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SPATIAL DIMENSIONS OF CRIMINALITY IN HARYANA: TRENDS AND MAGNITUDE

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Abstract

This study is addressed to the incidence of crime in Haryana registered by the police under Indian Penal Code (IPC). During the last 21 years (1990-2011), the population of Haryana recorded a growth rate of 55.5 per cent while the incidences of cognizable crime witnessed a growth rate of 113.4 per cent. In other words, the growth rate of crime in Haryana was two times more than the growth rate of population during this period. At national level, Haryana has 8th rank in criminality among 28 States of India. With 2.1 per cent of total national population, the State is contributing 2.6 per cent of total crimes in India. Likewise, rate of cognizable crime in Haryana is 239.7 against the national average of 192.2. This study therefore, intends to explore the magnitude, trends and spatial dimensions of criminality in Haryana, so that some conclusions may be drawn for the policy makers. It has been found that 33 per cent of the districts of the State recorded high rate of criminality while 43 per cent of the districts witnessed low level of criminality. Low level of crime provides a positive lesson, on the other hand severity of crime suggests a need for more effective intervention.

Introduction

As per Webster's Dictionary, crime is an act or commission of an act that is forbidden or the omission of a duty that is commanded by a public law and that makes the offender liable to punishment by that law; a gross violation of law; a grave offence against morality. In other words, crime is an action which is not acceptable as per the laws laid down by the society/State. However, acceptability of an action has temporal, spatial and cultural dimensions. The action acceptable in the past may not be acceptable at present or acceptable at present but may not be acceptable in future. Personal safety and the fair treatment under the law is the fundamental right of all the citizens. It

is obligatory on part of the State to protect the rights of the citizens especially of the disadvantaged groups, minorities and politically under represented sections of the society. Action is considered crime only if it is registered with the police under Indian Penal Code (IPC) or under Special and Local Laws (SLL).

It has been observed that many criminal actions go unrecorded due to the compulsions on the part of victim or indifferent attitude of the police. Several studies indicate that there is considerable under-reporting of crime in India. It has been argued that Indian police have strong incentives not to report crimes, including the most serious crimes (Verma,

2000). Likewise, Banerjee et al. (2009) found that only 50% of sexual harassment cases and 53% of domestic violence cases are registered by the police, in contrast to 92% of break-in and more than 64% of motorcycle theft. Sharma (2013) in his study addressed to rapes mentioned that reported cases represent only tip of the iceberg. The fact remains that a large number of cases go unreported for fear of loss of family honour, stigmatization, public ridicule and above all, the dubious practice of the police to avoid registration of FIR. Not only in developing countries, under reporting of crime is also prevalent in developed countries.

Dimensions of criminality are associated with sex, age, level of education, poverty, family instability, social status, social taboo (honour killings), drug addiction, caste, income, unemployment, place of residence, inequality, attitude of the recording authorities, nature of governance etc. Improvement in per capita income provides strength to commit crime as one can afford legal fight. Soares (2004) finds a positive correlation between per capita income and reported crimes. Protection from violence, however, is not a convenient byproduct of economic growth and indeed there are spectacular cases of violence rising against a background of rapid improvement in per capita income and other development indicators (Dreze and Khera, 2000). Apart from caste structure, wide economic differences also encourage criminal tendencies among the downtrodden. Close proximity of HIG and LIG housing which has been made mandatory for the planners has its own impact on the growth of crime. When individuals who are low in social structure fail to acquire the material attributes of success and they are surrounded by others who succeed, their frustration leads to alienation from society, which in turn breeds

crime (Merton, 1938). Empirical evidence on the relationship between crime and inequality generally finds a positive link between crime and inequality (Ehrlich, 1973, Machin and Meghir, 2000; Kelley, 2000). Areas with high proportion of young and masculine population are subject to high crime rate, since youth and especially male youth may become prone to committing criminal activities (Cohen and Land, 1987).

Relationship between crime and development is an important economic issue since, crime can affect growth at country, region and even at firm level. Higher crime rates have been found to reduce both domestic and foreign investment (Rivera-Batiz and Rivera-Batiz, 2002). Crimes have been linked to lower job creation and sale growth even at firm level (Krkoska and Robeck, 2006).

