all the major cities of Kerala.

5. **Workshops/Training-** Training/ Workshops are conducted regularly on latest issues and trends in Cyber security for

officials and members of the public in Thiruvananthapuram.

6. **Monitoring the Darknet-** In association with certain companies and individuals, cyberdome is monitoring Darknet for proactive security.

7. **Offensive Strike capabilities-** A Cyber Defence Corp has been setup with a group of individuals experts from the Cyber security industry, capable of offensive cyber attacks.

8. **Piracy Tracker-** A software has been developed in partnership model and this has been very successful in preventing Piracy of films, particularly Malayalam movies.

9. **Online Safety of Children-** A programme named "KIDGLOVE" is initiated in areas like enhancing online safety for children, engaging parents in the cyber world thus helping to create good digital parents and it is expected to be extended to all the schools in Kerala.

10. **Parental Control Software-** A new software to tackle this global menace of Online Child Abuse & Exploitation in order to protect and/or rescue children by establishing legislation, raising awareness, reducing access to harm and supporting children from abuse or exploitation, is under development.

11. **Anti Bank Fraud Cells-** A Special Cell with a helpline has been created in association with RBI to tackle bank frauds, with particular reference to OTP frauds, online frauds and hacking of the Banking Sector. An online office of all the major banks is made operational for information sharing.

12. **Association of Mobile Wallets-** A close liaison is being maintained with all mobile wallets on a shared platform to plug holes in the transactions related to mobile wallets under the close supervision of the RBI.

13. **Location Tracking-** Cyberdome in association with IITMK has developed a new software for exact pinpointing of mobile phone locations using the various GPRS coordinates available from the Cell ID and this will be useful to track down the absconding accused.

14. **Traffic Apps-** Cyberdome is association with Strava Technologies has developed a Kerala Police Traffic Apps with a host of features for the benefit of the travelling public.

The mission/vision of the Cyberdome Centre is to "Ensure a Cyber Secure World" and in this drive we have got a huge response from the industry, the private sector and the professionals engaged in the IT industry, who have come forth to partner us in this novel venture. Cyberdome is thus marching ahead as a law enforcement entity, in the vast and borderless world of internet, to keep it safe and secure. We call upon all stakeholders to partner us in this unique venture to build a secure Cyber world.

"B-TRAC Technology Drivem Traffic Management"

Micro-Mission: 03
(Communication & Technology)

1. PREAMBLE

Due to increased urbanisation, the biggest challenge faced by police organisations across India is managing ever increasing traffic on roads. Indian Cities have witnessed not only exponential growth of population but also phenomenal growth in vehicles. As cities expand, the travel demand also increases leading to high volume of traffic. Increase in volume of traffic without corresponding increase in road infrastructure has resulted in traffic congestion, perennial traffic jams, pollution and increase in road accidents. Some of the significant problems leading to traffic congestion on Indian Cities are:

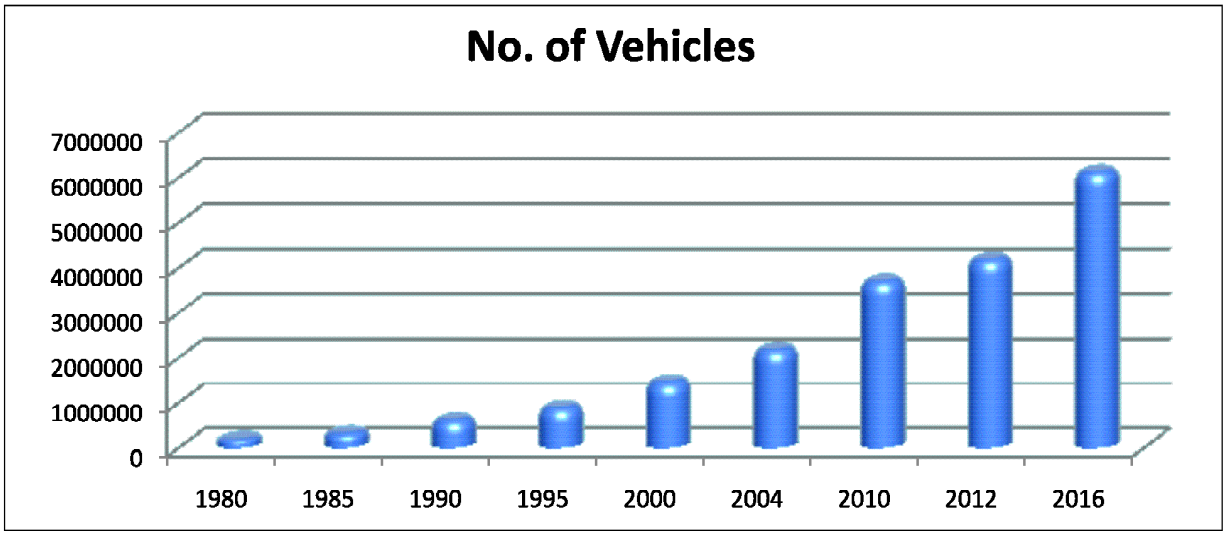
a) Population boom due to economic growth
b) Phenomenal growth in vehicular traffic
c) Slow growth in transport infrastructure
d) Poor urban traffic planning
e) Lack of adequate public transport
f) Zero parking infrastructure and unregulated parking
g) Indiscipline among road users leading to;
   i) Traffic congestion and bottlenecks
   ii) Increased journey time
   iii) Air and noise pollution

The above problems have largely contributed to huge traffic congestion in almost all Indian cities. Though majority of traffic problems is due to faulty urban planning by civic agencies, traffic police is most often blamed for chaotic traffic situation. In order to improve traffic situation and bring effective traffic regulation through use of technology, the Bangalore Traffic Police has initiated a unique project called ***'B-TRAC'***.

Bangalore is one of the premier cities in India having a population of nearly 10 million and vehicle population of about 4.2 million. It is a city which has registered a growth of more than 4% year-over-year during the last 2 decades and is still growing on at even faster rate.

Bangalore Traffic Police looks after the regulation and enforcement aspects of traffic

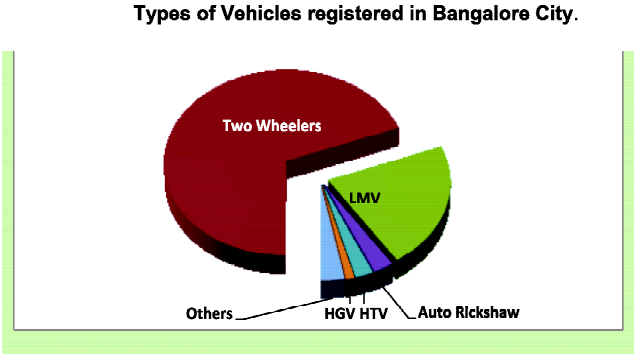
YEAR	1980	1985	1990	1995	2000	2004	2010	2012	2016 (31.03.2016)
No. of Vehicles	175325	306589	601059	870659	1438057	2157480	3686257	4171062	6108936



management in the city. It manages traffic on 11000 Kms of network and nearly 40,000 intersections. The geographical coverage of Bangalore Traffic Police is 1005 Sq.Kms. The sanctioned strength of Bangalore Traffic Police is 3260 and is supplemented by 500 Home Guards.

The growth of vehicles in Bangalore City is shown in the table on previous pages.

The following graph indicates different types of vehicles registered in Bangalore City.



Phenomenal growth of population and number of vehicles registered in Bangalore City and the obstruction of carriage way by number of on-going works like Metro fly-overs, under-passes, over-bridges, the management of the traffic and ensuring smooth flow of the traffic has become a herculean task. In this background Bangalore Traffic Improvement Plan which is popularly known as B-TRAC was envisaged. The total estimated cost of the project is 350 Crores.

The scheme was started in the year 2006-07 and the total grants given by the Government is Rs. 217 Crores.

Though the Government had released funds from the financial year 2006-07, the implementation of the project started in the year 2007-08.

2. OVERVIEW

2.1 PROJECT TITLE : BANGALORE TRAFFIC IMPROVEMENT PROJECT

Bangalore City Traffic Police realizes that ever increasing expectations of citizens cannot be met by increasing the manpower alone. That is why there is a need for paradigm shift from manual regulation to technology driven traffic management plan. The core philosophy behind B-TRAC plan is:

- Creating a reliable real-time traffic information system.
- Analyzing such information and utilizing the traffic intelligence thus generated for ensuring better traffic management and planning.
- Disseminating such information to public in real time for enabling them to make informed choices on the roads.

2.2 VISION:

B-TRAC is the 'first of its kind' project in the country to address the issues of traffic congestion, safety etc by utilizing the latest traffic management technologies and techniques, which are appropriate to our context. This will give the much-needed scope for larger infrastructure projects to be planned and implemented for improving the transportation system in Bengaluru city.

3. OBJECTIVES

The objectives of B-TRAC are two fold;

3.1 Operational objectives:

a) Reduce traffic congestion by 30% in central area

b) Reduction in Pollution

c) Reduction in accidents by 30%

d) Improved parking management

e) Achieve substantial compliance of traffic laws and rules

f) Set up accident reduction and trauma care system

3.2 Institutional objectives:

a) Co-ordinated traffic management by developing mechanisms for the same, like institutionalising Traffic Task Force, Road Safety Committees, Traffic Action Committee etc.

b) Robust Revenue Model (traffic funds to pay for traffic management infrastructure and maintenance)

c) Legal and institutional reforms

d) Capacity Building (modernisation and up-gradation of Traffic Training Institute etc.) and

e) Strengthening of Traffic police by augmenting officers and staff; construction of buildings and provision of modern communication and mobility.

4. COMPONENTS OF B-TRAC

4.1 State-of-art Traffic Management Center

A State-of-art Traffic Management Center at a total cost of Rs.30 Crores was established on Infantry Road under B-TRAC project. The Traffic Management Center functions as a nerve center for all activities relating to traffic regulation and enforcement in Bengaluru City. The Traffic Management Center currently is responsible for;

- Gathering Statistics about Traffic Flow and related flow patterns
- Planning movement of traffic with the objective of avoiding bottlenecks
- Executing the traffic plan; keeping in view the local situation so as to incur least inconvenience to the commuter
- In the entire sets of activities, the core objective of the department is to ensure smooth flow of traffic with minimal intervention.

Features of Traffic Management Center are:

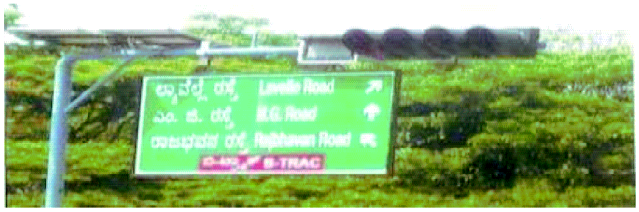
- Creation of a unified, dynamic and user-friendly interface for managing all the components remotely
- Integrated complaint monitoring system
- Management Information System
- Creation of a helpdesk
- Intelligent Traffic Signaling System
- Video Surveillance Cameras
- Mobile telecom operators
- Variable Messaging Systems
- Mobile communication

4.2 Centrally Controlled Traffic Signaling System

The Centrally Controlled Traffic Signaling System comprises of the following;

a) Automated Signaling System

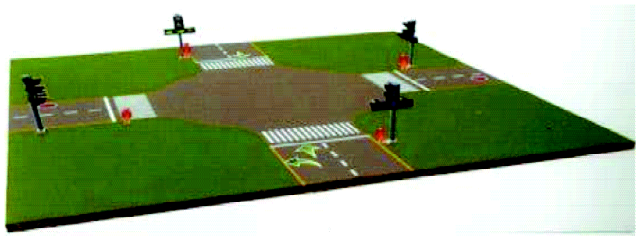
Automated signaling is a concept wherein all the signals placed at various junctions of the city are centrally controlled from a Central Hub. Traffic signal at each junction is connected to a controller, which in turn is connected to Traffic Management Centre (TMC) using leased line. These controllers are intelligent and can be programmed to perform as per the requirements of specific location and time. Some of the visible benefits are:



- Centralized manipulation and monitoring of the traffic signals like timing and patters on short-term or long term basis using state-of-art and innovative application software.
- Pre-programming of signal controllers at junctions with different phase/cycle times, in each direction, at different points of the time during a day and different days during a week. This is extremely helpful for handling peak hour and non-peak hour situations at junctions using different approaches. At present each signal in city has at least 4 to 5 programs. There is different time cycle for Saturdays and Sundays.

b) Vehicle Actuation

An underlying sensor (also referred to as loop) embedded below the asphalted road near the zebra crossing, senses the vehicles passing over it. The sensor is linked to a controller placed at the junction, which sends signals indicating presence or absence of vehicle over it. Every direction is allotted a minimum 9-second phase time to begin with. As long as vehicles are present on the loop, 4 seconds will continue to be added in the phase time i.e. 9,13,17 and so on, subject to an upper limit. In case of no vehicle passes for more than 4 seconds, the controller turns the signal red even if allocated green time is still unutilized. Hence, wastage of green time is avoided and traffic from other direction is released. As a result of this technology, a total cycle time in each cycle will vary according to traffic flow.



Vehicle actuation avoids wastage of green time and encourages discipline by reducing signal jumping offences. The maximum benefits of vehicle actuation are experienced during lean

hours and at junctions where different directions have different traffic densities.

During peak hours, when there is over saturation in all the directions, vehicles actuated signal functions like fixed-time signal.

c) Signal Progression

This programme ensures that each junction turns green towards a priority direction in conjunction with its previous signal, in the same direction, but with a time traffic from a junction reaches the next junction it finds green signal awaiting them thus ensuring minimal wait at signals. The only short coming is that the time difference is manually fed and any modification of green time at a particular junction, participating in signal progression, can adversely affect the system. Moreover, signal progression works on the presumption of no non-signalized right turns in the corridor and an assumed average speed for all the vehicles. This concept is very useful for closely placed signals.

d) Area Traffic Control (ATC)

This concept is a combination of signal progression and vehicle actuation. In ATC, two sets of activities are conducted, namely;

(i) Optimization of green time allotted to each direction at each junction. A fixed time is allocated at each junction controller for each direction. This time is validated against the traffic passing in these directions; if it is observed that the entire allocated green time for a particular direction is not utilized then the green time in that direction is reduced by 10%. This activity is repeated till the optimum green time is achieved for each direction in all the junctions in the area or the corridor. In the entire process the embedded loops at junctions play an important role in detecting vehicles passing towards particular direction.

This information is processed by the controller placed at each junction and is passed to the central server placed at TMC, where an algorithm takes decision on green time optimization.

(ii) Alignment of each junction with one another so that signal progression can be implemented across a series of junctions falling in a priority direction. Such green time optimization happens all through the day. This change of time can cause the alignment between adjacent junctions, part of signal progression to break. As such software running on a server at the central TMC automatically prevents such break up between these junctions so that vehicle actuation and signal progression work simultaneously.

e) Power Backup and Management At Junctions

The traffic junctions in the city of Bangalore are now equipped with high-end equipment with required uninterrupted power supply (UPS). The traffic police department has drawn up an elaborate arrangement, which ensures that power at each junction is uninterrupted. This plan is implemented using two levels:-

- Main power supply is provided to traffic signals using solar panels while networking devices and cameras are energized using BESCOM connections.
- The main power input is fed into an UPS, one each for networking devices, traffic signals and cameras, which provide a backup support for about 4 hours.

4.3 Enforcement Camera System

High resolution cameras placed at various junctions are meant to capture pictures of vehicles over speeding or jumping signals. These cameras are connected to central server kept at TMC using 4 Mbps leased lines. The central server also has the capability to interpret the number plates using alpha numeric character recognition software. This registration number is matched with transport department database for generating notices to violators.

4.4 Surveillance Camera System

332 junctions across the city of Bangalore are fitted with Pan-Tilt-Zoom cameras, capable of capturing live feeds and pass on them to the TMC where a 24-Terabyte storage solution is used to store the feed for a period of 15 days. The live feeds have their own strategic importance in regulating traffic as well as designing of traffic signals based on actual vehicle counts. Soon video analytics will be used to intelligently interpret these feeds.

4.5 Speed Interceptors

Realizing that it is not possible to have video surveillance for every junction or locations between the junctions, police has deployed nine-interceptor vehicles equipped with surveillance camera, laser speed gun and alcometer for recording the violation and prosecuting the offenders while on move.

4.6 Automated Enforcement System

Automated enforcement also known as contact less system of booking of traffic violations was initiated in the year 2003. In this system violations recorded through digital cameras and enforcement cameras are processed at Central Automation Centre and notices are sent to the owners of the vehicles involved in traffic violations. This is a highly transparent method of booking of cases against the traffic violators.

Bangalore Traffic Police has tied up with Bangalore-One, a citizen-friendly initiative of e-Governance department, for enabling anywhere, anytime payment of the fines imposed. Citizens can settle the violation tickets issued against their names as well as parking violation tags issued to them by visiting any Bangalore-One centre or any traffic police station.

These places are connected using a dedicated network to the central application server kept at State Data Center (SDC). Citizens can also pay their traffic violation notices and parking violation tickets online through traffic police website from the comforts of their home.

4.7 Blackberry driven Enforcement

Traffic Police has equipped its officers with handheld BlackBerry devices connected to Bluetooth-enabled printers. These devices are connected to a central server kept at State Data Center (SDC).

BlackBerry wielding officers enforce traffic rules and regulations and fine offenders. All these activities are done online resulting in real time monitoring and statistical analysis for the senior officers' review.

Online booking of violations using BlackBerry also ensures tracking of habitual traffic offenders thus ensuring enhanced punishment for them. In addition, it also tracks down unpaid violation notices issued in past.

4.8. Traffic Scan through GPS

600 BMTC busses running in Bangalore city are fitted with GPS devices. This facility is used to identify congestion across the roads of Bangalore and a real time GIS reporting mechanism projects the data thus collected into a map of the city. The time taken to travel between two locations of the city at a non-peak hour is taken as base time and any deviation from that is used to identify three basic traffic patterns, namely, heavy traffic (red) medium congestion (orange) and free flowing traffic (green).

4.9 Traffic Scan through Mobile Density

A supplementary mechanism of identifying congestion is by using density of mobile devices currently existing under a particular mobile tower. This value is processed for identifying the level of congestion at a particular junction and subsequently the processed data is used to create a real time GIS enabled map at TMC. The higher the number of mobile devices under a particular tower the more likely is the chance for congestion. The only weak point in this mechanism is that the system is capable of identifying congestion at the round junctions only.

