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## VIOLENT CRIMES IN MEGACITIES

Kanhu Charan Pradhan

This note presents the situation of violent crimes in Indian megacities (35 megacities with more than ten lakh population in 2001) based on the information published in “Crime in India” by the National Crime Record Bureau (NCRB)<sup>1</sup>.

### What is Violent Crime?

Crimes in India are divided into cognizable and non-cognizable crimes. In the former case, investigation can be undertaken without permission from the magistrate and arrests can be made without a warrant. Serious crimes like murder, theft, rioting, gambling, crimes under arms act, crimes under narcotics drugs and psychotropic substances acts are some examples of cognizable crimes. On the other hand, non-cognizable crimes are less serious, like public nuisance, simple hurt, mischief etc and in this case investigation cannot be undertaken without the order of a competent magistrate<sup>2</sup>.

A cognizable crime can be further divided into either Indian Penal Code (IPC) crime or Special and Local Laws (SLL) crime. The broad classification of IPC crimes are crimes against body, crimes against property, crimes against public order, crimes against women, crime against children, economic crimes and other IPC crimes. On the other hand, SLL crimes include “new emerging forms of crimes”<sup>3</sup> in society like possession and manufacturing of arms, ammunition and explosives, drugs, smuggling, immoral trafficking in women, food adulteration etc.

IPC crime may be classified as Violent crime (VC) and Non Violent Crime. A crime is said to be a violent crime (VC) if it “affects the life and safety of the people” and “induces a sense of insecurity and fear in the community”<sup>4</sup>. IPC crimes that are classified as Non Violent Crimes include burglary, theft, criminal breach, cheating, counterfeiting, injury, molestation, sexual harassment, cruelty by husband, importation of girls and death by negligence .

Thus VC is only a sub-set of the total IPC crimes. NCRB classifies VC into (a) *VC affecting life* which includes murder, attempt to commit murder, culpable homicide not amounting to murder, dowry deaths, kidnapping and abduction (b) *VC affecting public safety* which includes riots and arson (c) *VC affecting property* which includes dacoity, preparation and assembly for dacoity and robbery and (d) *VC affecting women* which includes rape<sup>5</sup>.

The crime rate of a location depends on two factors, (a) the incidence of crime and (b) the reporting system of the society. Crime rate in two locations with equal incidence of crime may vary if people in one location hesitate more to report to the police. This may be because of accessibility issues or because they have little hope from the law enforcing authority and/or are afraid of affecting their social status. While the incidence of crime is determined by the socio-economic and political conditions of society, reporting a crime depends mainly on the policing arrangement of the society as well as empowerment of the peo-

ple. To the extent that reporting differs across megacities, this paper does not take it into account and this is a limitation of this study.

### Is Crime higher in cities?

While the existing 35 megacities account for 11 percentage of the total population in India, they account for 18.5 percentage of the total cognizable crimes (both IPC and SLL) in India (see **Table-1**). However, their share in VC is only 10.6 percentage of total national VC.

Table 1 depicts two things. Firstly, the average violent crime rate of megacities is similar to the national average (19.4 and 19.2 respectively). This means that the generalization that the total urban crime rate is higher than that in rural areas is not applicable for VC. But, it has been shown later in this paper that the distribution of crime rate among megacities is such that the average number conceals the actual picture. The gross figure may not reflect the large variation in the distribution of VC at megacity and state level. Secondly, the combined average

<b>Table-1: Crime situation in India (2009)</b> (in lakh)		
	<b>India</b>	<b>Megacity</b>
Total Cognizable Crime (IPC+SLL)	66.75 (560.6)	12.35 (967.1)
Total Cognizable Crime (IPC)	21.21 (178.2)	3.43 (269.13)
Total Violent Crime	2.30 (19.4)	0.24 (19.22)
<i>Affecting Life</i>	<i>1.07 (9.04)</i>	<i>0.12 (9.55)</i>
<i>Affecting Property</i>	<i>0.29 (2.51)</i>	<i>0.06 (4.83)</i>
<i>Affecting Public Safety</i>	<i>0.71 (6.02)</i>	<i>0.04 (3.51)</i>
<i>Affecting Women</i>	<i>0.21 (1.80)</i>	<i>0.01 (1.33)</i>

Note: Figures in parenthesis shows the crime rate per one lakh population. Crime rate is defined as the number of crimes per one lakh population.