About thirty five per cent of population of Haryana is residing in urban areas against the national average of thirty one per cent. Similarly, literacy rate of Haryana (76.64 per cent) is above the national average of seventy four per cent. Fifty two per cent of the total districts and fifty four per cent of its population fall in National Capital Region of India, considered as engine of growth. As a result, Haryana is a fast growing economy. On the other hand crime rate in Haryana is more than 1.2 times higher than the national average. Criminality is anti development and growth retarding, because people, business, industry, institutions etc. avoid settling down in crime prone areas. Criminality creates fear in the minds of people. People want to live in peaceful environs where they have personal safety and fair treatment under the law. Criminality therefore, is an unnoticed bottleneck in the path of growth which requires proper identification and solution so that fearless environment may

be created in the State to attract talent, tourists, business, industry etc. In the light of this, an effort has been made through this study to explore the magnitude, trends and spatial patterns of crime in Haryana to draw the attention of policy makers.

Study Area

The State of Haryana came into existence on 1st November, 1966 under the process of reorganization of erstwhile State of Punjab. Located in the north-western part of India, it extends between 27° 39' 00" and 30° 55' 05" north latitudes and 74° 27' 08" and 77° 36' 05" east longitudes. Heterogeneity of its landscape is reflected through the presence of Siwalik hills in the north-east, Aravali-outliers in the south and plain topography associated with the Indo-Gangetic plains in the middle. It is an agriculturist State where 84 per cent of geographical area is under agriculture and 82 per cent of net area sown is under irrigation. Spreading over an area of 44212 km², it accommodates 253.53 lakh people of which 65.21 per cent are residing in rural areas and 34.79 per cent in the urban areas of the State. Density of population is 573 persons per km². Haryana with 1.34 per cent of total area of India, accounts for 2.1 per cent of its total population. About 77 per cent of its population is literate while male and female literacy rates are 85 per cent and 67 per cent, respectively. Out of the total 21 districts, 11 districts comprising 45.5 per cent of the total area and accounting for 53.6 per cent of the total population of the State fall in the National Capital Region. From administration point of view, the State is divided into 4 divisions, 21 districts, 57 sub-divisions, 78 tehsils and 43 sub-tehsils.

Objective

Objective of the study is to highlight the magnitude, trend and spatial distribution of incidence of crime in the State of Haryana.

Data Base and Methodology

Data related to the study have been mostly collected from various issues of the Statistical Abstracts of Haryana. Related information was also collected from Crime in India Report-2011 and various newspapers. Simple statistical techniques like percentages, growth rates, correlation, etc. have been applied to analyze the data. District-wise crime index has been calculated by dividing the district values of each crime with State average and composite index was derived by summing up the results to highlight spatial variations in the rate of crime. The result has been interpreted with the help of tables, graphs and a map.

Hypotheses

- i. Higher the degree of urbanization more is the rate of crime.
- ii. Sex ratio and rate of crime are inversely related.
- iii. Concentration of scheduled caste population and rate of crime are positively related.
- iv. Rate of literacy is inversely related to the rate of crime.
- v. Higher the density of population more is the rate of crime.

Results and Discussion

Magnitude and Trends of Crime

In 1970, Haryana recorded 18935 cognizable crimes which increased to 59169 by 2010. While its population during this period

increased from 99 lakhs to 252.7 lakhs (Table 1). During 1970-2010, the incidences of crime recorded a growth rate of 212.50 per cent while population grew at a rate of 155.30 per cent. In other words, during 1970-2010, growth rate of crime was 1.4 times more than the growth of population in Haryana. It indicates, since its inception, the State is witnessing increasing trends in crime incidents. Decade-wise scrutiny of data reveals that growth rate of the incidents of crime started abruptly increasing after 1990. On the other hand, decade-wise growth rate of population witnessed slow but gradual falling trends (Table 1) suggesting that criminal tendency in Haryana is increasing at a rate faster than growth of its population.

Criminality Trend

Rate of criminality (crime per lakh of population) is most important indicator to understand the intensity of crime in a particular area. Therefore, decade-wise crime rates have been calculated and presented in Table 2, highlighting temporal variations in the rate of crime in Haryana during 1970-2011.