4.10 Variable Messaging Systems

Message boards mounted on large gantries are being placed at convenient locations of the city for displaying traffic related information. This information is fed into terminals placed at TMC from where the message is relayed on to the boards using radio frequency waves. The information displayed informs the travellers about existing traffic scenario to help them avoiding traffic snarls and making informed choices.

4.11 Parking Information System

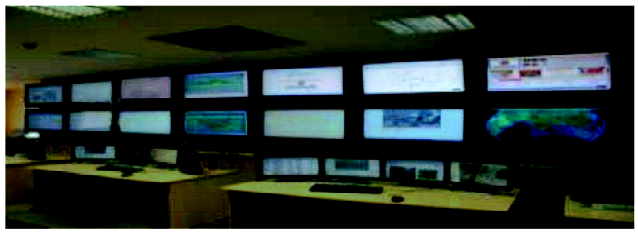
All major parking places in the city of Bangalore, which are computerized are proposed to be connected to the TMC using web based services. The real time parking availability status from these parking places will be relayed to the traffic Police web site and made accessible to the citizens through VMS board and phones using SMS on need to know basis.

4.12 Multi-phased public interaction

a) **Facebook**: In order to interact with public and to address their traffic related complaints and valuable suggestions, a platform is created by opening an account in facebook a social networking website. Bengaluru Traffic Police Facebook has more than 4 lakh followers as on March-2016.

b) **Twitter**: A platform is created to the general public to interact with Bengaluru Traffic Police through twitter. Citizens of Bengaluru City are actively participating in regulation of traffic, enforcement of traffic rules. Bengaluru Traffic Police twitter has more than 1.2 lakh followers as on March-2016.

c) **SMS Alerts**: BTP is also sending free traffic alerts to its subscribers regarding traffic situation. Anyone can subscribe to the service by sending SMS JOIN<space>BTP to 09219592195. As on March 2012 more than 35,000 people have subscribed to this facility.



5. FINANCIAL IMPLICATION OF THE PROJECT

The total grants released by Government and the expenditure towards implementation of B-TRAC project from the period from 2006-07 to 2014-15 is as follows:

Sl. No.	Year	Released (Rs. in Crores)	Expenditure (Rs. in Crores)
1.	2006-07	44.00	0.14
2.	2007-08	0.00	19.76
3.	2008-09	35.00	26.98
4.	2009-10	40.00	32.92
5.	2010-11	5.00	27.66
6.	2011-12	15.00	11.73
7.	2012-13	25.00	12.64
8.	2013-14	0.00	24.08
9.	2014-15	11.00	17.71
10.	2015-16	42.00	0.85
Less: 5% Administration Charges on Expenditure of 2014-15			
TOTAL	**217.00**	**174.47**	

6. IMPACT OF B-TRAC PROJECT

B-TRAC 2010 is the first of its kind project in the Country to address the issues of traffic congestion, safety etc by utilizing the latest traffic management technology and techniques, which are appropriate to our context. This will give the much-needed scope for larger infrastructure projects to be planned and implemented for improving the transportation system in Bangalore city.

Implementation of B-TRAC project has resulted in improvement in traffic regulation, enforcement and reduction in road accidents. The impact can be seen under the following heads;

6.1 Transparency in enforcement of traffic rules:

Replacing the paper based challan system with automated enforcement and BlackBerry based challaning system has brought in lot of transparency in booking of cases against violators of traffic rules. Permanent records are created for traffic violations through automated enforcement. Automated enforcement has helped in identifying the repeat offenders. The new system has resulted in increased number of registration of cases and an increase in collection of traffic fines, as appearing from the following table:

Sl. No.	Year	No. of Cases registered	Total Fine amount Rs. in Crores
1	2007	1444098	19.91
2	2008	2079071	29.51
3	2009	2640286	37.62
4	2010	3333112	47.56
5	2011	4790841	50.56
6	2012	5204800	53.85
7	2013	5432812	56.98
8	2014	7436284	65.92
9	2015	7626671	70.44
	2016 (30.06.2016)	4438760	31.28

6.2 Substantial compliance of Traffic laws and rules

The use of surveillance camera, enforcement camera, field traffic violation report (FTVR) and breath analyzer to identify and prosecute drunk drivers/riders, has brought in greater discipline among the road users. Identification of repeat offenders has resulted in suspension of more than 20,000 driving licenses during the current year.

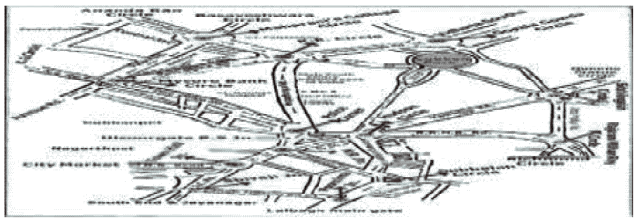
6.3 Reduction in road accidents

One of the important achievements of B-TRAC project is reduction in number of road accidents. Accident Scenario has seen a positive change and severity of the accidents has come down due to strict automated enforcement. The reduction in number of accidents is shown in the table below:

Sl. No.	Year	Road Accidents In Nos.
1	2002	9856
2	2003	10505
3	2004	9101
4	2005	7578
5	2006	7561
6	2007	8426
7	2008	7772
8	2009	6875
9	2010	6483
10	2011	6024
11	2012	5502
12	2013	5230
13	2014	5004
14	2015	4828
15	2016 (Up to 30.06.2016)	2520

6.4 Reduction in traffic congestion in central areas

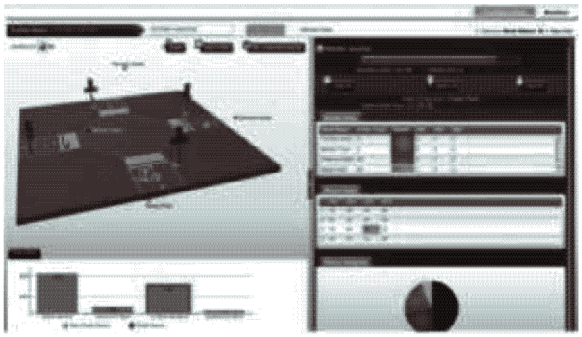
The topography of Bangalore city is typically full of crossroads. Handling the cross traffic is difficult, but this task is also being managed efficiently. It is for these very reasons around 190 roads were made one-ways in phases, and chaos in traffic has reduced to a great level and conflict points were resolved to a greater extent thus easing the traffic flow.



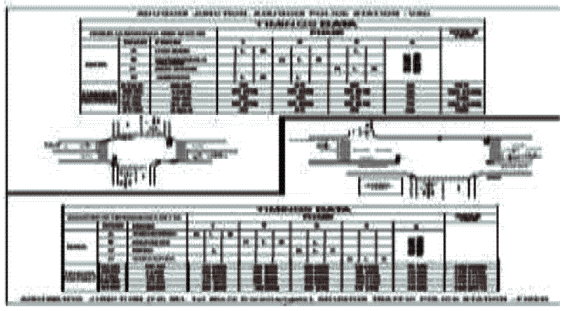
Map showing one-way roads

6.5 Reduced travel time due to scientific fine-tuning of signal timings at junctions

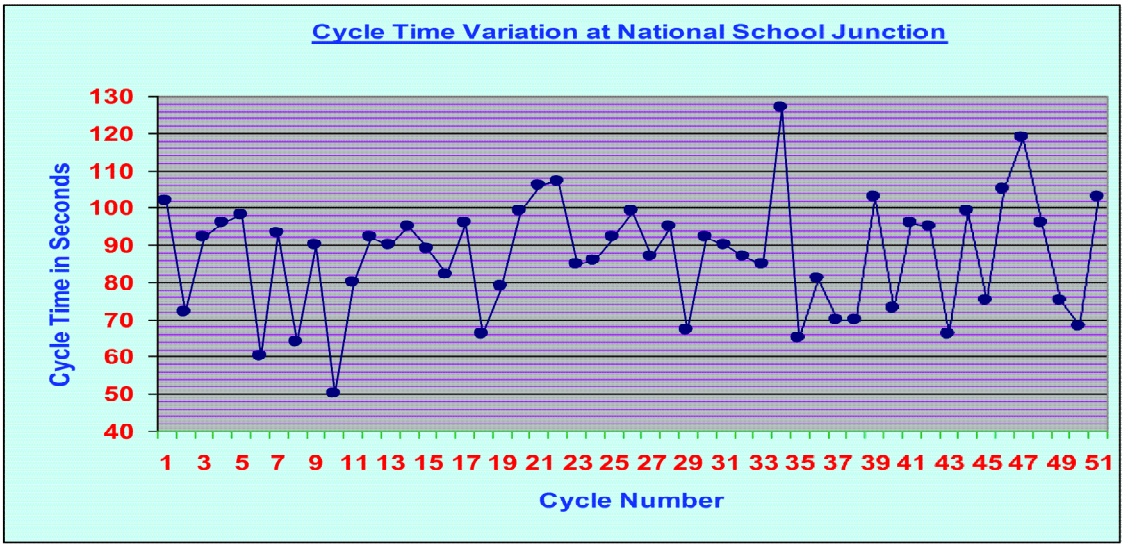
Average savings in green time by using customized traffic light configuration system.



TLC-Silverlight Application



Junction Phase timing Map



6.6 Reduced Journey time due to Signal synchronization

The average journey speed has increased from 18 Kmph to 23 Kmph in the city after the implementation of B-TRAC project. This is largely due to synchronization of signal lights on 10 important traffic corridors. Synchronization coupled with central control of traffic.

7. B-TRAC EVALUATION BY INDIAN INSTITUTE OF SCIENCE (IISC), BENGALURU

The Center for Infrastructure, Sustainable Transportation and Urban Planning (CiSTUP), Indian Institute of Science (IISc), Bengaluru has conducted Evaluation and impact study of the B-TRAC project. As per the study, the positive impacts of B-TRAC project are;

7.1 Junction improvements in 46 junctions have helped in systematic movement of traffic.

7.2 The travel time has reduced due to signal optimization and journey speed has increased after synchronization of signals.

7.3 The road markings like centerline, median markings, lane markings and edge line markings on some major roads have helped in safer movement of traffic.

7.4 The enforcement cameras, blackberry's and printers have helped in catching the traffic violators and also increased the collection of fines. The surveillance cameras have helped in better monitoring and management of the traffic and also in catching traffic violators and also in increasing the collection of fines.

7.5 The Variable Message Signs (VMS) have helped in giving advance information to the drivers so that they can deviate and can take alternate routes.

7.6 The Street Furniture's like Flexible Cone with Reflective Tape, Cats Eye, Hazard Markers, Reflective Median Markers, Movable Steel Barricades, Informatory Signboards have helped in reduction of accidents and safe movement of traffic.

7.7 B-TRAC project has helped in reducing the accidents by 18% between three years from 2007 to 2010. The accident rate of Bangalore City has come down because of various measures taken by Bangalore Traffic Police. Some of the measures taken by Bangalore Traffic Police are given below,

7.7.1 **Effective Enforcement of Traffic Rules**: Bangalore Traffic Police have registered highest number of traffic violations in the year 2012 i.e., 51.30 Lakh cases were registered and Rs. 53.85 Crores of fine amount were collected from the violators. This is the highest number of cases booked and highest fines collected in any city in the world.

7.7.2 **Suspension of Driving License of Repeated Offenders**: A database of repeated offenders was made and their driving licenses were seized.

7.7.3 **Automation Enforcement:** To bring in more transparency in payment of fines 500 digital cameras were provided to policemen manning the junctions and during the year 2012 and 16,91,863 cases were booked using the cameras.

7.7.4 **Implementation of Uniform Speed Limits**: In each of the traffic police limits, prominent road junctions were identified and campaigns were undertaken to bring awareness of speed limits through advertisements. Additional four interceptor vehicles were used to book 1.19 Lakh cases against violating individuals who were riding their vehicles in rash and negligent manner.

7.7.5 **Campaigns:** Various campaigns has been conducted like drunken driving campaign, lane discipline campaign, ambulance priority campaign, innovative public eye campaign, seat belt campaign, helmet less campaign and campaign to remove tinted glasses. An effective campaign against helmet less two wheeler drivers was conducted in 2012 in which a total of 7.52 Lakh cases were registered.

7.7.6 **Auto Rickshaw Reforms**: In Bangalore City, the autorickshaw drivers refuse to go for hire and also demand excess fare and in this regard huge complaints were raised by the public with the traffic police. The police have taken the following actions,

a) Sixteen prominent places were identified to start pre-fixed auto counters.

b) The Auto Display Card System was revitalized so that the card was displayed more visibly to the passengers boarding it and whenever things were left behind in the autorickshaw, they were traceable because of the campaign.

c) The IVRS complaint system to report demanding of

excess fare and refuse to go for hire was established enabling prosecution of the autorickshaw drivers.

d) The SMS facility was also provided to register complaints against such erring auto drivers.

e) Complaint by emails against the erring auto drivers was also established.

f) The above listed measures have helped the citizens immensely thus reducing the number of complaints.

7.7.7 **Road Safety Training**: Road safety training was imparted for private transport vehicles and school bus and van drivers so that it results in less accidents

7.7.8 **Removal of Unscientific Road Humps:** Unauthorized and unscientific road humps were identified and removed in Bangalore City because they were contributing to fatal accidents. On the main roads, to control road accidents occurring due to overspeeding vehicles road humps has been installed as per IRC standards.

7.7.9 **Establishment of Three New Traffic Police Stations**: With an increasing vehicular population and an effort to reduce road accidents three new traffic police stations were commissioned. They were

a) Kengeri Traffic Police Station
b) Jalahalli Traffic Police Station and
c) Hulimavu Traffic Police Station.

7.7.10 **Effective Citizen Interaction**: In order to ensure smooth traffic flow and to reduce road accidents in Bangalore City, Citizen's Traffic Forum was started under the Chairmanship of Commissioner of Police. On every 3rd Saturday of the month police station level meetings will be held in all 42 Traffic Police Stations involving general public between 11.30 a.m. and 1.30 p.m. A 'Bangalore Traffic Police' facebook page has also been created which has more than 57,000 followers.

8. COST BENEFIT ANALYSIS

It is seen from the financial implication that a total of Rs. 217 Crores were provided by State Government for the implementation of B-TRAC Project. Out of this Rs. 174.47 Crores expenditure is incurred on various B-TRAC components. Most of these funds are being utilised to improve traffic regulation and enforcement of traffic rules in Bengaluru City. Due to introduction of technology in enforcement, Bengaluru Traffic Police could realise Rs. 463.63 Crores through collection of fines from the the violators of traffic rules. Therefore it is seen that, the project has not only has financed itself, but has also provided additionally more than Rs.250 Crores to the Government.

Thus, the B-TRAC Project is a self financing model and sustainable. The State Government needs only to provied small grant in the beginning and get back the entire amount through fines collected from violators of traffic rules.

9. THE WAY FORWARD

The initiative has started yielding results from the first day itself. The changes and the impact were dramatic and exceeded the expectations of the department. Here it is essential to state that the objective of the entire exercise was not to increase the revenue collections but to enhance the quality of traffic enforcement & traffic management by ensuring that violations are recorded and violators are penalized as well as traffic accidents are reduced. The B-TRAC project was recognized by Government of India and Bangalore Traffic Police have received the following awards for its implementation.

1. ***National Award for Best use of Information and Communication Technology (ICT)*** by the Dept of Personnel and Training (DoPT), Government of India in the year 2011.

2. ***Award for Excellence in Urban Transport"*** Honoured by **Ministry of Urban Development, Government of India.**

3. ***"Golden Peacock Award"*** for Innovative Product / Service honoured by **Institute of Directors (IOD) and Golden Peacock Secretariat.**

4. ***"Golden Peacock HR excellence Award"*** honoured by **Institute of Directors (IOD) and Golden Peacock Secretariat.**

5. ***"Namma Bengaluru Award"*** honoured by **Namma Bengaluru Foundation, Bengaluru.**

6. ***"Best Project Award-2014"*** by Ministry of Urban Development**.**

7. ***"Skoch Platinum Award-2014"*** for best traffic management, good enforcement and reduction in accidents**.**

8. ***"Best Practice Award-2014-15"*** by Directorate of Municipal Administration, Govt. of Karnataka and City Manager's Association, Karnataka.

It is seen that many components of B-TRAC project like Automated Enforcement, e-challaning system etc are being implemented in many cities across India. In order to implement the project, the financial support from the concerned State Government is essential. Therefore it is recommended that traffic police organizations of important cities can implement this innovative scheme to bring greater efficiency in traffic regulation and enforcement. The systematic implementation of sustainable components of B-TRAC project will result in making our towns and cities more livable.

"Standardization of Equipment and Other Facilities for Post-Mortem at District HQs"

Micro-Mission: 04
(Infrastructure)

1.0 INTRODUCTION:

Murder is the most heinous crime and its investigation requires a multi-disciplinary approach. Police -Doctor Interface is a professional necessity in investigation of cases of unnatural death. The investigation begins at the scene of crime and takes up shape in a mortuary or the postmortem house. Dead body is an object of investigation, both for the police and the doctor. In India, a police officer draws the inquest or Panchnama of the dead body to ascertain whether a person has died under suspicious circumstances or an unnatural death under Section 174 of Cr.P.C. However, if the doubt to the cause of death persists in his mind, the police officer has the discretion to seek the opinion of a medical man. He sends the body to a mortuary at the authorized Government Hospital, usually at the district headquarters, for postmortem examination. Morgue is the place in a mortuary where dead bodies are received and stored and in the Autopsy Room doctors dissect the body. The police accept the body back along with some additional materials like viscera or things recovered from the body by the doctor. The Postmortem Report is a piece of documentary evidence containing doctor's observations and findings along with his opinion on five points- the cause of death, time since death, in what manner, e.g. homicide, suicide, accident or under natural circumstances, whether injuries would have taken place before or after death, other additional information, e.g. weapons used, presence of foreign body, etc.