Population of India in the year 2009 is estimated at 119.1 crore based on 2001-2011 growth rate. Since the Census of India figure for megacity population is yet to be released, population growth rate of the district where the megacity lies is used on 2001 population to calculate megacity population for year 2009. If one megacity is spread across multiple districts then the average growth rate of all districts is used.

rate of other non-violent IPC crimes and SLL crimes in megacities is much higher than the all India rate.

### Does VC vary across cities ?

**Graph-1** shows the VC rate for all 35 megacities in the year 2009. The average VC rate (using arithmetic mean) at the megacity level is 19.2 per one lakh population shown by the black line. The cities lying above the dotted line (*Megacity Mean + 1xS.D*) have been categorized as cities with high VC rate. Similarly, cities with low VC rate lie below the dotted line (*Megacity Mean - 1xS.D*).

Although the total cognizable crime rate in megacities is much higher than the all India rate, the rate of VC in megacities is similar to the all India figure. But this gross figure conceals the large variation in the distribution of VC at megacity and state level.

Thus Kolkata has the least VC rate i.e. 4.57, followed by Chennai (6.82), Mumbai (7.61), Coimbatore (7.91) and Varanasi (9.71). On the other hand, the city with the highest crime rate is Patna, with VC 45.36, which is more than nine times that of Kolkata. Among other megacities with high VC rate are Agra (37.56), Jamshedpur (37.42), Nagpur (36.32) and Indore (34.88).

### Are poorer states more prone to crime?

Some preliminary observations could be made about VC in megacities. Firstly, for megacities with lower VC rate, the rate is also lower than their corresponding state VC rate. **Table-A1** in the appendix shows the ratio of megacity VC rate and corresponding state VC rate. If this ratio is less than one, then the megacity VC rate is lower than the state VC rate and vice versa. As it can be seen, out of the total 15 megacities with VC rate lower than the average megacities VC rate (i.e. 19.2 per lakh population) 11 megacities have lower VC rate than

their state VC rate. It is not clear whether this is because the security arrangement or the social conditions or some other such factors in the megacities are different from their corresponding states<sup>6</sup>.

Secondly, megacities in poorer states have higher VC rate. Four out of six megacities in Uttar Pradesh, all three megacities in Madhya Pradesh, the only megacity in Bihar (Patna), one out of two megacities in Jharkhand have VC rate more than the overall megacities average<sup>7</sup>. Out of total 15 megacities that are situated in a poorer state (per capita Net State Domestic Product less than the national average), 8 megacities have high VC rate (greater than *Megacity Mean + 1xS.D*) and only one megacity has low VC rate (smaller than *Megacity Mean - 1xS.D*) (see **Table-2**). But the reverse may not hold for megacities in richer states (per capita Net State Domestic Product more than the national average) i.e. megacities of richer states do not necessarily have low VC rate. Out of the 20 megacities in richer states, three megacities have high VC rate and equal number of megacities have low VC rate. There, however, may or may not be an effect of state income on VC in a megacity. A chi-square test on proportions gives inconclusive results.<sup>8</sup>

Besides the possible effect of per capita in-

come at the state level, the particular characteristics of a megacity may also influence its VC rate. For example, Varanasi and Allahabad situated in a state with lower than average income (Uttar Pradesh) have a low rate of VC. It is possible that the religious significance of these cities may be related to their crime rates.