Table 2 reveals that crime rate in Haryana increased from 191.30 in 1970 to 239.72 in 2011. In other words, during this period of 41 years, rate of crime in Haryana increased by 1.3 times. A close look at the Table 2 indicates that the State recorded highest crime rate in 1980. Crime rate declined to the lowest in 1990, but afterwards it started increasing to

Table 1
Haryana: Cognizable Crime and Estimated Population

Year	Total Cognizable Crimes	Decade-wise Growth Rate (per cent)	Estimated Population in Lakhs	Decade-wise Growth Rate (per cent)
1970	18935	-	99.0	-
1980	33239	75.5	127.9	29.2
1990	28481	-14.3	163.0	27.4
2000	38782	36.2	207.6	27.3
2010	59169	52.6	252.7	21.7
1970-2010	-	212.5	-	155.3

Source: Statistical Abstracts of Haryana 1993-94, 2007-8, 2011-12

Table 2
Haryana: Incidence of Crime per lakh of Population

Year	Rate of Crime
1970	191.3
1980	259.9
1990	174.7
2000	186.8
2010	234.1
2011	239.72

Source: Statistical Abstracts of Haryana 1993-94, 2007-8, 2011-12

the extent that the year 2011 witnessed 1.4 times more crime rate than that of 1990. Unprecedented higher crime rate recorded in 1980 is difficult to explain, it may have happened due to occurrence of some discrepancies at the time of recording. However, the growing crime rate after 1990 clearly suggests increasing criminal tendency in the State.

Degree of criminality in an area can not be judged only from the number of incidents of crime or the rate of crime, but more important is the nature of crime. For example, a murder can not be taken at par with ordinary theft. Therefore, crime-wise analysis of the data is essential to understand the real scenario of criminality in an area. For such an understanding, crime-wise increase during 1970-2011 has been calculated and presented in Table 3.

Table 3 reveals that crime rate of robbery recorded highest growth rate of 991.30 per cent followed by dacoity (725 %), rioting (436.11%), ordinary theft (161.27 %), kidnapping (158.90 %) and murder (115.98 %). Culpable homicide is the only crime which has

witnessed substantial (65.15 %) decrease during this period. Further scrutiny of the table shows that violent crimes like robbery, dacoity, rioting and kidnapping (a crime against women) are growing at faster rate in Haryana. It must be mentioned that such crimes do not emerge from spontaneous provocation but are well organized crimes involving a group of persons and committed after proper planning.

Levels of Criminality

Taking into account all the types of crimes recorded at district level, rate of crime for each crime, and index of crime have been calculated to arrive at composite indices to arrange the districts according to their rank in criminality (Table 4).

Gurgaon, Rohtak and Panipat districts respectively have attained first, second and third position in levels of crime in the State. On the other hand Sirsa, Yamunanagar and Karnal districts respectively recorded lowest level of crime. On the basis of levels of criminality, the State has been divided into three regions (Table 5, Fig. 1).

Table 3
Haryana: Crime-wise Growth in Rate of Crime (1970-2011)

Crime	Rate of Crime-1970	Rate of Crime-2011	Growth Rate (per cent)
Murder	1.94	4.19	115.98
Dacoity	0.08	0.66	725.00
Burglary Theft	17.26	19.71	14.19
Ordinary Theft	26.05	68.06	161.27
Robbery	0.23	2.51	991.30
Kidnapping	1.46	3.78	158.90
Rioting or Un-lawful Assembly	1.08	5.79	436.11
Culpable Homicide	0.66	0.23	-65.15
Miscellaneous	142.48	134.71	-5.45
Total Cognizable Crimes	191.26	239.72	25.34

Source: Calculated by the authors

Table 4
Haryana: District-wise Rank of Criminality

District	Rank	District	Rank
Gurgaon	1	Sonipat	12
Rohtak	2	Bhiwani	13
Panipat	3	Kaithal	14
Jhajjar	4	Ambala	15
Rewari	5	Jind	16
Palwal	6	Mewat	17
Faridabad	7	Fatheabad	18
Kurukshetra	8	Karnal	19
Panchkula	9	Yamunanagar	20
Mahendragarh	10	Sirsa	21
Hisar	11	-	-

Source: Identified by the authors

Table 5
Haryana: Levels of Criminality

Level	Districts
High	Gurgaon, Panipat, Rohtak, Rewari, Palwal, Faridabad, Jhajjar
Medium	Kurukshetra, Panchkula, Mahendragarh, Hisar, Sonipat
Low	Ambala, Yamunanagar, Kaithal, Bhiwani, Karnal, Mewat, Jind, Fathehabad, Sirsa

Source: Grouped by the authors

Areas of High Level of Crime

Comprising 33 per cent of the total districts and 33.4 per cent of the total population, the districts of Gurgaon, Panipat, Rohtak, Rewari, Palwal, Faridabad and Jhajjar have recorded high level of criminality during 2011 (Table 5, Fig. 1).