A mortuary is the State owned depository of all dead bodies where doctor, a member of the Health Services, is the expert service provider. Postmortem Examination, although not a mandatory requirement, is more often than not, unavoidable in all cases of unnatural death. With the only exception of investigation into epidemic-related deaths, police, a member of the Criminal Justice System is usually the sole customer of the services offered at a mortuary. Therefore, mortuary is a vital link in the Criminal Justice System, although, this fact is hardly ever recognized. Standardization of equipment and other facilities for post-mortem at district headquarters is therefore, highly recommended for consistent procedure and fair trial of homicide cases.

2.0 BACK GROUND

2.1 The scene of mortuaries in India is dismal and depressing, not only for the operators-the doctor or the police but also for the victim's family. The ambience of a postmortem house is appalling, the basic ingredients for its operations are missing and the services are grossly inadequate. The reason is obvious-chronic neglect of mortuaries, which are part of the health set up. The mortuary is lowest in the priority list of health department of any State. Mostly it is in a dilapidated and unhygienic condition.

2.2 It is not an exaggeration to say that both the Stake Holders of a postmortem examination, i.e., the health and police personnel avoid attendance at mortuary. The lowest rank and file of police is often delegated the task of forwarding and receiving the dead body at a mortuary. The services of sweepers of the mortuary substitute for the expert task of dissecting the dead body by the doctors. Obliviously, autopsy, the most 'objective part' of a murder investigation is ill-supervised.

2.3 The Criminal Procedure Code does not stipulate police-doctor interaction at the time of autopsy; it is, albeit desirable in most cases, except for the cases of death in police custody. The doctor may like to satisfy himself on certain

aspects of the dead body, such as conditions at the scene of crime, the manner in which body was handled and transported, etc. Similarly, the police officer may like to inspect the presence of a foreign body once the dead body is uncovered or may get to know about the extent and shape of a wound. While handing over the dead body, the doctor may like to advise the police officer on some clue recovered such as marks on clothes/ bullet or other artifacts/ smears/viscera, etc. Thus doctor-police interactions at a mortuary, before or during or after the postmortem examination, can shape up the investigation in a professional manner without compromising the integrity of evidence.

2.4 In the recent past, media reports on manipulation of the bio-medical evidence in certain high profile homicide cases have caught public attention. However, it remained oblivious whether mishandling was done by the police or the doctor, intentionally or unintentionally, as the mortuary was a gray area for everyone, because as such videography or photography of autopsy is not mandatory. As a matter of prudence, the National Human Right Commission has made videography of postmortem procedures compulsory in cases of police encounter.

2.5 As the Human Rights of the dead are not recognized, the treatment of a dead body in a mortuary is often ignored. The work load of a mortuary increases manifold during riots or mass disasters. The instances of insensitivity of the lower rank functionaries of police and medical department towards the kith and kin of the deceased even in usual times are common. The lack of space and facilities for the victim's family at a mortuary add up to their woe.

2.6 The jurisdiction of a district court extends over the I.O. of a murder case with the accountability of the district S.P. and over the doctor who conducts postmortem examination through the Chief Medical Officer of the district. At times, a second autopsy or constitution of a medical board becomes necessary and in view of the perishable nature of the biological material, expeditious and intact exchange of information between the mortuary and the police or the court is essential.

3.0 THE PROJECT

3.1 Title:

"STANDARDIZATION OF EQUIPMENT AND OTHER FACILITIES FOR POST-MORTEM AT DISTRICT HQs"

3.2 Vision:

- To enforce minimum standards of operational requirement (tools, infrastructure and maintenance) of a mortuary uniformly at all Districts HQs
- To promote coordination between the police and the medical men in cases of unnatural death referred under 174 sub-clause 3 Cr.P.C.

3.3 Objective:

- **Immediate Objective:** To create facilities for autopsy at district mortuaries that benefits all the users, i.e. the doctors, the police and the public;
- **Ultimate Objectives:**
- Improved elucidation of bio-medical evidence by the medical men: Shift from sweeper to Doctor
- Better appreciation of bio-medical evidence by the investigating agency-

  (Both doctor and the police IOs are PWs; prosecution fails due to the gap between doctor and the police)

- The facilities should improve hygienic environment for the benefit of doctors and mortuary staff
- Quick victim identification in mass disasters or unidentified dead bodies
- Intact Chain of custody in cases where ancillary investigation follows postmortem
- Improved Public Perception

3.4 Sponsors

The Chief Minister of the State of Bihar sanctioned budget to the Health Department of Bihar Government for this project that was routed through their agency Bihar Medical Infrastructure Construction Limited.

4.0 SITUATIONAL ASSESSMENT AND PROBLEM ASSESSMENT

4.1 Work load:

- Patna Medical College & Hospital is the apex centre for autopsy in and around Patna district- 10 P.M. per day.
- Other Medical Colleges at Patna (IGIMS, NMCH) <5 P.M. per day
- Other Medical Collegesin the State (MUZAFFARPUR, GAYA, BHAGALPUR, DARBHANGA, Katihar) <5 P.M. per day
- District Hospitals in other districts- 1-2 P.M. per day.
- It may be noted that mass disasters may call for unexpected work load.Kanpur Dehat Hospital conducted 150 PM in 2 days in the wake of the recent train accident of 2nd December, 2016

4.2 Situational Assessment: The following criteria were considered for standardization of postmortem facilities-

A. The mortuaries are assets of the health department but police is the chief user. Therefore, **the mortuary should be designed to ensure participative interaction between the health and police departments.**

B. The legal mandate of police and doctor conducting a postmortem examination are clearly defined. However, contents of a postmortem report can be questioned during the investigation or trial stage. Therefore, **video recording and automation of postmortem procedures should be ensured**.

C. The Rights **of the Family Members of the deceased (including the right to expect a decent treatment of the dead body after death) should be protected.** It is the responsibility of the State to provide basic amenities to the visitors and coffin to the dead with minimum disfiguration.

D. Specialist ancillary investigations (such as forensic examination of viscera or other material, further study for the purpose of entymology, microbiology, histo pathology, etc.) may call for **intact chain of custody of bio-medical evidence after postmortem.**

E. **Quicker and less invasive procedures for victim identification** by way of finger printing/ photography/ body radiology/ D.N.A./embalming etc. are required within the mortuary besides open mortuary for highly decomposed bodies.

F. Minimization of risk of cross infections call for **stringent measures of hygiene at the morgue and the autopsy room**

4.3 Problem Statement:

A. Infrastructure

- Existing mortuaries in a dilapidated condition or even make-shift structures.
- At most places, autopsy instruments have not been purchased for a long time.
- No provision of round the clock electric supply or a functional cold storage for bodies, camera or CCTV, incinerator, X-ray machine
- As dedicated land for mortuary not available, therefore, the land available within the premises only has to be developed into mortuary.

B. Problem with existing man power:

- No sanctioned post of autopsy surgeons; doctors on general duty conduct autopsy by roster
- One or two sweepers only available to assist the doctor on duty

C. Problem at police-doctor interface:

- Constables or village chaukidars (and not the IO or the officer who drew the inquest) accompany a dead body to the mortuary;
- Facts recorded at the scene of crime may be different from observations at the mortuary
- No briefing by the doctor on duty regarding the PM findings or ancillary evidence
- Time gap between postmortem and its documentation
- Postmortem by specialist board often delayed (Bio-Medical evidence is perishable and body remains cremated before re-autopsy)
- Time gap between evisceration and collection of tissues by the police for forensic examination

D. Problem at police-public interface:

- No waiting room and basic amenities available for police or kin of the deceased at the mortuary
- No dedicated vehicle for transportation of dead body from scene of crime to the mortuary
- Murder Cases/ Accidents/ disasters arouse public reaction. Public disturbance at the scene of crime affect documentation of the inquest
- Kins' Right to expect a decent treatment of the dead body often violated at the mortuary

Standardization of PM Facilities

Deliverables:

A. SPACE
B. EQUIPMENTS.
C. POWER SUPPLY & REFRIGERATION
D. STAFF

A. PROVISION OF SPACE

1. MORTUARY – With 2 O.T. Tables (water and drainage system) & fly proofing (20'x20')
2. OPEN MORTUARY OF FIBER GLASS ROOF & WALLS- (20'x10')- for decomposed bodies/mass casualties with wind jet
3. COLD STORAGE- Stainless Morgue for 4 dead bodies. (15'x14')
4. WAITING HALL- For attendants with wash room and drinking water facilities. (15'x20')

5. DOCTOR'S CHAMBER with washroom (15'x10')
6. STAFF ROOM (15'x10')
7. POLICE ROOM =(10'x15')
8. OFFICE/RECORD ROOM =(10'x15')
9. VISCERA CUM EXHIBITION ROOM including Photo lab= (13.5'x14')
10. X-RAY CHAMBER =(17'x10')
11. Laboratory for histopathology and biochemistry =(12'x14')
12. STORE FOR EQUIPMENT/ CHEMICALS etc (12'x14')
13. INCINERATOR AND DUMP

B. EQUIPMENTS

B-I. For Transport and Storage -

1- Trolly "Push in and out"

2- Morgue (Deep Freezer Storage at 2-5ºC; IS marked steel)

3- Power Backup for Morgue

B-II. For Identity and chain of custody-

1. Weighing Machine & Metallic tape or Graduated Metal Scale
2. Camera with video facility/ Zoom Camera above autopsy table (Optional)
3. CCTV Camera (≥ 2 megapixel, 1 TB DVRa≥21 Days backup).
4. 100 Ma X-Ray machine portable
5. Forensic Equipments for tissue DNA sampling
6. Automation/lamination facility/xeorx facility

B-III. For Autopsy-

1. Autopsy table of stainless steel with water drainage facility-2 no.
2. Enamel tray, bucket etc. Instrument trolley & dissecting set
3. Magnifying glass/Microscope.
4. Metal detector
5. Evisceration instruments and storage
6. Dissecting Set
   (consisting of Knives, Scissors, Forceps, Allis of different Sizes,
   Autopsy Saw, Bone Cutter/ rib Cutter, Brain Knife etc.
   Chisel, Hammer,Scalpel, Needle, Threads & Needle Holder
   Gloves, Masks, Apron & Slippers)
7. Histopathology set-up (optional)

C. POWER SUPPLY & REFRIGERATION

To sustain O.T. Light , fan ,exhaust fan, A.C., Refrigerator, Plumbing and boring with pump

D. STAFF :- (In addition to Medical Officers)

1. Record Keeper-cum-Clerk -01
2. Morgue Attendant -01
3. Sweeper -02
4. Technician (biochemistry, Pathology)
5. X-Ray Technician
6. Trained Photographer
7. Guard -02

- **Estimate of MORTUARY for District Hospitals**
- Built-up area of Mortuary – 315.70 sqm. Cost of Civil Works -69.55 Lakh per unit

1)	Air Conditioning	
[i]	Cost of A.C. of Mortuary (4.5 Ton)	1,30,000/-
[ii]	Cost of Morgue (4 body)	5,00,000/-
	Rs.	6,30,000/-

(2)	Generator (10KVA) (for morgue)	3,10,000/-
(3)	Portable X-ray Aluminum body	1,50,000/-
(4)	CCTV Camera with Accessories	50,000/-
(5)	Ordinary Video Camera	15,000/-
•	Optional Autopsy focus zooming cameras	50,000/-
(6)	Instruments & O.T. Tables (02)	5,00,000/-
(7)	Automation/ Lamination/ Xerox/Fax	1,00,000/-
(8	Incinerator	1,50,000/-
(9)	Solar water heater 500lpd	60,000/-
	Rs.	19,65,000/-

- Physical Progress-Govt. of Bihar sanctioned 36 mortuary buildings at District Level (Sadar) Hospitals at the above rate
- Project complete in 22 districts; under construction in 6 districts; yet to start in 8 districts
- **TECHNICAL SPECIFICATIONS**
- [1] FOUNDATION
  - As per structural design based on soil investigation.

  [2] SUPERSTRUCTURE
  - Framed construction with 250 mm thick brick masonry.

  [3] DOORS & WINDOWS

  Frames
  - Door frames of pressed steel.

  Door Shutter
  - 35mm thick factory made flush door shutter.

  Window
  - Fully glazed (frosted glass) steel window with M.S. Grill.

  Fitting
  - Anodized Aluminum fitting.

[4] FLOORING
- Water impervious floors sloping to a drain in mortury Vitrified tiles of 600x600 mm size.

[5] ROOF/COLUMN/BEAM
- R.C.C. (M:25) as per structural design.

[6] FINISHING

External
- Water Proof Cement Paint over 20 mm thick cement plaster Internal
- Dry distemper over 12mm thick cement plaster (1:6)

[7] PAINTING OF DOORS
- Synthetic enamel paint 2 or more coats over a coat & WINDOWS of primer.

[8] LIGHTING
- Fluorescent lighting over autopsy table with at least one having tilting arrangement.

Constraints and critical assessment of implementation strategy

1. Land must be identified before tendering
2. Project civil work must be sanctioned in totality including heavy items- morgue, genset, etc.
3. Equipments for operational readiness should be tendered along with the civil work
4. Joint Supervision at every stage of construction by medical and police wings
5. Co-ordination between Engineers and the users; feedback mechanism

6. Plumbing/Electricity/Ventilation of Mortuary requires special focus

7. Wind jet in Open Mortuary if RCC roof/ otherwise tents with AC facility may be tried

8.. Morgue should have dedicated power back-up

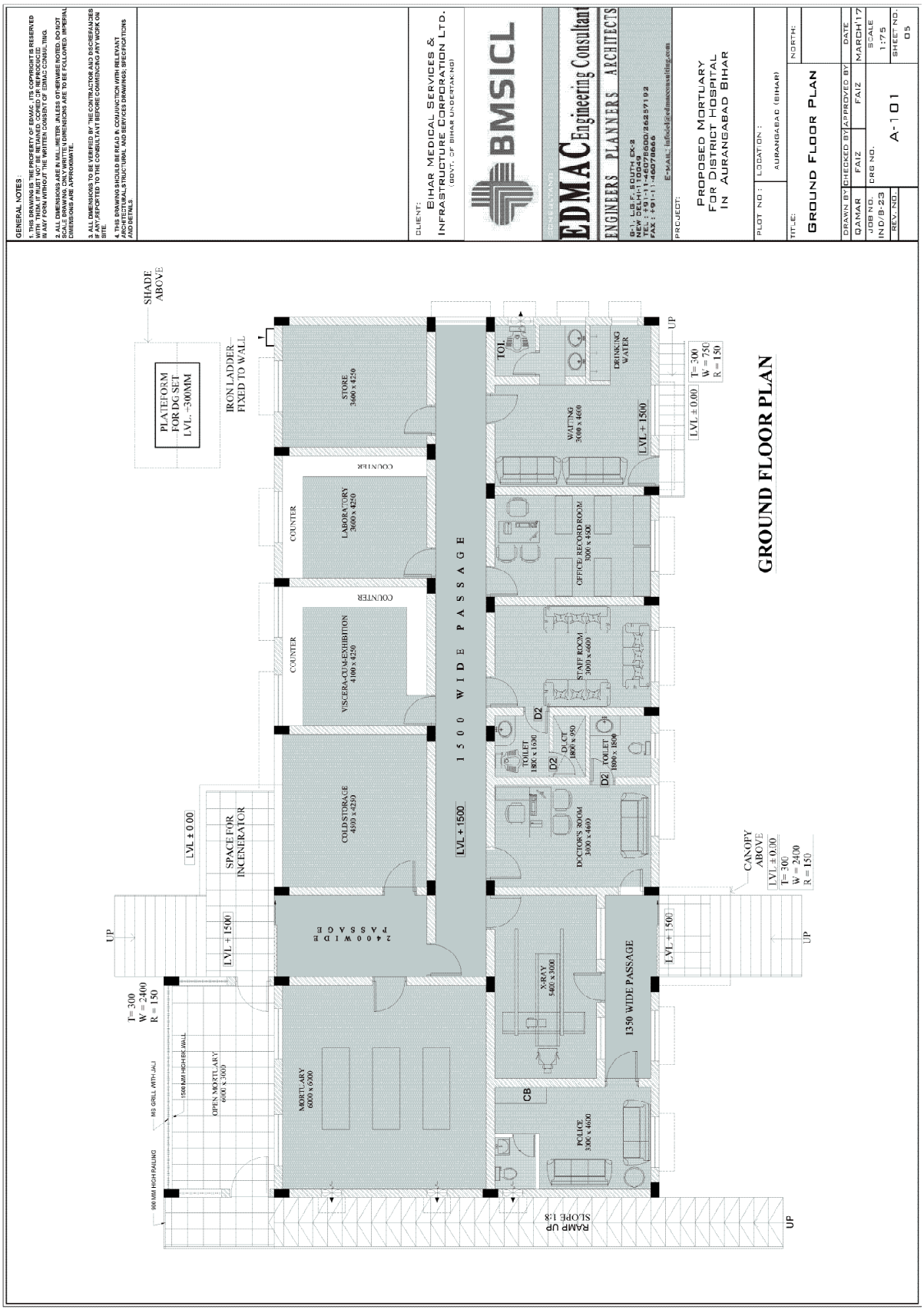
9. Sanctioning of requisite posts in medical side (Even an M.B.B.S. can do autopsy and pathology)

10. Multi tasking by Police in providing guard, trained photographer, family counseling, etc.

11. **Human Right Perspective** CleaCoff in "The Bone Woman" has written that We weren't exhuming bodies and then, say counting them; we listened to them, studied them, knew them…. – both police and doctor should have this ethos.

Amartya sen says in "Elements of a theory of human rights" Page-347: "The understanding that some rights are not fully realized, and may not be fully realizable under present circumstances, does not, in itself, entail anything like the conclusion that these are, therefore, not rights at all. Rather that understanding suggests the need to work towards changing the prevailing circumstances to make the unrealized rights realizable, and ultimately, realized.

Plan of Mortury attached



Establishment of Superintendent of Police Office in New Districts

Micro Mission: 04
(Infrastructure)

1. INTRODUCTION:

State Police Housing Corporations are formulated with a view of constructing all the buildings pertaining to Police Department. One among them is the construction of **"District Police Office"**. Even though the requirement of a District Police Office is more or less same in all states, it is observed that uniform type design is not adopted everywhere. Hence a sub -group was formed under MM: 04 on 04.07.2014 to submit the report along with financial implication to establish Superintendent of Police office in new Districts.

2. OVERVIEW

2.1 Project title

Establishment of Superintendent of Police office in new districts.