### Which types of VC dominate in cities ?

As mentioned above, total VC can be grouped into four different types of crimes such as (a)

**Table-2: Megacity VC rate according to State Status**

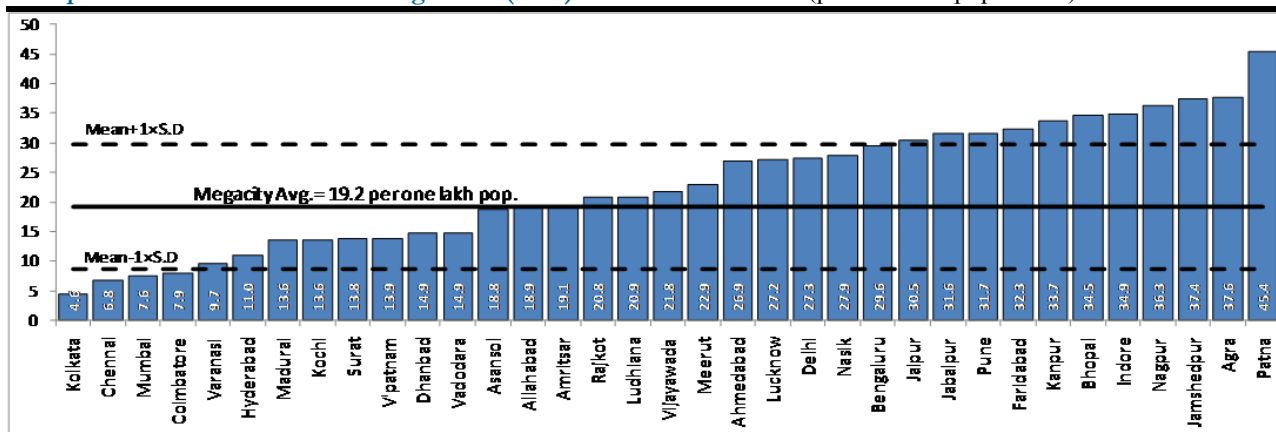
	State with Per capita NDP Higher than National Average	State with Per capita NDP Lower than National Average
<b>High</b>	3	8
<b>Average</b>	14	6
<b>Low</b>	3	1
<b>Total</b>	20	15

Note: High:  $> (\text{Mean} + 1 \times \text{S.D})$ ; Average:  $(\text{Mean} \pm 1 \times \text{S.D})$ ; Low:  $< (\text{Mean} - 1 \times \text{S.D})$

The classification of state/UTs into developed and underdeveloped state/UTs is based on the per capita Net State Domestic Product of 2007-08. All states/UTs with per capita Net State Domestic Product less than the national figure are considered as underdeveloped states/UTs. Accordingly Andhra Pradesh, Delhi, Gujarat, Haryana, Karnataka, Kerala, Maharashtra, Punjab, Tamil Nadu are classified as developed states with at least one megacity.

**Graph-1: Violent Crime Rate in Megacities (2009)**

(per one lakh population)



Source: "Crime in India-2009", NCRB

Note: Since the Census of India figure for megacity population is yet to be released, population growth rate of district where the megacity lies is used on 2001 population to calculate megacity population for year 2009. If one megacity spread across multiple districts then the average growth rate is used.

VC affecting Life (b) VC affecting Public Safety (c) VC affecting Property and (d) VC affecting Women. The significance of these components however varies from city to city. For example, in Kolkata, VC affecting Life accounts for 44% of total VC, and the share of VC affecting Public Safety, Property and Women are 38%, 12%, and 6% respectively. So, in the case of Kolkata, VC affecting Life will be the highest, VC affecting Public Safety will be second, VC affecting Property will be third and so on.

Thus, the four types of VC for all megacities can be ranked according to the share of each type of VC to the city's total VC. **Table-3** shows the ranking of each type of VC for all 35 megacities. The columns of the table show the different components of VC and the rows represent the aggregated rank of each type of VC for all cities.

As it can be seen from Table-3, VC affecting Life is the major component in the total VC for a majority of megacities. For 28 megacities VC affecting life is the highest among all types of VC. There are four megacities (Ahmedabad, Bangalore, Pune and Nagpur) where VC affecting property is highest amongst the four types of VC and three megacities (Kochi, Vadodra and Nashik) where VC affecting safety is highest amongst different types of VC. Similarly Women related VC appears least for thirty megacities.