In comparison to other areas of medium and low level of criminality, this region has highest density of population (950) highest percentage of urban population (68.82) and rate of literacy (79.81) but lowest sex ratio (870) and percentage of scheduled caste population (17.26) known as weaker section of the society.

High degree of urbanization, high rate

of literacy and high rate of crime in this region are attributed to its proximity to Delhi. It is interesting to note that this region of high crime rate falls in the National Capital Region of India (NCR) and four of its districts share boundaries with National Capital Territory, Delhi. Thus, this region is functioning under the metropolitan shadow. The areas falling in the NCR are virtually extensions of Delhi culture. These districts have been included in the NCR to release pressure of population. Along with population, the criminal characteristics of the National Metropolitan Region also penetrate in the adjoining districts of Haryana. Rate of crime in National Capital Territory, Delhi is

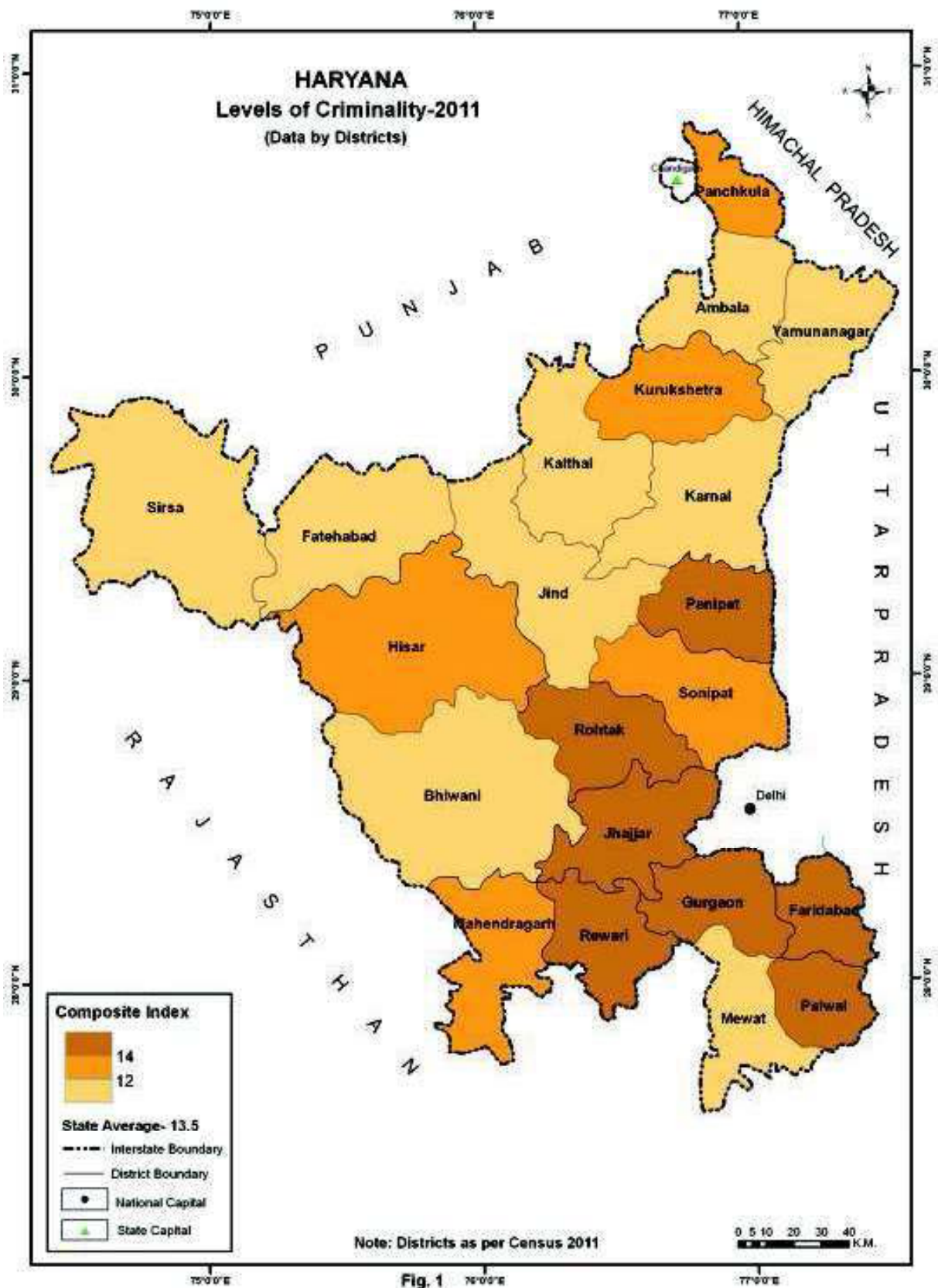


Table 6
Haryana: Levels of Crime and Associated Indicators

Indicators	High	Medium	Low
Composite Index	16.64	13.65	10.81
Share in Population %	33.40	22.30	44.30
Share in SC Population %	27.40	22.50	50.10
Literacy Rate %	79.81	78.62	72.66
Urbanization %	68.82	32.09	25.97
Sex Ratio	870	875	887
SC Population %	17.26	19.84	22.90
Density of Population (Person per Sq. km)	950	601	541

Source: Calculated by the authors

1.33 times more than the State of Haryana. Likewise, National Capital Territory, Delhi ranks 4th in criminality at the national level while Haryana ranks 8th. Similarly, during 2010-11 Haryana recorded 2.7 per cent growth in rate of crime against 4 per cent witnessed by National Capital Territory, Delhi (NCBR, 2011). Delhi being the national capital, more incidents of crime are being reported as media always remains alert. Also new devices such as installing CCTV cameras at prominent locations have helped in recording and documenting the incidents of violence (Nayar, 2013). Thus, along with the benefit of being close to the National Capital Territory, Delhi, the State is suffering from the adverse impacts as well.