2.2 Vision

To create proper infrastructure like District Police Office complex and Armed Reserve Administrative building whenever new District is announced by the Government. Proper infrastructure with required facilities for the officers, staff and men provide conducive atmosphere and better working condition.

2.3 Project Objective

To finalize the type design building of District Police Office, considering the current needs of space and other requirements for continual improvements in facilities.

3. THE PROJECT

3.1 Purpose of the Project:

To construct a centralised District Police Office accommodating all the units under the control of the Superintendent of Police.

3.2 Sponsor

Ministry of Home Affairs / State Government

3.3 Financial Benefits

Having different officers at different places will incur more finance either in construction or hiring on rent. Hence the centralised District Police Office with all branches within one complex will be economical and highly functional.

4. SITUATIONAL ASSESSMENT AND PROBLEM STATEMENT

District Police Office lack required space and infrastructure. There is no standard design for the District Police Office accommodating all units working under it. This is big impediment in the effective functioning of Superintendent of Police of the District.

5. CRITICAL ASSUMPTIONS AND CONSTRAINTS

Data from different District Police Offices in different States were collected and arrived at this proposal for construction of new District Police Office.

6. IMPLEMENTATION STRATEGY

6.1 Implementation Strategy

- The type design enclosed may be circulated to all states and depending on the nature of funding, States can implement this design while constructing new District Police Offices / City Police Offices.

6.2 Deliverables

Uniform type design for District Police Office.

6.3 Stakeholders

Police Department

6.4 Related Projects

Other Police buildings

6.5 Work Plan

As explained in 4.

Preamble:

The objective of this study is to arrive at a uniform type design for the construction of Superintendent of Police office in new Districts. This is because; at present there is no uniformity in the construction of District Police Office in Districts, States and in the Country. In some places the District Police Offices are constructed very magnificently in large areas while in some places it is constructed in small size and not fitting to the stature of the District Superintendent of Police. Further there are no sufficient places to accommodate all branches of offices. The District Police offices now constructed have no adequate security arrangements, no media briefing room, no conference room to conduct regular meetings and similar lack of facilities.

From the above, it is pertinent that it is required to have a standard type design building for Superintendent of Police in new Districts.

Formation and Recommendation of the Committee:

For achieving the objective of evaluation of a uniform type design for the construction of Superintendent of Police office in new Districts, it was found essential to form a committee.

Accordingly a committee has been formed with Shri Md. Shakeel Akther IPS, ADGP / Chairman and Managing Director, TNPHC, Shri Ramashastry IPS, Inspector General of Police, NIA, Shri Prem Virsingh IPS, Superintendent of Police, Gujarat and Shri Sultan Ahmad, Superintendent of Police, BPR&D. The committee had series of meetings and finalized the type design building as follows.

1. At least 2.5 acres of land is required for the construction of District Police Office.

2. The building with an approximate area of 50,000 + sq. ft with stilt + 3 floors is required to accommodate all the branches of offices.

3. Building to accommodate Superintendent of Police chamber (620 sq.ft. approx), camp assistant / PA (365 sq.ft. approx), Conference room (792 sq.ft. approx), media briefing room (430 sq.ft. approx), Pantry service (1180 sq.ft. approx) and visitors hall (365 sq.ft. approx).

4. Separate office for Special Branch CID (2255 sq.ft. approx), Dy. Superintendent of Police (168 sq.ft. approx) and other officers, room for ministerial staff of Superintendent of Police (2150 sq.ft. approx).

5. Office room for ADSP (168 sq.ft. approx) and their staff (257 sq.ft. approx).

6. Office room for DSP of various branches (168 sq.ft. approx).

7. Apart from this there will be a store room (1160 sq.ft. approx) for storing the uniform articles, reception hall (430 sq.ft. approx), media briefing room(430 sq.ft. approx), photo section (405 sq.ft. approx), library (430 sq.ft. approx), canteen facilities (450 sq.ft. approx), communication room (421

sq.ft. approx) and room for CCTNS project (855 sq.ft. approx), Finger Print Bureau (430 sq.ft. approx), control room (430 sq.ft. approx), counseling room (396 sq.ft. approx), crèche (655 sq.ft. approx), Service and maintenance unit (881 sq.ft. approx), tapal dispatch (430 sq.ft. approx), training hall (689 sq.ft. approx), Multipurpose hall (881 sq.ft. approx), public holding area (1295 sq.ft. approx), Gym (860 sq.ft. approx) and other facilities.

Security Features

For security purpose, security perimeter is required around the boundary. The entry and exist system should be provided with proper sentry room with reception area and intercom facilities. For office staff a separate entry with bio metric entry system should be provided. CCTV should be installed at important places. Boom barrier should be provided at entry point to regulate vehicles movement. Morcha should be installed at roof top and near the main gate.

1. The approximate cost of construction of District Police Office including all development works, payment to other Department, lift, Genset, etc., based on Tamil Nadu PWD Plinth area rate	₹ 13.52 crores
2. The approximate cost of construction of District Police Office including all development works, payment to other Department, lift, Genset, etc., based on CPWD Plinth area rate	₹ 24.05 crores

Tentative cost details

Conclusion

One of the members Shri Ramashastry has suggested that a guest house should be included in the District Police Office area campus. However, considering the security matter and availability of circuit house / Police officers guest house in all Districts, inclusion of a guest house inside the District Police Office campus was not considered.

Further it was suggested that a new District Police Office should be accommodated with District Armed Reserve office in 6 acres of land having administrative building, parade ground, playground and other connected services.

The proposal is submitted for the approval of the Government.

Annexure-I

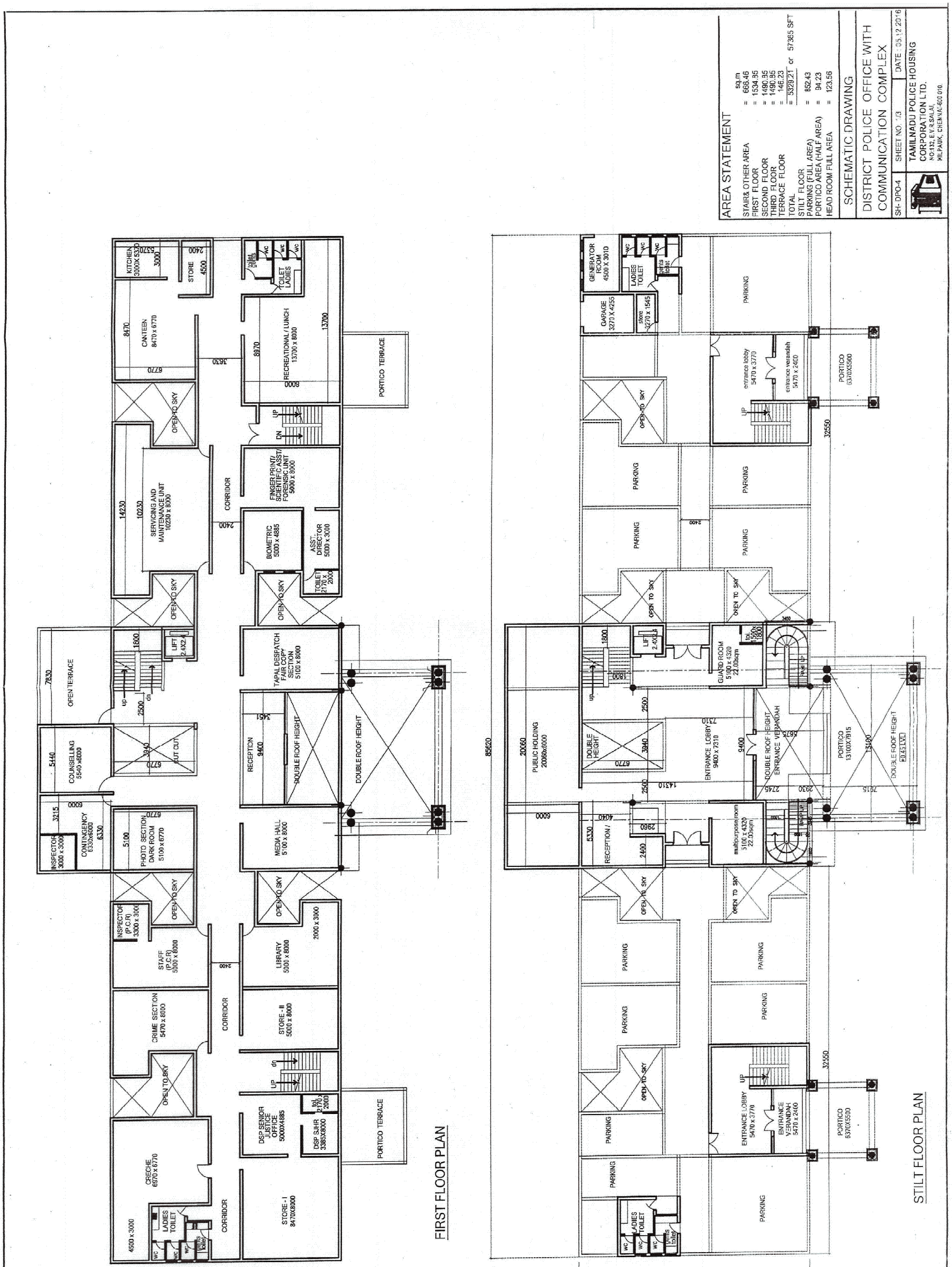
Suggestive Planning Notes for SP Office by PSO (Building) BPR&D, New Delhi

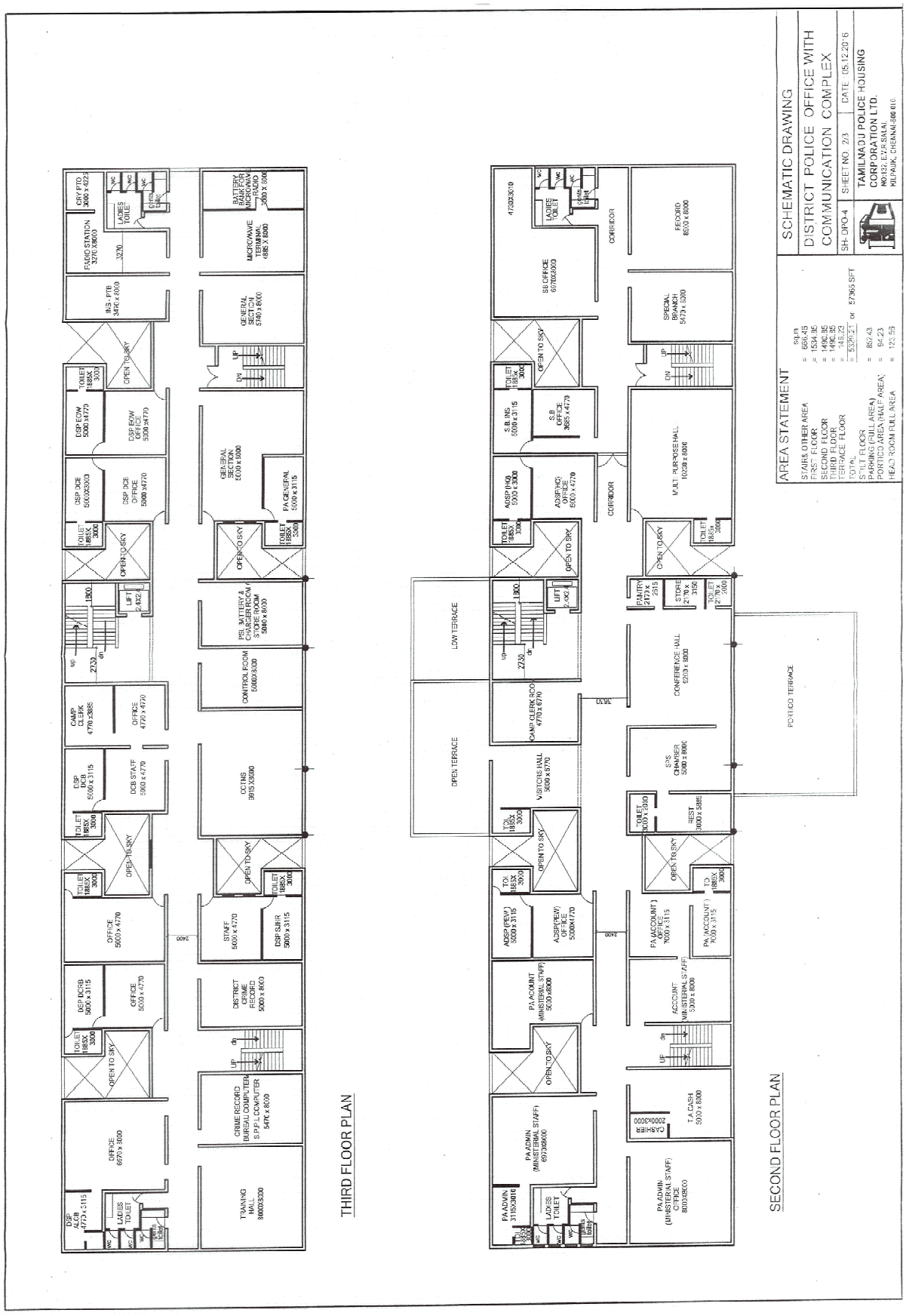
1. The building of SP Office shall be planned with various rooms on Ground Floor and upper floors.
2. The parking may be provided in parking lots or along the boundary wall as per the site planning and availability of the land.
3. While planning the building, the cut outs/internal courtyards provided for light and ventilation of the habitable rooms shall be of regular shape so that the rooms are also in regular shape without any wastage of Area. This shall enable for proper furniture layout in the rooms.
4. The attached toilet shall be provided with SP room only.
5. Efforts shall be made to plan toilets above the toilets for ease of construction and laying the service pipe lines.
6. The shaft of toilets shall be approachable on Ground Floor for maintenance purpose.
7. All rooms shall be planned with direct entry instead of indirect approach until otherwise required.
8. The stores shall be provided towards the rear of the building on less important location with easy access.

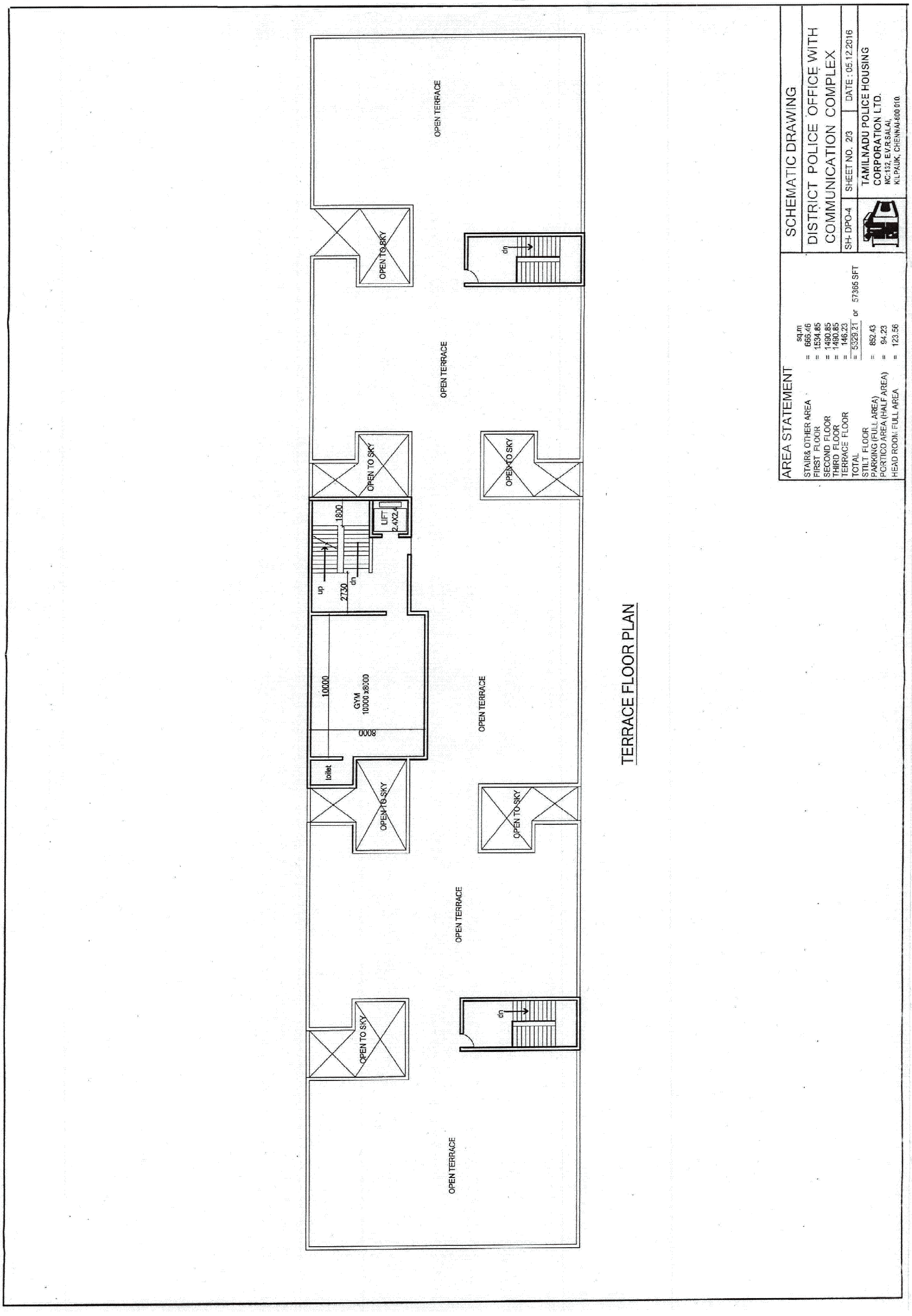

DISTRICT POLICE OFFICE THANJAVUR


DISTRICT POLICE OFFICE MADURAI
காவல் கண்காணிப்பாளர் அலுவலகம்
மதுரை மாவட்டம்


DPO - CUDDALORE
DISTRICT POLICE OFFICE


AREA STATEMENT
SCHEMATIC DRAWING
DISTRICT POLICE OFFICE WITH COMMUNICATION COMPLEX
TAMILNADU POLICE HOUSING CORPORATION LTD.
FIRST FLOOR PLAN
STILT FLOOR PLAN


SCHEMATIC DRAWING
DISTRICT POLICE OFFICE WITH COMMUNICATION COMPLEX
SH-DPO-4
SHEET NO. 2/3
DATE 05.12.2016
TAMILNADU POLICE HOUSING CORPORATION LTD.
AREA STATEMENT
STAIRS OTHER AREA = 660.45 sqm
FIRST FLOOR = 1534.85
SECOND FLOOR = 1496.85
THIRD FLOOR = 1496.85
TERRACE FLOOR = 1415.22
TOTAL = 5393.27 or 57965 SFT
STILT FLOOR
PARKING (FULL AREA) = 862.43
PORTICO AREA (HALF AREA) = 94.23
HEAD ROOM FULL AREA = 123.53
THIRD FLOOR PLAN
SECOND FLOOR PLAN


SCHEMATIC DRAWING
DISTRICT POLICE OFFICE WITH COMMUNICATION COMPLEX
SH- DPO-4
SHEET NO. 2/3
DATE : 05.12.2016
TAMILNADU POLICE HOUSING CORPORATION LTD.
AREA STATEMENT
STAIR& OTHER AREA = 666.46
FIRST FLOOR = 1534.85
SECOND FLOOR = 1490.85
THIRD FLOOR = 1490.85
TERRACE FLOOR = 146.23
TOTAL = 5329.21 or 57365 SFT
STILT FLOOR
PARKING (FULL AREA) = 852.43
PORTICO AREA (HALF AREA) = 94.23
HEAD ROOM FULL AREA = 123.56
TERRACE FLOOR PLAN
OPEN TERRACE
OPEN TO SKY
GYM
10000 x8000
toilet
LIFT
up
dn

Effective Police Custody Management

Micro Mission: 05
(New Process - Process Engineering)

EFFECTIVE POLICE CUSTODY MANAGEMENT

1. INTRODUCTION/BACKGROUND

1.1. One of the most vital duties of the Police is to prevent and investigate crime. During the investigation of an offence, the police may have to arrest the persons who are alleged to have committed the offence or against whom there are reasonable grounds of suspicion. The word arrest has been derived from the French Word 'ARRETER' which means taking into custody to answer criminal charge or for prevention of crime.