<b>Table-3: Different Types of Violent Crime</b>				
	Types of Violent Crime			
Ranking	Affecting Life	Affecting Public Safety	Affecting Property	Affecting Women
Highest	28	3	4	0
Second	4	16	13	2
Third	3	13	16	3
Lowest	0	3	2	30

However, it should be mentioned that the VC affecting women is an underestimation, because of the criteria adopted in classifying VC into different types of VC. One could consider dowry death as a VC affecting women rather than classifying it as a VC affecting life as done by NCRB. Similarly, if one would consider other IPC crimes (not classified as VC) like sexual harassment, cruelty by husband and importation under VC affecting women, this ranking may change.

### Has the extent of VC changed over time ?

The change in VC rate between 2001 and 2009 is given in Table-4. The year 2001 was chosen because before 2001 information for only 23 megacities was available. Three megacities (Asansol, Dhanbad and Jamshedpur) for which 2001 information was not available figure for 2002 was taken. For a majority of megacities, the rate of VC has reduced over this period. All but 9 of the 32 megacities have witnessed a reduction in VC over this period (Table-A1).

Table-4 shows changes in the classification of megacities (high, average and low) based on the total VC rate between 2001 and 2009. It should be mentioned that changes of a megacity classification during this period can be either because of absolute change in VC rate or because of a change in the distribution of megacities between the periods. In 2001, none of the 35 megacities were classified as low VC megacities and 7 megacities were classified as high VC megacities. Six megacities with high VC in 2001 remain as high VC megacities in 2009 and only Dhanbad moved from high in 2001 to average in 2009. Out of the remaining 28 megacities with average VC in 2001, five changed to high VC megacities, four to low VC megacities and the remaining remains as average VC megacities.

### Conclusion

The study presents the situation of violent



crime in megacities in India. It was found that the rate of violent crime in megacities is similar to the national average. Thus the general belief that crimes are higher in urban areas does not hold for violent crime. It was also seen that there is a great variation in the crime rate across megacities. It is possible that there may be a correlation between a state's income level and crime rate. Among the different types of violent crimes, crimes affecting life predominate in majority of the cities. Finally, there is evidence that over time there has been a reduction in the violent crime rate in a large number of megacities.

Table-4: Trends of VC over time			
		2001 Classification	
		High	Average
2009 Classification	High	Agra, Jaipur, Jabalpur, Kanpur, Patna, Jamshedpur	Bhopal, Faridabad, Indore, Nagpur, Pune
	Average	Dhanbad	Ahmedabad, Allahabad, Amritsar, Asansol, Bengaluru, Delhi, Hyderabad, Kochi, Lucknow, Ludhiana, Madurai, Meerut, Nasik, Rajkot, Surat, Vadodara, Varanasi, Vijayawada, Vishakhapatnam,
	Low		Chennai, Coimbatore, Kolkata, Mumbai

Note: High:  $> (\text{Mean} + 1 \times \text{S.D.})$ ; Average:  $(\text{Mean} \pm 1 \times \text{S.D.})$ ,  
Low:  $< (\text{Mean} - 1 \times \text{S.D.})$