Low sex ratio (870) and low percentage of scheduled caste (SC) population are also playing their roles in augmenting crime rate in this part of Haryana. It is not surprising to note that the areas of high violence are associated with sharp gender inequalities, of which low female-male ratio are one manifestation (Dreze

and Khera, 2000). An assessment report “Current Status of Victim Service Providers and Criminal Justice Actors in India on Anti-Human Trafficking- 2013,” of the United Nations Office on Drugs and Crimes (UNODC) States- “There is a large-scale trafficking of girls from the North-East. These girls are being brought to Haryana for forced marriage and bounded labour -the shortage of brides in villages and towns of Haryana and Punjab is often met by these “on sale” poverty stricken women- in many cases, traffickers lure the girls on the pretext of marriage and later sell them in Delhi” (Sharma, P. 2013).

Like low sex ratio, low percentage of scheduled caste population has its own manifestations in terms of shortage of comparatively cheap manpower. “ While most women forced into marriage were from Assam and West Bengal, girls, often minor, from Jharkhand, Bihar, Odisha, Madhya Pradesh and Uttar Pradesh were being trafficked for domestic work.--Delhi based agencies supply children for domestic help in Haryana.-- There

Table 7
Correlation Matrix

Variables	Composite Index	Literacy Rate	Urbanization	Sex Ratio	% of SC Population	Density of Population
Composite Index	1					
Literacy Rate	.507*	1				
Urbanization	.527*	.647**	1			
Sex Ratio	-.579**	-.586**	-.581**	1		
% of SC Population	-.504*	.016	-.269	.234	1	
Density of Population	.379	.383	.795**	-.269	-.525*	1

*Correlation is significant at the 0.05 level (2-tailed)

** Correlation is significant at the 0.01 level (2-tailed)

have been many instances where these children were sexually exploited” (Sharma, P. 2013). Thus, the high rate of urbanization, high rate of literacy, low sex ratio, low percentage of SC population and proximity to Delhi are the major factors responsible for high level of crime in this region.