1.2. During Arrest, following three ingredient should exist

(i) Intention to arrest under authority.
(ii) Detention in legal manner, and that
(iii) The arrested person understand his arrest.

1.3. Chapter V of the Criminal Proceeding Code, 1973 inter-alia deals with the power to arrest and the procedure to be followed by police officer.

- Sec 41 Cr.PC empower any police officer to arrest a person without any order or a warrant from a Magistrate.
- The police also have power under Sec 42 Cr. PC to arrest a person who in the presence of a police officer, has committed or has been accused of committing a non-cognizable offence, refuses, on demand of such officers, to give his name and residence or who gives a name or residence which such officer has reason to believe to be false.
- Section 46 Cr.PC prescribes how the arrest is to be made. Section 46 further empower the police to use all means necessary to effect the arrest if the person to be arrested resists. However, sub section (3) of Section 46 imposes a limit on the power to police to use force against a person for arresting him.
- Section 49 of the Cr.PC imposes another restriction on the power of the police to handle the arrested person. It states that the police are not permitted to use more restrain than is necessary to prevent the escape of the arrested person.
- Section 56 Cr.PC required that a police officer making an arrest without warrant shall without unnecessary delay take or send the person arrested before a Magistrate having jurisdiction in the Case or before the office-in-charge of a police station.
- As per the provision of sec 57 Cr.PC no police officers shall detain in custody a person arrested without warrant for a longer period than under all the circumstance of the case is reasonable, and such period shall not, in the absence of a special order of a Magistrate under section 167, exceed twenty four hours exclusive of the time necessary for the journey from the place of arrest to the Magistrate's court.
- Section 167 Cr.PC prescribes the proceeding when investigation cannot be completed in twenty-four hours. In such cases, the police officers making the investigation shall forthwith transmit the accused to the nearest Judicial Magistrate. The Magistrate may authorize detention of the accused person in custody of the police for a maximum period of 15 days.
- As per the provisions of Section 167(2) an accused may be remanded to magisterial custody beyond fifteen days but not more than ninety days, if the offence is punishable with death, imprisonment for life or imprisonment for a term of not less than 10 years and sixty

days, where the investigation relates to any other offence.

The protection to the arrestee are also provided under Article 21 and 22(1) of the Indian Constitution. In Prem Shankar Shukla Vs Delhi Administration, AIR 1980 SC 1535, the Supreme Court has held that hand cuffing is Prima Facie, inhuman, unreasonable, arbitrary and as such repugnant to Article 21 of the constitution of India.

1.5 Detaining a person in custody is a direct and effective restraint on one's personal liberty and therefore the law allows the detention of any person only on valid and reasonable grounds and that too for the minimum required period. Arrest and detention and Police lock up of a person can cause incalculable harm to the reputation and self esteem of a person. No arrest should be made without a reasonable ground after carrying out some investigation enquiry and ascertaining the genuineness and bonafides of a complaint and a reasonable belief both as to the persons complicity and the need to effect the arrest.

1.6 The Supreme Court, in the Case of D.K.Basu took a serious view of violations of the right to life and personal liberty and laid few requirements to be followed by the police and other authorities while arresting a person and detaining him in custody. The Apex Court in this case observed "Custodial Violence, including torture and death in the lock ups, strikes a blow at the Rule of Law, which demands that the Powers of the executive should not only be derived from Law but also that the same should be limited to Law. Custodial Violence is matter of concern. It is aggravated by the fact that it is committed by persons, who are supposed to be the Protectors of the Citizen. It is committed under the shield of uniform and authority in the four walls of a Police Station or lock up, the victim being totally helpless."

1.7 The Apex Court further observed in the case of D.K. Basu on the issue of police torture of the arrested persons:

"Police is no doubt under a legal duty and has legitimate right to arrest a criminal and to interrogate him during the investigation of an offence but it must be remembered that the law does not permit use of third degree methods or torture of accused in custody during interrogation and investigation with a view to solve the crime. End cannot justify the means. The interrogation and investigation into a crime should be in true sense, purposeful to make the investigation effective. By torturing a person and using third degree methods, the police would be accomplishing behind the closed doors what the demand of our legal order forbid. No society can permit it".

1.8 As per NCRB's publication, the statistics on custodial deaths are shown in Table 1.

Table 1 : Number of Custodial Death

Year	Number of Custodial Deaths		
	By Suicide	Other Reason	Total
2008	38	77	115
2009	21	77	98
2010	18	59	77
2011	33	87	120
2012	24	86	110
2013	34	96	130
2014	27	66	93
2015	34	63	97

The apprehension of violence in custody has increased manifold in recent years in a hysteric atmosphere created in the name of containing terrorism and extremism the police have acquired unfettered power with the passage of various draconian laws like TADA, POTA etc passed by various State Governments.

1.9 The major lapses found on the part of the police stations can be summarized below:

- The police continue to detain people without maintaining any record and torture them during such illegal detentions.
- The right of the arrestees to be produced before a magistrate within 24 hours of the arrest also continues to be grossly violated.
- The lock-up rooms in most of the police stations are devoid of basic minimum facilities required for a human being like proper ventilation, fan, light, bedding, toilet, mosquito net or coil which make detention itself a torture.
- The allocation for expenses on foods for detainees/arrestees is ridiculously low.
- Government does not provide sufficient funds to the police stations for meeting minimum expenses like printing of registers and formats.
- Hygiene of the lock-ups & toilets are neglected in the police station.
- Deployment of regular security guards to keep watch on the activities of the detainees/ arrestees becomes difficult, which occasionally gives them an opportunity to escape from custody.
- The Police Personal carrying out the arrest and handling the integration of the arrestee do not bear accurate, visible and clear identification and name tags with their designation.
- The time, place of arrest and venue of custody of an arrestee are not notified by the police.
- The arrestees are not subjected to medical examination every 48 hours during his detention in custody by a trained doctor.
- The Memo of arrest at the time to arrest are not prepared on the spot and not attested by any witness, who either be a member of family of the arrestee or respectable person of the locality from where the arrest is made. Needless to mention that the Memo of arrest shall also be counter signed by the arrestee and shall contain the time and date of arrest.
- The person arrested are not made aware of his right to have someone informed of his arrest of detention as soon as he is put under arrest or is detained.
- The arrestees are not permitted to meet his lawyer during interrogation though not throughout the interrogation.
- The police stations invariably do not provide timely information to the police control room at district level or state level Hqrs. regarding the arrest and the place of custody of the arrestee within twelve hours of effecting the arrest.
- Copies of all the documents including the memo of arrest are not sent to the Jurisdictional Magistrate for his record.

1.10 Custody and arrest are not synonymous. In all arrests, there is custody but in all custody there may not be arrest. Generally, all arrests are resisted, either the accused may try to run away or forcibly resist the arrest. Perhaps, no scientific study has been made so far to suggest improvement in the Police Custody Management. This needs Central Custody and Interrogation Centers in Districts level / State Level.

2. OVERVIEW

2.1. Project Title

"Effective Police Custody Management"

2.2 Vision

Advantages of the proposed system are:

1. Cases of human rights violations minimized
2. Regular medical check-ups of the suspects would give an early alarm about their deteriorating health
3. It could deter use of third degree methods
4. Lesser chances of escape of suspects from custody
5. More transparency ensured by using cameras
6. Would help in providing legal-aid and information about other legal rights.

2.3 Objectives

The objectives of this project are to:

1. Establish an efficient central custody and interrogation cell
2. Prevent custodial deaths
3. Prevent custodial violence and other human rights violations
4. Provide safe, secure, hygienic and efficient custody system
5. Provide centralized custody center so as to free the police stations from the responsibility of looking after the suspects in police custody
6. Provide uniformity of standards across the country
7. Provide an efficient and functional interrogation center

3. PROJECT DESIGN

The Central Custody and Interrogation Center (CCIC) of the project will have the following components : -

1. The proposed manual along with suggested layout is shown at Annexure-2.
2. The proposed center has been designed to cater for about 10 to 12 city police stations of the capital and has provision for lock-ups, solitary cells, and separate lock-up for women, medical room, change room, rooms for officer in charge, other staff and guards.
3. The proposed center has been designed to cater for about 76 inmates. The center will have CCTV cameras to keep watch over the suspects, a control room and interrogation rooms. Separate rooms have been provided for visitors and defense lawyers. An electronic/ electric board can be displayed on the outer wall of the building in compliance with (amended) sec 41 of the Cr PC.
4. The proposed design of a police station lock-up is shown at **Annexure 3**.
5. It is proposed that in the initial phase a Central Custody and Interrogation Center (CCIC) is established in the capital city of the state concerned and commissionerate headquarters. It will be rolled down to district headquarters in the second phase.

4. PROJECT DETAILS

1. **The Central Custody & Interrogation Centre** (a) The Central Custody & Interrogation Centre, located at the State

capital shall accommodate all arrestees arrested by the city/urban police stations of the district of the state/ commissionerate headquarters and other arrestees of the nearby police stations/ districts of the following classes held in custody whether under remand or otherwise. (b) (i) All female arrestees, (ii) All arrestees classed as Division I, (iii) All arrestees of dangerous character, (iv) All arrestees connected with terrorist/ Maoist activities (v) All arrestees charged under section 377 IPC and (v) All arrestees suffering from minor illness not requiring treatment in a regular hospital.

2. Display of arrestees' name — It is mandatory to display the names of all persons in police custody. A board, preferably LED/LCD display, containing names of the prisoners, date of arrest, legal sections of arrest etc. shall be prominently displayed at the entrance. Provisions and notices regarding rights of the prisoners etc shall be displayed. The police has to provide the protective care to every person who is under police custody.

3. Design and Size of CCIC – (a) A suggested design of the CCIC is enclosed.

i. Space of about 25 sq. ft. should be provided for each arrestee.

ii. As a guideline a CCIC should have a height of not less than 14 ft. It should have two ventilators each of 2' x 1 ½' size at the top. The electrical wiring should be concealed. The lights should be fitted at the top in the ceiling and should be covered. The fans, if desired, should be provided outside the CCIC in such a manner that the air is directed inside. There should be no hooks or other things that can be used for hanging. The door and ventilations should have wire mesh on the inside. CCTV cameras should be so placed inside the cell as to cover the entire cell.

iii. Separate accommodation/cells shall be provided for Division I and Division II prisoners.

iv. The toilet should be outside the CCIC and should have a height of not less than 14 ft. It should have a ventilator at top with wire mesh. It should have a light fitted on top and covered.

v. Maximum number of prisoners to be confined in each cell will be written at a conspicuous place preferably above the door of each cell.

(b) Earthen pitchers/ plastic bottles/ buckets & mugs/ disposable glasses can be provided inside the CCIC for water. Water can be placed outside the CCIC and should be provided by the constable on duty if the prisoners demand. The police has to provide the protective care to the person under police custody.

(c) A suggestive design of police station lock-up is shown at Annexure 4.

4. Classification of Arrestees — The classification of arrestees shall be made by the SP/ DCP or department responsible for the arrestees. He shall endorse on the Custody Centre Pass the words 'Division I' or 'Division II'. In the absence of any endorsement, the arrestees shall be treated as Division II.

5. Admission of Arrestees – (a) Arrestees shall be accepted in the Custody Centre only on the following conditions, namely:-

(i) The detention is authorized by the competent authority

(ii) In emergency situations, if it is authorized by a gazetted officer

(b) Before arrestees are taken over, they shall be produced before the CCIC in-charge (if they are Division I arrestees), or before the CCIC 2 i/c (if they are Division II arrestees) on duty. The receiving officer shall satisfy himself that

(i) the detention is authorized and lawful.

(ii) the particulars of the arrestee are correct.

(iii) the physical state of the arrestee is good.

(iv) if the arrestee has anything to report, it should be recorded and suitable action should be taken.

(v) The arrestees shall be searched; their belongings should be recorded and kept safely.

(vi) Female arrestees shall be searched only by the Wardress.

(c) Juvenile arrestees shall not be received in the CCIC, but children may accompany their mothers.

(d) Arrestees charged under section 377 of the IPC, shall be segregated. Officer-in-charge of police-stations forwarding such persons to the CCIC shall endorse the CCIC pass in red ink. "Accused charged under section 377 of the IPC; please segregate." Similarly, Maoist/ terrorist arrestees shall also be segregated and a similar entry will be made in their CCIC pass.

6. DRESS AND BLANKETS FOR THE ARRESTEES

(a) Blankets that could not be torn easily and are strong enough and stitched on edges should only be used.

(b) No other items except the blankets (like bed sheets etc.) shall be provided.

(c) Additional blankets shall be provided based on local weather conditions.

(d) A change room, separate for women and men should be provided in the CCIC

7. SURVEILLANCE

(a) Each cell should be provided with two CCTV cameras.

(b) CCTV cameras should also be provided in following places:-

(i) Entry gate of the CCIC

(ii) Interrogation room

(iii) Varandah

(iv) Medical/ Doctor's room

(v) Camera should be fixed beyond the reach of arrestee.

(c) Entire prisoner's area including the space up to the door of the toilet should be covered under CCTV camera.

(d) A control room should be established in the CCIC. It should be manned by minimum 2 persons round the clock. It should get the visuals of all the CCTVs.

(e) An alarm should be placed in the control room.

8. Interrogation – (a) Well equipped Interrogation Rooms (IRs) are essential for proper interrogation of the arrestees. Therefore, CCIC should have the followings:-

(i) CCTV camera in all Interrogation Rooms

(ii) Audio - visual recording facility in all IR

(iii) Photography & videography facilities
(iv) Fingerprint recording facility
(v) Lie detector machine with trained operator

(b) IRs should be so located that the arrestees moving out of their cells to the IR should not get an opportunity to escape.

(c) IRs should have its own register. The names of arrestees and interrogation officers, timing etc should be recorded.

(d) After interrogation, preferably the prisoner should be medically examined. His complaints should be recorded by the CCIC in-charge.

9. Legal Aid - (a) The arrestees should be allowed to seek legal aid/ meet their advocates.

(b) The advocate must obtain permission and get a pass from the CCIC in-charge.

(c) The details of advocate's entry and exit should be recorded in the CCIC register.

(d) A room should be specifically provided for this purpose and a CCTV camera should be provided in the room.

10. Escort of Arrestees to Court — When arrestees are sent to courts from the CCIC, they shall invariably be carried in prison vans. The capacity of each van shall be written prominently on its body.

The SP/ DCP or the Reserve Inspector shall depute suitable escorts with the prison van whose duty shall be to put the arrestees in the van to take them to the courts.

The arrestees lodged in the CCIC from the police station may also be taken to court duly escorted by the police station concerned. In that case the Police Officer deputed from the division with the challaan shall sit in the prison van and shall be responsible for the arrestees in transit from the CCIC and handing them over to the Court Lock-up.

For Naxalites and other arrestees requiring special security measures, procedures based on local SOP should be followed.

11. Maximum period of detention — No arrestee shall be kept in the CCIC for a period exceeding 24 hours at a time, including Sunday and holidays, except on the authority of a remand order to police custody. The officer-in-charge of the police station concerned shall be informed whenever a period of 23 hours has been exceeded. It will however be the responsibility of the officer responsible for the arrest to adhere to the time limits.

12. Arrestees' diet – (a) The CCIC in-charge shall be responsible for the feeding arrangements for arrestees in the CCIC; he shall supervise the work of the food contractor and see that all meals are supplied correctly. He shall check the bills of the contactor and occasionally examine the food before and after cooking, to see that a uniform standard of quality is maintained.

(b) Three meals shall generally be supplied to the prisoners at the CCIC. The meals timings, place for meals, the procedure to be followed, menu etc should be decided by the SP/ DCP.

13. Release of arrestees' – A strict procedure for release of the arrestees' should be followed. (b) Proper record of release of arrestees should be maintained.

14. Interviews and communications — (a) No interview or communication with a arrestees' shall be allowed in the CCIC. Any person desirous of interviewing a arrestees' must apply to the Dy SP or Assistant Commissioner of Police of the division or department concerned for the same who will if he deems fit, issue an authority requiring the arrestees to be made over to a named officer. This officer shall produce the said authority to the CCIC in-charge, and remove the arrestees. Timing of exit for such purpose and re- entry shall be noted.

(b) An arrestee who wishes to communicate with his legal adviser or with his relatives or friends shall be permitted to write to them.

(c) It is strictly forbidden for any member of the CCIC staff to convey any message or letter on behalf of any prisoner to or from his relatives or friends wither inside or outside the CCIC. Should any prisoner or outsider approach a member of the staff with this object in view, the DySP in-charge shall immediately be informed, and he shall report the matter to the SP/ DCP.

15. Visitors — No outsider, relative or friend of any arrestees and no Police Officer shall be permitted inside the CCIC without proper authority, duly endorsed by the Dy. SP or Assistant Commissioners of police or, in his absence, by the Inspector on duty at headquarters, or by the officer-in-charge, Control. A visitor's register in the prescribed form shall be kept by the Police Officer on duty in which particulars of all visitors other than escort shall be entered.

16. Duties of the Medical Officer- (a) The SP/DCP should lay down the instructions regarding the medical examination of arrestees which shall be followed by the doctor. He shall follow the instructions of the CCIC in –charge.

(b) The doctor shall also examine the sanitary aspects and the food of the arrestees.

17. Duties of the Officer in-charge of the CCIC — (a) An officer, preferably a DySP shall be in charge of the CCIC, and shall be responsible for general control over its staff, following the laid down procedures and general maintenance of the CCIC.

(b) He shall be responsible for the safety of the CCIC and safe custody of arrestees . He shall inspect all parts of each lock up daily. He shall maintain all records properly.

18. Duties of the 2 I/C

(a) He shall act as the deputy to the CCIC in–charge and assist him in his duties.

(b) His specific duties should be laid down by the SP/DCP.

19. Duties of constables

(a) They will be responsible for the guard duty, escorting the arrestees when they move out of their cells and general safety of the CCIC.

(b) Their duties and other details will be laid down by the SP/DCP.

20. Duties of the Wardress- (a) She shall be in-charge of the female arrestees and shall be responsible for the safety and following other procedures related to female arrestees.

21. Inspection by Police Surgeon - The Police Surgeon, State Capital City, shall visit the CCIC at least once a month.

22. Diary — (a) A Diary shall be maintained in which shall be noted matters of interest (except the admittance or release of arrestee which shall be noted in a separate register), such as complaints by arrestees, the times of duty of the various men, the arrival and departure of the Doctor or the CCIC in charge or other officers etc. It must always be clear from the diary as to who was the senior officer present in the Lock-up at a particular time.

(b) The CCIC in-charge shall, when handing over charge to the officer relieving him make over to him (i) all Government property in his charge and (ii) all personal property of arrestees in his charge. He shall make an entry to this effect in the Diary, and shall also record in it the number of prisoners handed over. The relieving officer shall append his signature below the report of the relieved officer after making any comments he wishes to make regarding discrepancies, etc., if any.

23. Registers and Records- The Registers, etc., maintained in the CCIC are shown in Appendix 2.

5. FINANCIAL IMPLICATIONS

5.1 Building: The proposed centre having four lock-ups, four solitary cells, separate lock-up for women arrestees, change room, medical room, interrogation room and space for staff etc. has an area of 10820 sq. ft..

5.2 CCTV Cameras and Control Room Equipment: About 45 CCTV Cameras each Control Room monitor, Two Audio recorders, central announcement system, alarm etc. are required. .

5.3 Office Equipment: like phone, fax, photocopier, computer, almirah, furniture, fire extinguishers etc.

5.4 Vehicles: One light vehicle, ambulance, water tanker etc

5.5 Medical Room: Equipment and medicines

5.6 Staff for CCIC

Estimated Capital Cost – Rs.2.72 Crores **(Annexure :01)**

Recurring Cost of each CCIC is Rs.32 Lakhs **(Annexure :01)**

The year wise expenditure of this project is shown in Table-2.

Table-2 : Project Scheme Cost

Name of Project		**Effective Custody Management**					
Sl No.	Details of Expenditure	2012-13	2013-14	2014-15	2015-16	2016-17	Total (In crore)
1	Capital	Nil	5.44	5.44	2.72	2.72	16.32
2.	Revenue	0.10	1.06	1.91	1.98	2.33	7.38
	Total	0.10	6.50	7.35	4.70	5.05	23.70

6. HUMAN RESOURCES

Proposed Staff for CCIC

Administrative Staff:

a)	In-charge	:	DSP-1
b)	2 I/C	:	Inspector -1
c)	QM	:	SI- 1
d)	Driver	:	HC-1, Const- 3
e)	Lady Warden	:	SI-1 (I/C), HC-1 (2 I/C)
f)	Tel./ Wireless Oper	:	Const- 3
g)	Writers	:	HC-2
	Total		**: 14 (DSP-1, Insp-1, SI-2, HC-4, Const-6)**

Security Staff:

a)	Outer Security	:	ASI-1, HC-2, Const- 6
b)	Male prisoner cell	:	ASI-1, HC-3, Const- 15 (one guard for each cell, one HC for supervision, 3 shifts of 8 hour)
c)	Male solitary cell	:	HC-3, Const -6 (one HC, 2 Constables in each shift)
d)	Female cell	:	Lady staff of ASI-1, HC-3, Const-3 (one HC, one Constable in each shift)
e)	Control Room	:	HC-3, Const-3 (one HC, one Const in each shift)
f)	Security I/C	:	SI-1
Total			**: 51 (SI-1, ASI-3, HC-14, Const-33)**

Medical Staff:

a)	Doctor	:	1
b)	Compounder	:	1
c)	Nursing Assistant	:	2 (one male, one female)
d)	Total	:	4

Office Staff:

a)	S.O	:	1
b)	UDC	:	1
c)	LDC	:	1
d)	Data Entry Operator	:	1
e)	Peon	:	1
f)	Steno	:	1
	Total		**: 6**

Tradesmen/
Multi Tasking Staff:

a)	Sweeper	:	3 (two male, one female)
	Total Staff		**: 78**

Staff can be arranged by the State Government by sparing the official from Police Stations.

7. PROJECT IMPLEMENTATION AND MONITORING

The administrative structure for implementing the project as under:-

1. IG/Director, NPM will be the Nodal Officer from Central Govt.
2. DG/ADG rank officer will be the Nodal Officer from State Govt./UT
3. Dy. Commissioner of Police/SP will be Nodal Officers of concerned districts.
4. Nodal Officer of the project.
5. Concerned Micro Mission members.
   MHA ⟶ DG, BPR&D (NPM Dte ⟶ to concerned DsGP/CP of States/UTs in Society mode.
6. Field Visits on need basis
7. Workshop and impact analysis
8. Mid-course correction
9. Audit by Chartered Accountant as recommended by GOI, Society mode for transfer of funds.

8. PROJECT PERIOD

1. The first phase of the project will be implemented in 5 years in 12th five year Plan (2012-17)
2. For the Ist five years , the Central Government will meet the recurring expenditure and subsequently Central and State Governments/UTs will meet the recurring expenditure in the ratio of 75: 25
3. National level Consultant for the project will be appointed after the project is approved by the Home Ministry.
4. DPR will be got prepared by the expert.
5. Floating of NIT
6. Construction of Model CCIC in one of the state capitals/police commissionerates.
7. Construction of remaining 4 nos. CCIC in selected states/police commissionerates HQs.

Annexure-1

NON-RECURRING EXPENDITURE (CAPITAL)

It is presumed that six (6) Central Custody & Interrogation Centres (CCIC) will be established in 5 years period.

Average one-time cost of building (Central Custody Interrogation Centre) expenditure on construction of a 10820 Sq.ft (1005 Sq.M) building at CPWD rates :

(a) Rs.20,750/- (CPWD rate) x 1005 Sq.M	:	Rs. 2.08 crore
(b) 45 CCTV Cameras @ Rs.5,000/- Control Room Monitor @ 30,000/-, 2 Audio Recorders @ Rs.20,000/- , Central Announcement System, Alarm etc.	:	Rs. 0.12 crore
(c) 3 vehicles (Light vehicle-6 Lakh, Ambulance-13 Lakh, Water Tanker-12 lakh)	:	Rs. 0. 31 crore
(d) Office Equipment (Phone, fax, Photocopier, Computer, Almirah, Furniture etc.	:	Rs. 0.16 crore
(e) Medical Room Equipments	:	Rs. 0.05 crore
Total	:	Rs. 2.72 crore

Annexure-1

(B) RECURRING EXPENDITURE

Diet charges @ Rs.75/- each for 76 Prisoners x 365 days	Rs.75x76x365	Rs.20,80,000
Fuel & Vehicle maintenance etc. @ Rs.96,000 PA for each vehicle (Light vehicle, Ambulance & Water Tanker)	Rs.1,20,000 X 3 vehicle	Rs 3,60,000
Electricity, Water Charges	Rs.20,000/- PMx12	Rs. 2,40,000
Maintenance cost of CCTV Cameras Central Announcement System, Alarms etc.		Rs. 1,20,000
Medicines and maintenance of Medical Equipments etc.		Rs 2,00,000
Other Misc. Contingencies (furnishing, utilities, AMC of electronic gadgets etc.)		Rs. 2,00,000
Total		Rs.32,00,000

(Say Rs. 32.00 Lakh)

Annexure-II

PROPOSED STAFF FOR CCIC

Administrative Staff:

h)	In-charge	:	DSP-1
i)	2 I/C	:	Inspector -1
j)	QM	:	SI- 1
k)	Driver	:	HC-1, Const- 3
l)	Lady Warden	:	SI-1 (I/C), HC-1 (2 I/C)
m)	Tel./ Wireless Oper	:	Const- 3
n)	Writers	:	HC-2
	Total	:	**14 (DSP-1, Insp-1, SI-2, HC-4, Const-6)**

Security Staff:

g)	Outer Security	:	ASI-1, HC-2, Const- 6
h)	Male prisoner cell	:	ASI-1, HC-3, Const- 15 one guard for each cell, one HC for supervision, 3 shifts of 8 hour)
i)	Male solitary cell	:	HC-3, Const -6 (one HC, 2 Constables in each shift)
j)	Female cell	:	Lady staff of ASI-1, HC-3, Const-3 (one HC, one Constable in each shift)
k)	Control Room	:	HC-3, Const-3 (one HC, one Const in each shift)
l)	Security I/C	:	SI-1
	Total	:	**51 (SI-1, ASI-3, HC-14, Const-33)**

Medical Staff:

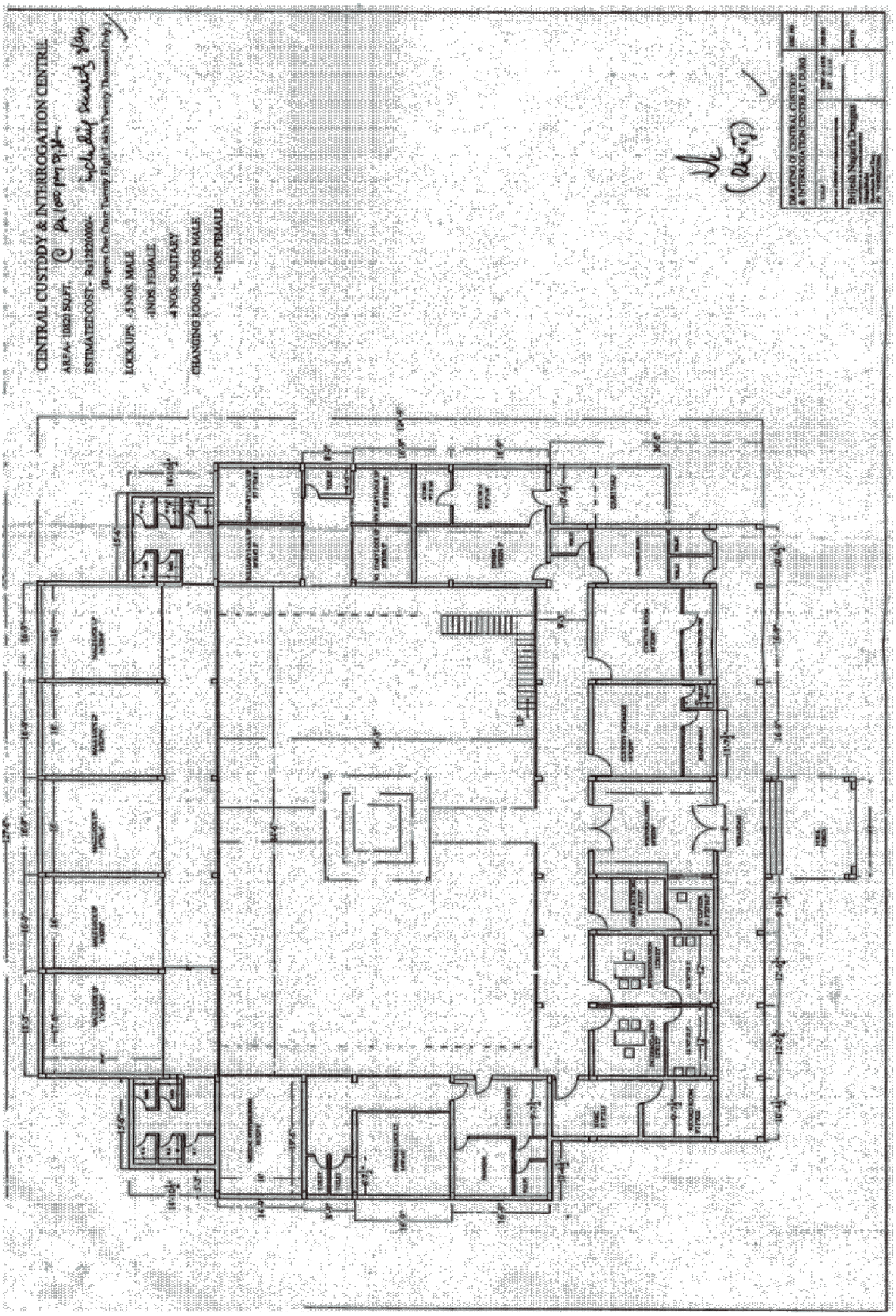
e)	Doctor	:	1
f)	Compounder	:	1
g)	Nursing Assistant	:	2 (one male, one female)
h)	Total	:	4

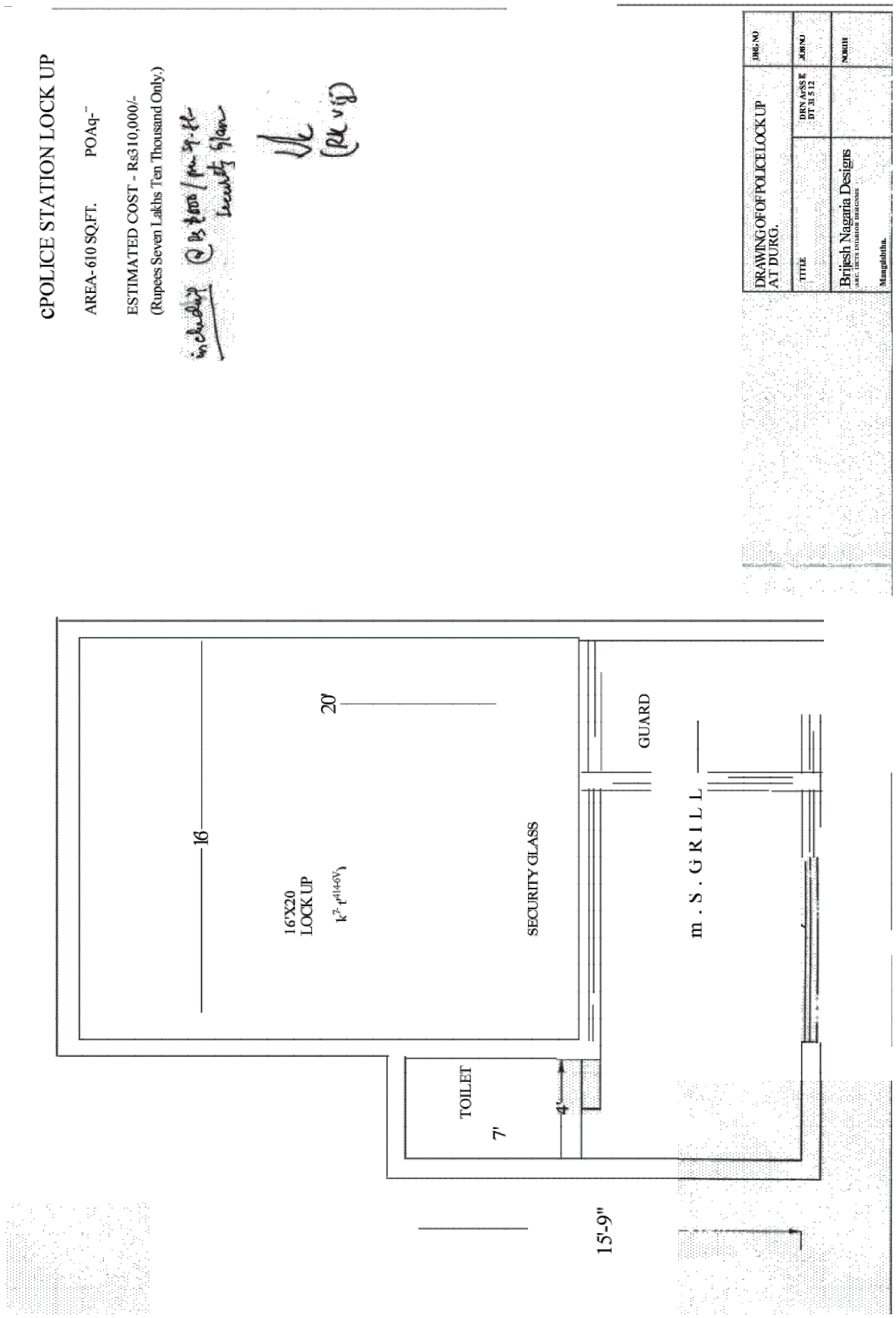
Office Staff:

g)	S.O	:	1
h)	UDC	:	1
i)	LDC	:	1
j)	Data Entry Operator	:	1
k)	Peon	:	1
l)	Steno	:	1
	Total	:	**6**

Tradesmen/
Multi Tasking Staff:

b)	Sweeper	:	3 (two male, one female)
	Total Staff	:	**78**


CENTRAL CUSTODY & INTERROGATION CENTRE
AREA- 1022 SQ.FT.
ESTIMATED COST - Rs.12,20,000/-
(Rupees One Crore Twenty Eight Lakhs Twenty Thousand Only)
LOCK UPS - 5 NOS. MALE
-1NOS. FEMALE
-4 NOS. SOLITARY
CHANGING ROOMS- 1 NOS MALE
- 1NOS FEMALE
DRAWING OF CENTRAL CUSTODY & INTERROGATION CENTRE AT DJBG
British Nagrik Designs


CPOLICE STATION LOCK UP
AREA- 610 SQ.FT. POAq-"
ESTIMATED COST - Rs310,000/-
(Rupees Seven Lakhs Ten Thousand Only.)
DRAWING OF POLICE LOCK UP AT DURG.
Brijesh Nagaria Designs
Mangalbhta.
16
20'
16'X20 LOCK UP
SECURITY GLASS
GUARD
m . S . G R I L L
TOILET
7'
4'
15'-9"

Capacity Building at PS Level in Cyber Crime Investigation Scheme for Implementation

at State Headquarters
and
Police District HQRs/Commissionerates

Micro Mission: 06
(Proactive Policing and Visualizing Future Challenges)

CAPACITY BUILDING AT P.S. LEVEL IN CYBER CRIME INVESTIGATION

- Most of the states are still performing cyber crime investigation with one or very few dedicated cyber crime police stations which may not be able to cope with the phenomenal increase in offences in the cyber world.
- Victims face problems in reaching out to the designated police stations for giving the complaint, though, legally speaking, all the police stations should be able to register cases of cyber crime.
- Cyber Crime cases pose several challenges in their prevention, detection, investigation and successful prosecution.
- According to NCRB reports, there is considerable increase in cyber crime every year, as can be seen below:-.