Areas of Low Level of Crime

Districts like Ambala, Yamunanagar, Kaithal, Bhiwani, Karnal, Mewat, Jind, Fatehabad and Sirsa located in northeastern, central and northwestern parts of the State recorded low level of crime in 2011(Table 5, Fig. 1). The region comprises 43 per cent of the total districts, 44 per cent of total population and 50 per cent of total scheduled caste population of the State. In contrast to the areas of high level of crime, the areas of low level of crime have witnessed lowest density of population (541), lowest degree of urbanization (25.97 %), low rate of literacy (72.66 %),

comparatively high sex ratio (887) and high percentage of scheduled caste population (22.90 %,Table 6).

About 74 per cent of the people of this region are residing in rural areas where people are mostly uneducated and not aware about their rights and laws. Therefore, they hesitate in registration of crime. Poverty also checks reporting of crimes as the people can not afford to arrange legal support and other expenses involved in registration of crime because, police in general is not receptive. Therefore they do not report the crime to the police and efforts are made to resolve the issues at the Panchayat level if possible. Likewise, in areas of high sex ratio, not only the rate of general crime is low but crimes against women are also less, because, females by nature are peace loving and play their role in pacifying their male members of the family not to indulge in crime even if a situation arises. Similarly, due to high proportion of scheduled caste population,

Table 8
Haryana: Incidents of Crime and Police Force per lakh of Population

Year	Incidents of Crime	Police Force
1990	174.7	178.1
2000	186.8	179.3
2010	234.1	224.0
Growth Rate 1990-2010 (%)	34.0	25.8

Source: Calculated by the authors

Table 9
Haryana: Population served and Incidence of Crime per Sanctioned
Post of Police Force (1990-2010)

Year	Persons	Incidence of Crime
1990	561	0.98
2000	558	1.04
2010	44 6	1.05
Growth Rate 1990-2010 (%)	-20.5	7.1

Source: Calculated by the authors

the region has witnessed low rate of crime as the downtrodden generally do not want to indulge in crime nor they can afford to report crime to the police. Thus, the low level of urbanization, low rate of literacy, high sex ratio and high proportion of scheduled caste population are the major factors for low level of crime in these areas. It must be mentioned that the districts of Bhiwani, Kaithal and Ambala are likely to jump over to the areas of medium level of crime in near future.

Areas of Medium Level of Crime

Five districts of Haryana namely Kurukshetra, Panchkula, Mahendergarh, Hisar and Sonapat comprising 24 per cent of the districts and 22 per cent the total population, recorded medium level of crime during 2011 (Table 5). Spatially speaking, these districts are scattered in northeastern, western, eastern and southeastern parts of the State (Fig.1). Medium levels of literacy rate, degree of urbanization, sex ratio and percentage of scheduled caste

population witnessed by these districts in comparison of the other areas are instrumental for medium level of criminality recorded by these districts. Among these districts, Kurukshetra, Panchkula and Mahendragarh are just located on the margin and therefore likely to cross over to the belt of high level of criminality in near future.

Correlates

To provide statistical support to above mentioned observations, coefficients of correlation between index of criminality and associated variables have been calculated and the results are presented in Table 7. The Table reveals positive relationship between composite index of crime and urbanization (.527, significant at 0.5 level) and density of population (.379, not significant) indicating that the area of high degree of urbanization and high density of population are having high rates of criminality. These findings prove the assumptions; 'higher the degree of urbanization, more is the rate of crime' and 'higher the density of population, more is the rate of crime' although the coefficient of correlation between index of crime and density of population is not significant. Urban crime rates do seem to be higher than rural crime rates in many cases (Dreze and Khera, 2000). However, the positive relationship between index of criminality and rate of literacy (.507, significant at .05 level, Table 7) do not support the assumption - 'rate of literacy is inversely related to the rate of crime', on the other hand it suggests that higher the level of literacy, more is the rate of crime. Thus, the study highlights that literates are more criminal than illiterates. Kerala with highest rate of literacy in India is also first ranking State in rate of criminality

(NCRB, 2011). Thus, this study addressing the levels of criminality in Haryana goes in favour of rurality of the State where people although not so literate, yet are leading simple life with little tension and greed, hence peaceful living and little rate of crime.