Increase in Cyber Crime:

(A)	**India:**	**Year**		**No. of Cases**
		2011	…	1791
		2012	…	2876
		2013	…	4356
(B)	**Undivided**	**Year**		**No. of Cases**
	AP :	2011	…	349
		2012	…	429
		2013	…	635

- IT Act Amendment (ITAA) of 2008 brought within its ambit several new Cyber Crimes, to deal effectively with the menace. Police capability to deal with this new challenge is grossly inadequate.

Law enforcement agencies – Present situation:

- There is shortage of trained cyber investigators.
- Very few cyber forensics facilities are available in Forensic Labs.
- There are delays in receiving reports due to huge backlog.
- There is lack of institutional mechanism to obtain help of cyber experts from industry.
- Sustained awareness campaign is required, using all possible means, for promoting cyber safety.
- Standard operating procedures (SOP's) for investigation and detection of cyber crimes, including search and seizure as well as preservation of digital evidence, must be formulated, so that the prosecution case stands the scrutiny of courts.
- Police must also use various sections of the IT Act for effective prevention and detection of Cyber Crimes. Some of the useful provisions are Secs. 69, 69A and Cyber Café Rules.

Cyber issues involving National Security

- Only recently India has announced its National Cyber Security Policy. Indian preparedness to deal with cyber crimes, affecting the nation or to protect its cyber

assets and retaliate in a cyber war needs upgradation.

- States must identity and get their critical systems notified as "protected systems" under section 70A of the IT Act. The Central Govt. must identify and notify the national Nodal Agency for protection of critical information infrastructure.

- Security technologies such as IPV6, SSL, and encryption must be used when dealing with sensitive data.

- All ISPs need to be regulated and should have a well-structured architecture with in-built security features within the hardware and the software. Cooperation from public sector and private organizations is imperative for sharing of information, data mining and retracing the digital forensic footsteps of the cyber criminals.

- Police must take lead in issues connected with cyber crimes in coordination with various agencies, as it is the only agency which can investigate and prosecute a cyber criminal under the IT Act.

As per the ITAA, 2008, Cyber Crimes can be investigated by officers of and above the rank of Inspector of Police. However, the simple and traditional crime investigation also requires a lot of digital support these days. Hence, empowering the entire Police Department in Cyber Crime investigation is a compulsion in the present day world.

Capacity building of investigators in Cyber Crime Investigation requires :-

(1) Training:

(a) State Police should introduce Cyber Crime Investigation Module at the induction level for SIs and DSPs.

(b) Hands-on training also needs to be imparted during attachment to the PS, in Cyber Crime Investigation and Forensics.

(c) The District Police may be assisted by IT Core Teams, comprising of members with keen interest in computer, in their regular technical requirements. Members of the Core Team may be trained at different levels, including TOT.

(2) Equipment:

Necessary equipment must be made available with the State Forensic Science Laboratories and some basic equipment should be available at the State/Dist/Commissionerate Hqrs.

(3) Man Power:

Generally, very few trained and capable officers are available at the State Hqrs. New and active teams need to be developed.

(4) Infrastructure:

Infrastructure needs to be developed at all the State Hqrs and Police District Hqrs / Commissionarate in each state.

2. PRACTICAL PROBLEMS IN INVESTIGATION

(A) Technology related problems:

- **Lack of skilled manpower**: Investigation of cyber crime requires computer skills, mainly for on-site imaging of disks and on-site analysis and tracking of leads / trail.

- **Lack of technical and forensic equipment:** For investigation of cyber crime and securing digital evidence, special software and tools are required.

- **Lack of training:** There is need for officers in handling and application of forensic tools and techniques.

- **Lack of public awareness:** Wide publicity is needed on a sustained level, regarding modus operandi of cyber fraudsters, especially to alert them against dangers involved in responding to tempting e-mails or SMSs.

(B) Internet related problems:

- Investigation related to 'Net to Phone' activities.

- Internet using GPRS facility, where the same IP is given for many cell phones at the same time. (Natting IP / Framed IP)

- Getting information about IP addresses outside the country without Letter Rogatory is not possible. (e.g.: yahoo.com)

(C) Cyber Cafes:

- Required user log is not maintained at cyber cafés.

- C'sP instructing net cafes to instal software, such as CLINK, but unregistered net cafes are not installing it & some net cafes are installing DEEPFREEZE software in the name of system security, which doesn't store any user data.

(D) Banks:

- Many Banks are not following the KYC norms.

- Most banks are not providing information for investigation quickly.

(E) Service Providers:

- Mobile service providers not collecting proper address and identity proof of the customers.

- Identification of bulk push SMS origin is getting very difficult.

3. TYPICAL CYBER CRIMES

- **Online lottery frauds / online job frauds**:

  In this type of offence, innocent people are contacted by the fraudster through both SMS and Email communication stating that they have won huge amount in lottery or got lucrative job offer. Slowly, in the name of customs, anti-terrorism, conversion, NOC, VISA processing, etc., incremental money will be asked to be deposited in bank accounts which are created with fake credentials. Mostly people from foreign origin (like Nigerians) are indulging in such offences. The money lost by the victims runs into crores of rupees. On the same analogy, people are being targetted and cheated in the name of jobs abroad.

- **Online harassment:**

  Of late, there has been an increase in this type of offences and the victims are mostly female. The cyber criminal uses mobiles, emails and social networking sites to harass the victims creating fake identities, posting derogatory, obscene and private content, causing mental agony, and affecting family relations, leading to divorces and break-up of engagements.

- **Online cheating**

  Criminals are using matrimonial sites and other advertisement sites with false content to lure innocent victims, again mostly

female, thereby cheating them for wrongful gain and blackmailing. In another type of offence, profile of divorced women is collected by these habitual offenders who lay a trap and convince them that they will marry them and take undue advantage of their situation through physical exploitation and cheating them financially.

- **Fake online appointments in reputed multi-national companies:**

  For such offences, cyber criminals access the details of people whose resume is posted on different online job portals with their personal details. Using those details, the cyber criminals contact them and offer jobs and collect money in the name of processing fee, etc., for wrongful gain.

- **Phishing frauds:**

  In this line, cyber criminals contact netizens in the guise of popular banks, Income Tax Department, Webmail service providers, such as Gmail, Yahoo Mail, etc., and send messages asking the targets to part with their security credentials such as Username, password, account information, date of birth, etc., so that they can hack into those accounts for wrongful gain.

- **ATM, Debit and Credit card frauds:**

  These are all possible both online, by collecting the PIN numbers, CVV numbers, and offline, by cloning the card.

- **Hacking cases:**

  The term Hacking has broad connotation, but in Cyber parlance it means unauthorized access. There are several ways and means used by these fraudsters to compromise computer security, bank accounts, mail accounts, websites and web servers for defamation, wrongful gain, cheating, stealing of personal data. In hacking cases, targets could be individuals, companies, nations or critical infrastructure.

- **Publishing of obscene content:**

  This is also one type of online harassment, wherein victims share their intimate pictures, videos with people who manage to come very close to them and, at a later time, if some issues arise between them, the victims are targeted by publishing their personal / private videos, on the net.

- **E-Mail spoofing for cheating:**

  Import and export companies operating in the manufacturing and trading segments are receiving spoofed emails purportedly from international customers which are actually fake. The spoofed emails appear to be genuine as the contents are relevant to the business. The emails are sent to customers requesting them to transfer money to bank accounts at different locations across Asia and Europe. Unwittingly, following the instructions based on such email communications, money is being deposited in unknown accounts causing loss of several crores every year.

- **Cyber terrorism:**

  The most deadly and destructive form of cyber crime is "cyber terrorism". The traditional concepts and methods of terrorism have acquired new dimension. In the age of information technology, terrorists have acquired expertise in producing the most deadly combination of weapons and technology, which, if not properly checked without delay, will take a heavy toll on the society. The damage, so occurred, would be

almost irreversible and most catastrophic, in nature. In short, we are facing the worst form of terrorism, popularly known as "Cyber Terrorism". The expression "cyber terrorism" includes an intentional negative and harmful use of the information technology which has both national and international ramifications on the economic, industrial and strategic fronts.

4. CAPACITY BUILDING: PHASE–WISE REQUIREMENTS

1. **Phase-I:** Cyber Crime PS, Digital Investigation Lab and Cyber Academy may be set up at the State Hqrs., in every state.

2. **Phase-II:** All the District Headquarters and Commissionerates should have, at least, one Cyber PS designated to deal with Cyber Crimes.

3. However, all the police personnel, irrespective of their place of posting, may be given hands-on training in CRIME INVESTIGATION USING DIGITAL TECHNOLOGY.

4. The Intranet facility of state police such as E-COPS is being integrated under the CCTNS Project for missing persons, unidentified dead bodies, etc., through programmes such as Child Track. On similar lines, some application to connect the data of all the cyber offenders committing crimes online, irrespective of the place where they stay, needs to be developed.

5. Tools such as Call data analysis and crime mapping should be kept for usage by any investigator online in the main server of the state.

6. There should be a **CYBER BULLETIN** within the CCTNS structure, wherein Police from different states could share the details of online offenders who are apprehended and are wanted. This data may be used by the entire police force in the Country. In the same bulletin, SOPs, Judgments, MOs and other related information may be shared among the investigators, as Cyber Crime is global in nature and criminals may operate from anywhere in the world.

5. DUTIES AND RESPONSIBILITIES OF CYBER CRIME PS AND DIGITAL INVESTIGATION LABS

- Registration of Cyber Crime cases whenever cognizable cyber crime is reported under the Information Technology Act.
- Investigation of cases registered at Cyber Crime PS and also those cyber crimes cases transferred to it from other units.
- Securing witnesses and recording their evidence.
- Collection of Oral, Electronic, Documentary and Circumstantial evidence from the victims / servers / computers, online servers, etc., to connect the offender to the offence.
- Collection of evidence / information from Internet Service Providers, Mobile Service Providers, Banks, Financial Institutions, Payment Gateways, Online commercial websites, Email Service Providers, Social media service providers, etc.
- Preparation of Letter Rogatory, Look Out Circular, Red Corner Notices and Extradition proposals.
- Collection of appropriate certificates U/s. 65 (B) I.E. Act.

- Supervising and monitoring of pending trial cases.
- Presenting evidence during the trial of cases.
- Collection of Intelligence regarding cyber crime.
- Petition enquiries.

Certificate courses for the staff:

Training: The entire staff needs to be trained in Forensic Analysis Certificate Course, Networks Security Certificate Course, Network Tracking Certificate Course, Call Tracking Training and Onsite Analysis Training.

Basic training modules for two weeks are given below. Apart from this, some staff needs to be trained in Android, Java, C, C++, Pearl programming languages, etc., for high end investigation.

Why Digital Investigation Lab in Cyber Crime PS?

During the traditional crime investigation, forensic process comes at a later stage in the course of investigation whereas in case of Cyber Crimes / Cyber related crimes, investigation starts with the forensic process, such as Network Forensics, Onsite Forensics, Disk Forensics and Video Forensics. In these circumstances, there is imminent need for Digital Investigation Lab for identifying the criminal, based on technical clues.

Why Experts?

For activities such as online information gathering, Network Forensics, Mobile tracking, Email tracking, Social media analysis and link analysis, regular police officers do not possess the required expertise. Hence outsourced specialists with the latest technology know-how are handy for complex investigation.

6. TRAINING MODULES

a) LEVEL - I COURSE

Day	1000 to 1130 hrs	1130 to 1145 hrs	1145 to 1315 hrs	1315 to 1415 hrs	1415 to 1530 hrs	1530 to 1545 hrs	1545 to 1645hrs
(I)	Welcome Address, Overview of Cyber Crime (to be handled by Police Officer / Project		Introduction to Computers (to be Manager) handled by instructor/ volunteer)		Computer Networking (to be handled by instructor/ volunteer)		Introduction to Internet browsing {some useful websites may be shown} (to be handled by Project Manager)
(II)	Basics of IP Address & EMAIL (to be handled by instructor/ volunteer)		Creation of Email ID for all the participants (to be handled by instructor / volunteer)		Tracing & Tracking of Email (to be handled by Project Manager)		Hands on Email tracing & tracking
(III)	IT Act- 2008, with amendments (to be handled by Police Officer /Legal Expert)	**TEA BREAK**	IT Act- 2008, with amendments (to be handled by Police Officer / Legal expert)	**LUNCH BREAK**	Credit card frauds & online offences (to be handled by guest lecture (from Bank)	**TEA BREAK**	Credit card frauds & online offences --Contd.
(IV)	Digital evidence: Basics (to be handled by Project Manager / Police Officer)		How to search & seize digital evidence(to be handled by Police Officer / Cyber Forensic Expert)		Basics of Mobile phone investigation (Project Manager)		Joining by all the participants - INDIACYBERCOP yahoo group (email sending / receiving)
(V)	Latest Modus Operandi of Cyber Criminals (Project Manager)		Revision of all the topics covered		Case Studies (Police Officer)		Issue OF certificates, feedback & valediction

a) LEVEL - II COURSE

Day	1000 to 1130 hrs	1130 to 1145 hrs	1145 to 1315hrs	1315 to 1415 hrs	1415 to 1530 hrs	1530 to 1545 hrs	1545 to 1645 hrs
(I)	Welcome Address: Overview of Cyber Crime (to be handled by Police Officer / Project Manager)	**TEA BREAK**	Cyber security: Initiative of CERT, NTRO (to be handled by Project Manager)	**LUNCH BREAK**	Computer Networking (to be handled by instructor / volunteer)	**TEA BREAK**	Introduction to virtual and cloud computing (to be handled by Project Manager)
(II)	Investigating Internet Crimes (to be handled by IO, Cyber Crimes)		Investigating Internet Crimes (to be handled by IO, Cyber Crimes)		IPR issues in Cyber Space (Legal Expert)		Dealing with offences committed / traced outside India (MLAT & LR Process) with sample cases (Police Officer / Project Manager)
(III)	Important provisions under IT ACT 2008 (to be handled by Legal Expert)		Important provisions under IT ACT 2008 (to be handled by Legal Expert)		Cyber Terrorism (to be handled by Police Officer / Project Manager)		White Collar Crimes (Lecturer from Banking industry / Police Officer)
(IV)	Study of Computer forensics guidelines (US-DOJ, US- Secret Service, etc.)		Volatile Data Forensics using LIVE Forensic tools (to be handled by Forensic Expert / Project Manager		CDR Analysis using software (to be handled by Project Manager)		Sample analysis of CDR by the participants
(V)	Study of Computer Forensic tools to acquire, recover &, analyse data.		Study of Computer Forensic tools to acquire, recover &, analyse data.		Case Studies (Police Officer)		Issue of certificates, feedback & valediction

7. ANNEXURES

Annexure - I

MANPOWER REQUIRED FOR CYBER CRIME PS AT STATE HQRS

(I) CYBER CRIME PS

SP / Addl. SP	1
Dy. Supdts. of Police	3
Inspectors	9
Sub-Inspectors	8
Head Constables	8
Police Constables	15
Home Guards	2
Total :-	46

(**N.B.:** Police / H.G. Personnel to have basic computer knowledge).

(II) DIGITAL INVESTIGATION LAB

Inspectors	1
Sub-Inspectors	2
Head Constables	2
Police Constables	4
Private/Outsourced/Contractual experts for Mobile Tracking, Email Tracking, Disk Analysis, onsite Analysis, Imaging of disks.	9
Home Guards	2
Total	20

(**N.B.**: Police / H.G. Personnel to have basic computer knowledge).

(III) TRAINING LAB

Project Manager	1
Trainer	2
Home Guards	2
Total	5

(**N.B.:** Police / H.G. Personnel to have basic computer knowledge).

EQUIPMENT REQUIRED FOR CYBER CRIME PS AT STATE HQRS.

(I)	**CYBER CRIME PS**	
1	15 Modular (8 GB RAM)computer work stations with one server (64GB RAM, 8core) workstation for Officers	Rs.15 Lakh
2	UPS – 10 KVA	Rs.3 Lakh
3	Video Cameras – 5 Nos	Rs.2 Lakh
4	Audio recorders – 5 Nos	Rs.0.15 Lakh
5	Interrogation Room with sound proof and audio / video recording computerized system	Rs.10 Lakh
6	Air Conditioners – 2 Nos	Rs. 1 Lakh
7	Specialized training of all staff & experts	Rs. 10 Lakh
8	L.C.D. Projector	Rs. 1 Lakh
9	Printer – 3 Nos	Rs. 1 Lakh
10	Scanners – 3 Nos (Legal size)	Rs. 1 Lakh
11	Xerox machine (Heavy duty)	Rs. 4 Lakh
	Total	**Rs. 48.15 Lakh**
(II)	**DIGITAL INVESTIGATION LAB**	
1	5 Modular computer work stations (64GB RAM and core 8 Xenon processor)	Rs.15 Lakh
2	**Encase (Ver-7)** Forensic analysis tool (This is a proprietary tool of guidance software. The advantage of this software is that it has special timeline analysis feature, which is not found in other tools)	Rs. 9 Lakh
3	Encase Portable: For onsite examination of hard disk (This is a tool for incident response at the crime scene, which has the capability to examine multiple computers at the crime scene, to identify relevant computer apart from RAM capturing facility). 2 nos	Rs.6 Lakh
4	Black Bag MAC OS imaging and analysis	Rs. 7 Lakh
5	C5 CDR Analyser	Rs. 3 Lakh
6	**Dossier Imaging Tool** with 8 TB Storage Media (This is a unique imaging tool to image one disk to two disks with 8 GB per minute speed and also has 8GB storage media.	Rs. 8 lakh
7	**Hard drive Duplicate equipment FALCON**: Is used for imaging of SATA, IDE, SCSI, USB drives with more than 8GB/minute speed.	Rs 6 lakh
8	**Write protect devices** for all storage media – Kit: Is used for preview the contents in the storage media without altering the data and maintaining the integrity of the data.	Rs.2 lakh
9	**Backbone tool:** Steganography application & detection tool: It searches files with hash matches of Registry Artefact key data base which enables any online stegno encrypted data.	Rs.2 lakh

10	**Online Social media analysis tools**	Rs. 6 Lakh
11	**FTK – Hard Disk Forensic Tools for disk analysis**	Rs.4 lakh
12	**Rainbow tables** for password cracking of several files and applications (not for emails)	Rs.6 lakh
13	**UFED** – Mobile Extraction tool for several mobile phones having phone memory.	Rs.18 lakh
14	**Cell ID** extracting tool: For identifying the available tower locations in the area in question.	Rs. 5 Lakh
15	**OCEAN Audio and Video enhancing and analysis tool.**	Rs. 30 lakh
16	Air Conditioners	Rs.2 Lakh
	Total	**Rs. 1,29.00 Lakh**
(III)	**CYBER ACADEMY**	
1	L.C.D. Projector	Rs. 2 Lakh
2	24 Thin Clients work stations and server for hands-on training of the participants	Rs. 18 Lakh
3	UPS – 10 KVA	Rs. 6 Lakh
4	Air Conditioners – 4 Nos.	Rs. 2 Lakh
	Total	**Rs. 28 Lakh**
	GRAND TOTAL (I +II +III)	**Rs. 2,05,15,000**

ACCOMMODATION REQUIRED FOR CYBER CRIME PS AT STATE HQRS.

1.	Police Station with work stations	:	4,500 Sq.Ft.
2.	DIGITAL INVESTIGATION LAB with work stations	:	2,000 Sq.Ft.
3.	Cyber Academy with required furniture and work stations	:	2,000 Sq.Ft

Annexure– II

MANPOWER REQUIRED FOR CYBER CRIME PS AT POLICE DIST HQRS/COMMISSIONERATES

(I) CYBER CRIME PS

SP / Addl. SP	1
Dy. Supdts. of Police	2
Inspectors	6
Sub-Inspectors	6
Head Constables	6
Police Constables	12
Home Guards	2
Total :-	**35**

(**N.B.:** Police / H.G. Personnel to have basic computer knowledge).

(II) DIGITAL INVESTIGATION LAB

Inspectors	1
Sub-Inspectors	2
Head Constables	2
Police Constables	4
Private/Outsourced/Contractual experts for Mobile Tracking, Email Tracking, Disk Analysis, onsite Analysis, Imaging of disks.	6
Home Guards	2
Total	**17**

(**N.B.**: Police / H.G. Personnel to have basic computer knowledge).

EQUIPMENT REQUIRED FOR CYBER CRIME PS AT POLICE DIST HQRS/COMMISSIONERATES

(I)	**CYBER CRIME PS**	
1	15 Modular (8 GB RAM) computer work stations with one server (64GB RAM,8 core Xenon processor)	Rs. 15 Lakh
2	UPS – 10 KVA	Rs. 3 Lakh
3	Video Cameras – 5 Nos	Rs. 2 Lakh
4	Audio recorders – 5 Nos	Rs. 0.15 Lakh
5	Interrogation Room with sound proof and audio / video recording computerized system	Rs.10 Lakh
6	Air Conditioners – 2 Nos	Rs. 1 Lakh
7	Specialized training of all staff & experts	Rs. 10 Lakh
8	L.C.D. Projector	Rs. 1 Lakh
9	Printer – 3 Nos	Rs. 1 Lakh
10	Scanners – 3 Nos (Legal size)	Rs. 1 Lakh
11	Xerox machine (Heavy duty)	Rs. 4 Lakh
	Total	**Rs. 48.15 Lakh**
(II)	**DIGITAL INVESTIGATION LAB**	
1	5 Modular computer work stations (64GB RAM 8 core Xenon processor)	Rs.15 Lakh
2	**Encase (Ver-7)** Forensic analysis tool (This is a proprietary tool of guidance software. The advantage of this software is that it has special timeline analysis feature, which is not found in other tools)	Rs. 9 Lakh
3	**Encase Portable:** For onsite examination of hard disk (This is a tool for incident response at the crime scene, which has the capability to examine multiple computers at the crime scene, to identify relevant computer apart from RAM capturing facility). 2 Nos	Rs. 6 Lakh
4	**Black bag** MAC OS imaging and analysis tool	Rs. 7 Lakh
5	C5 CDR analysis tool.	Rs. 3 Lakh
6	**Dossier Imaging Tool** with 8 TB Storage Media (This is a unique imaging tool to image one disk to two disks with 8 GB per minute speed	Rs. 8 lakh
7	**Hard drive Duplicate equipment Falcon**: Is used for imaging of SATA, IDE, SCSI, USB drives with more than 8GB/minute speed.	Rs 6 lakh
8	**Write protect devices** for all storage media – Kit: Is used for preview the contents in the storage media without altering the data and maintaining the integrity of the data.	Rs.2 lakh

9	**Backbone tool:** Steganography application & detection tool: It searches files with hash matches of Registry Artefact key data base which enables any online stegno encrypted data.	Rs.2 lakh
10	**Online Social media analysis tools**	Rs. 6 Lakh
11	**FTK – Hard Disk Forensic Tools for disk analysis**	Rs.4 lakh
12	**Rainbow tables** for password cracking of several files and applications (not for emails)	Rs.6 lakh
13	**UFED** – Mobile Extraction tool for several mobile phones having phone memory.	Rs.18 lakh
14	**Cell ID** extracting tool: For identifying the available tower locations in the area in question.	Rs. 5 Lakh
	TOTAL	**Rs.97,00,000**
	GRAND TOTAL (I+II)	**Rs.1,45,15,000**

ACCOMMODATION REQUIRED FOR CYBER CRIME PS AT POLICE DIST HQRS/COMMISSIONERATES

1.	Police Station with work stations	:	4,500 Sq.Ft.
2.	DIGITAL INVESTIGATION LAB with work stations	:	2,000 Sq. Ft.

ABSTRACT OF COST

1.	State Headquarters	..	**Rs.2,05,15,000**
2.	Police District Hqrs. / Commissionerate	..	**Rs.1,45,15,000**

OFFICERS

BORNE STRENGTH OF NPM DIVISION

1. Dr. Nirmal Kumar Azad
   IG/Director NPM

2. Dr. Arvind
   SP- MM:01 and 06

3. Sh Shri Krishna
   SP- MM:02,04 and 05

4. Sh D S Sandhu
   SP- MM:03 and 07

5. Sh B M Joshi
   Assistant Director NPM
   Mission Directorate and MM:08

NATIONAL POLICE MISSION

List of Members of Micro Mission: 01

Human Resource Development

1. Shri A. Hemachandran, IPS (Kerala 86) **(Group Leader)**
2. Shri V K Singh, IPS (J&K: 87)
3. Shri Atul Karwal, IPS (GJ: 88)
4. Ms. Renuka Mishra (UP:90)
5. Ms. Anuradha Shankar, IPS (MP: 90)
6. Shri Sadanand Vasant Date, IPS (MH:90)
7. Shri Rajesh Nirwan, IPS (Raj:92)
8. Smt. Garima Bhatnagar, IPS (Delhi-94)
9. Shri Atul Singh, IPS (AP:95)
10. Shri Abhinav Kumar, IPS (UP:96)
11. Dr. Nikhil Gupta, Dy. Director (A&SC), SVP NPA, Hyderabad
12. Shri Jagbir Singh, IG, NISA
13. Shri. Sundarraj P, IPS (Chhattisgarh:2003)
14. Shri Vikramjit Singh, IPS (Kerala 2004)
15. Dr. Asish, IPS (MP: 2005)
16. Ms. Sumedha Dwevedi , IPS (HP:2005)
17. Ms. Pratibha Ambedkar, IPS (UP:2007)
18. Shri Vineet Kapoor, Staff Officer to DGP (MP)

NATIONAL POLICE MISSION

List of Members of Micro Mission: 02

Community Policing

1. Shri Kapil Garg, IPS (RJ:83)) **(Group Leader)**
2. Shri Om Prakash Singh, IPS (UP:83)
3. Shri Sudeep Lakhtakia, IPS (AP:84)
4. Shri Anant Kumar Dhul, IPS (HR:85)
5. Dr. Prateep V. Philip, IPS (TN:87)
6. Shri Dilbag Singh, IPS(RR:87)
7. Shri Satyajit Mohanty, IPS (Orrisa:88)
8. Shri A.S Rai, IPS (Pb:94)
9. Shri Anshuman Yadav, IPS (MP:98)
10. Shri P. Vijayan, IPS (Kerala: 99)
11. Shri Gattamaneni Srinivas, IPS (2003)
12. Ms. Amrita Dash, IPS (Odisha:2006)
13. Shri Ake Ravi Krishna, IPS (AP:2006)
14. Shri Sachin Kumar Atulkar, IPS (MP:2007)
15. Dr.Ketan Baliram Patil, IPS (Pb:2009)

NATIONAL POLICE MISSION

List of Members of Micro Mission: 03

(Communication &Technology)

1. Dr. J.M.Vyas, DG, GFSU
2. Shri Keshav Kumar (Guj: 86) **(Group Leader)**
3. Shri S.K. Singhal, IPS (BH: 88)
4. Shri Ashok Dohare, IPS (MP: 85)
5. Shri Mukesh Jain, IPS (MP: 1989)
6. Dr. M.A Saleem, IPS, (KAR: 93)
7. Shri Raja Srivastava, IPS (UP: 94)
8. Shri Narsimha Komar, IPS (GJ :91)
9. Ms. Satwant Atwal Trivedi, IPS (HP:96)
10. Shri Anil Shukla IPS (AGMU:96)
11. Shri S.J.M Gillani, IPS (J&K 94)
12. Shri H.K. Kusumakar, IPS (WB: 98)
13. Shri T. Vikram, IPS, (KL 98)
14. Shri Sunpreet Singh, IPS (Telengana 2011)
15. Shri Sreejith T, IPS (An 2012)
16. ShriNiraj Kumar Badgujar, IPS (Guj 2008)
17. Shri Riyaz Iqbal, IPS (MP 2011)
18. Shri Prashun Gupta, Dy. Dir. NCRB

NATIONAL POLICE MISSION

List of Members of Micro Mission-04

(Infrastructure)

1. Shri R.R. Bhatnagar, IPS (UP:83), **(Group Leader)**
2. Shri Pradeep Kumar, IPS (AM:84)
3. Sh. S.N. Shrivastava, IPS (AGMUT:85)
4. Shri Kumar Rajesh Chandra, IPS (BH:85)
5. Shri Sanjay Rana, IPS (MP:86)
6. Shri Kuldeep Singh, IPS (WB:86)
7. Sh. Anvesh Manglam, IPS (MP:88)
8. Shri S.L. Thaosen, IPS (MP:88)
9. Md. Shakeel Akhtar, IPS (TN:89)
10. Sh. A.K. Choudhary, (RR:91) IPS
11. Dr. Paresh Saxena, IPS (BH:94)
12. Shri Sai Manohar Aramane, IPS (MP:95)
13. Shri Anirban Ray, IPS (WB:98)
14. Shri Jasbeer Singh, IPS (NL:2003)
15. Shri Prem Vir Singh, IPS (GJ:2005)
16. Sh. Manohar Singh Verma IPS, (MP:2006)
17. Sh. Himkar Singh, IPS, (GJ:2013)
18. Sh. N.K. Singh, Comdt, CRPF

NATIONAL POLICE MISSION

List of Members of Micro Mission-05

New Processes (Process Engineering)

1. Dr. Ish Kumar, IPS (TG: 85) **(Group Leader)**
2. Shri Rajendra Mishra (MP:87)
3. Shri PRK Naidu (Jharkhand : 87)
4. Shri R.K.Vij, IPS (Chha:88)
5. C.H. Pratap Reddy, IPS (Kar: 91)
6. Sh. M.K Tiwari, IPS (Punjab :87)
7. Sh. Anurag Garg, (HP: 1993)
8. Shri Umesh Sharraf, IPS (AP: 89)
9. Sh. Viplav Kumar Choudhary, (J&K 1997)
10. Shri Sanjeev Shami, IPS (MP: 93)
11. Ms. Sonali Mishra, IPS (MP :93)
12. Sh. S K Saxena, Dy. Dir., MCRB
13. Sh. Shiv Kr. Singh, DIG, CRPF
14. Shri Pranav Tayal, IPS (AGMU: 2011)
15. Sh. K. Kartikayan, IPS (MP: 2011)

NATIONAL POLICE MISSION

List of Members of Micro Mission: 06

Proactive Policing and Visualizing Future Challenges

1. Sh. Rakesh Asthana, IPS (GJ-84) **(Group Leader)**
2. Shri Arun Kumar,IPS, (UP:85)
3. Sh. V.S.K. Kaumudi, IPS, (AP-86)
4. Shri Santosh Mehra, IPS (AP:87)
5. Dr. Sudhansu Sarangi, IPS (OR:90)
6. Dr. Shamsher Singh, IPS (GJ: 91)
7. Sh. Neeraj Gotru, IPS (GJ: 93)
8. Sh. Abdul Ghani Mir, IPS (Jh: 94)
9. Shri Abhishek Trivedi, IPS (HP-96)
10. Sh D Srinivas Verma, IPS (MP-98)
11. Sh. Raju Bhargava, IPS (GJ: 95)
12. Smt. Deepika Suri, IPS (MP 99)
13. Sh Santosh Kumar singh, IPS (MP: 2000)
14. Sh Pradip Sejul, IPS (GJ: 2008)
15. Sh Vikram Jeet Duggal, IPS (Telengana: 2007)
16. Sh D. Shyamala, DIG, CISF
17. Shri Abhishek Dullar, SP (CBI)

NATIONAL POLICE MISSION

List of Members of Micro Mission: 07

Gender Crimes and Gender Related Issues

1. Smt. Rina Mitra, IPS (MP: 83) **(Group Leader)**
2. Ms Sutapa Sanyal, IPS (RR: 84)
3. Sh. B.K. Sharma, IPS (Orissa:86)
4. Smt D.R. Doley, Barman, IPS (J&K:86)
5. Smt Aruna Mohan Rao, IPS (MP:87)
6. Sh N. Morris Babu, IPS (Rajasthan:89)
7. Ms Shikha Goel, IPS (AP:94)
8. Smt Sampat Meena, IPS (JH :94)
9. Sh Kunwar Vijay Pratap Singh, IPS (Punjab: 98)
10. Sh Solomon Minz, IPS (MP :97)
11. Sh S. Sreejith, IPS (Kerala :96)
12. Ms Renuka Mishra, IPS (UP:90)
13. Ms Anupam Kulshreshtha, IPS (UP :95)
14. Sh K. Sajjanuddin, DIG, CRPF
15. Smt Nipuna Torvane, IPS (GJ:2000)
16. Dr Sanjukta Parasar, IPS (APGM:2006)
17. Smt N.S. Chakraborty, IPS (WB:2006)
18. Smt Temjensenla, Comdt., NAP
19. Smt P. Renuka Devi, IPS (Uttarakhand: 2008)
20. Smt Parul Mathur, IPS (Chhattisgrah: 2008)
21. Ms Reema Rajeshwari, IPS (Talengana: 2009)
22. Ms Simala Prasad, IPS (MP: 2011)
23. Sh Navneet Bhasin, IPS (MP: 2009)

NATIONAL POLICE MISSION

List of Members of Micro Mission: 08

Correctional Administration

1. Sh. Sudhir Kumar Yadav, IPS (AGMU: 85) **(Group Leader)**
2. Sh. Anurag, IPS (MT: 1994)
3. Sh. VS Raja
4. Dr. Upneet Lalli, Dy. Dir, ICA
5. Sh. Arun Kumar Gupta, DG&IG of CS, Kolkata (WB: 85)
6. Sh. F M Dopth (MCS: 94)
7. Sh. P K Mishra, IPS (UP: 96)
8. Sh. Vijay Kumar, IPS (TN: 87)
9. Dr. Bhushan Kumar Upadhyay, IPS (MH: 89)
10. Dr. Arvind Tiwari Professor & Dean TISS
11. Sh. Nandan Kumar Barua, Director, RICA, Kolkata

NATIONAL POLICE MISSION

SUPPORT STAFF

1. Smt Anita Mahajan
   Assistant

2. Sh Rajeev Kumar
   Personal Assistant

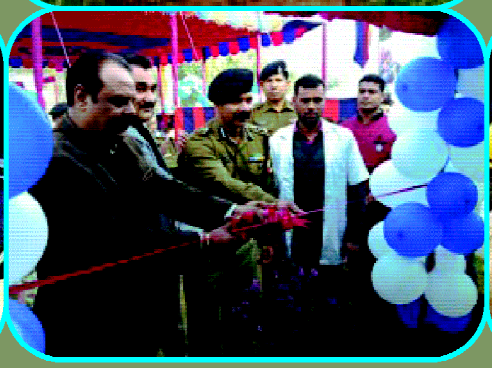
3. Sh Rajesh
   Steno

4. Sh Pradeep Kumar
   LDC








Bureau of Police Research & Development

Ministry of Home Affairs, Government of India
Block No. 4, Ground Floor, CGO Complex, Lodhi Road, New Delhi - 110 003
Website: www.bprd.gov.in
e-mail: dgbprd@yahoo.co.in

'Promoting Good Practices and Standards'