Likewise, inverse relationship between composite index of crime and sex ratio (-. 579, significant at 0.01 level) also suggests that areas of low sex ratio are more prone to crime. In other words, lower the level of sex ratio more is the rate of crime. Thus, the study supports the assumption; 'sex ratio and rate of crime are inversely related'. It is not surprising to note that areas of high violence are associated with sharp gender inequalities, of which low female-male ratios are one manifestation. Regression analysis points to a robust negative correlation between murder rates and female-male ratios in the population (Dreze and Khera, 2000).

Similarly, negative relationship (-.504, significant at 0.05 level, Table 7), was found between rate of criminality and percentage of scheduled caste population. Thus, the assumption, 'concentration of scheduled caste population and rate of crime are positively related' could not get statistical support, hence stands disapproved. This finding of the study highlights that areas predominantly occupied by non- scheduled caste population in Haryana have more rate of crime than areas where proportion of scheduled caste population is high. Contrary to this, Dreze and Khera (2000) in their national level study found that districts with higher proportion of scheduled caste population have higher murders rates. The possible explanations given by them are; i) members of these social groups may be special targets of criminal violence. Indeed, they are "soft" targets with a limited ability to retaliate

or take legal action; ii) it is possible that a significant proportion of murder arise from caste or communal conflicts, and such conflicts are particularly likely in areas where disadvantaged groups account for larger share of the population. Such contradictions in the findings of the two studies are not unexpected because of the variations in the size of areas and levels of socio-economic advancements of the population groups under study.

On the whole, the statistical results of this study conclude that higher strata of the society living in urban areas with high literacy rate, high density of population, low sex ratio and low concentration of scheduled caste population is more criminal than their counterparts living in rural areas with low rate of literacy, high sex ratio, and more concentration of scheduled caste population.

Efforts by the State to Check the Crime

The study will remain incomplete unless the efforts made by the State to check crime are also discussed. Major step in this direction is the provision of police force. To understand the relationship between police force and incidents of crime, both the indicators have been calculated per lakh of Population and the results are presented in Table 8. The Table reveals that during the last 30 years, the incidence of crime per lakh of population has increased by 34.0 per cent while the police force increased by 25.8 per cent during this period, suggesting thereby the requirement of additional police force to check the growing rate of crime in the State.

Further scrutiny of the data reveals that one police personal had to look after 561 persons in 1990 if all the sanctioned posts were full and the number declined to 446 persons in

2010 suggesting that the crime rate should have declined (Table 9). But, it has been found that the incidence of crime per sanctioned police post has increased from 0.98 to 1.05 during the same period.

Table 9 further demonstrates that during the last 30 years, on the one hand population served by one sanctioned post of the police has declined by 20.5 per cent and on the other crime per sanctioned post of police has increased by 7.1 per cent, suggesting that i) sanctioned posts are not fully filled and there are large number of vacant posts; or ii) police personal are there but have been deployed on other duties, like with VIPs security, or iii) police force is not taking its duty as seriously as it was doing in 1990s; or iv) people are becoming more criminal with the passage of time; or v) with improvement in literacy/ education and degree of urbanization, registration of crime has increased than that in 1990. All these points require proper investigation before adopting any strategy to check growing crime rate in the State.

Conclusion

From the above discussion, it can be concluded that like other social traits, criminality also can not remain confined within the administrative boundaries. Larger the interaction, more are the chances of transformation. Areas of high crime rate have their own impact on the adjoining areas. As a result, a well identified belt of high crime rate comprising the districts of Rohtak, Jhajjar, Rewari, Gurgaon, Faridabad and Palwal has emerged in Haryana surrounding National Capital Territory having the 4th ranking place in criminality in India. This belt is likely to engulf the districts of Sonapat, Mahendergarh and Bhiwani in near future. Since, Bhiwani and

Mahendergarh have already been included in the National Capital Region, the experience shows that, the expected growth impulses from the Growth Pole will also bring along a degree of criminality. Likewise, another belt of high crime rate comprising the districts of Panchkula, Ambala and Kurukshetra is likely to emerge adjoining State capital of Chandigarh which has 3rd place in levels of criminality in the country. The study further concludes that the degree of urbanization, rate of literacy and density of population are positively and sex ratio and percentage of scheduled caste population are inversely related to the level of criminality.

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