## Endnotes

- 1 NCRB's publication "Crime in India" is available from 1953 to till date on its website (<http://ncrb.nic.in>)
- 2 See [http://www.humanrightsinitiative.org/publications/police/first\\_information\\_report.pdf](http://www.humanrightsinitiative.org/publications/police/first_information_report.pdf)
- 3 "Police Organization in India", Commonwealth Human Rights Initiative (pp 3) ([http://www.humanrightsinitiative.org/publications/police/police\\_organisations.pdf](http://www.humanrightsinitiative.org/publications/police/police_organisations.pdf))
- 4 "Crime in India 2009", NCRB (pp 49)
- 5 ibid
- 6 For all six megacities in Uttar Pradesh, except Varanasi, the ratio of megacity VC rate and state VC rate is greater than one, except Varanasi. Possibly, it could be argued that the security arrangement in Varanasi is much better because of its religious importance or that the social environment of the holy megacity is different from rest of the state.
- 7 In 2007-08 Bihar, Madhya Pradesh, Jharkhand and Uttar Pradesh ranked 28, 29, 30 and 31 respectively in terms of per capita Net State Domestic Product (at factor cost, at constant price) out of 31 major states and UTs for which information was available. The States/UTs for which information was not available were Daman and Diu, Dadra and Nagar Haveli, Lakshadweep and Nagaland.
- 8 A chi-square test on proportions for the Table-2 shows that there is a statistical difference between the two types of states at 10% level of significance. But since three out six frequencies are less than 5, a chi-square test may not be appropriate in this case. So, the three types of VC rate are reclassified into high (more than megacity average) and low (less than megacity average) and then chi-square test is applied again. After this re-classification, there is no statistical difference between the two types of states.

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## APPENDIX

Table A1: Violent Crimes in Megacities							(per one lakh population)	
Megacity	2009						2001	Change in crime Rate (2009-2001)
	Rate of Total VC	Rate of VC Affecting Life	Rate of VC Affecting Public Safety	Rate of VC Affecting Property	Rate of VC Affecting Women	VC rate Megacity/VC rate State	Rate of Total VC	
Kolkata	4.57	2.01	1.74	0.54	0.29	0.21	6.67	-31%
Chennai	6.82	4.24	0.92	1.16	0.50	0.46	11.11	-39%
Mumbai	7.61	2.90	1.69	2.06	0.96	0.40	9.43	-19%
Coimbatore	7.91	4.55	1.18	1.65	0.53	0.53	10.93	-28%
Varanasi	9.71	6.57	1.93	0.86	0.36	0.69	24.67	-61%
Hyderabad	10.96	6.19	3.10	0.96	0.71	0.76	9.34	17%
Madurai	13.62	7.71	2.74	2.95	0.22	0.92	22.01	-38%
Kochi	13.63	2.60	6.89	2.74	1.41	0.39	23.69	-42%
Surat	13.84	7.32	2.62	3.07	0.83	1.21	15.44	-10%
Vishakhapatnam	13.87	8.02	1.70	1.50	2.65	0.96	6.70	107%
Dhanbad	14.85	6.45	5.43	2.55	0.42	0.56	65.23*	-77%
Vadodara	14.86	4.87	8.08	1.55	0.36	1.30	19.24	-23%
Asansol	18.78	7.69	5.46	4.55	1.08	0.87	6.32*	197%
Allahabad	18.94	11.96	4.49	2.01	0.48	1.35	25.71	-26%
Amritsar	19.15	15.08	0.26	2.51	1.30	1.40	12.36	55%
Rajkot	20.83	9.31	6.60	4.23	0.68	1.82	27.15	-23%
Ludhiana	20.90	16.55	0.19	1.77	2.40	1.53	22.65	-8%
Vijayawada	21.81	15.48	2.20	2.02	2.11	1.51	26.21	-17%
Meerut	22.87	15.10	3.85	2.79	1.13	1.63	41.13	-44%
Ahmedabad	26.87	6.10	3.45	16.14	1.18	2.35	17.79	51%
Lucknow	27.21	16.04	6.41	3.69	1.07	1.94	39.92	-32%
Delhi	27.28	20.38	0.50	3.74	2.66	0.92	27.54	-1%
Nasik	27.90	7.23	11.49	7.44	1.73	1.45	21.61	29%
Bengaluru	29.56	11.33	4.27	13.15	0.80	1.26	25.07	18%
Jaipur	30.52	13.27	6.30	8.56	2.39	1.92	75.39	-60%
Jabalpur	31.63	13.71	5.87	6.02	6.02	1.47	43.60	-27%
Pune	31.68	7.53	10.18	12.57	1.40	1.65	33.71	-6%
Faridabad	32.31	15.45	9.42	4.96	2.48	1.35	37.44	-14%
Kanpur	33.74	21.43	6.50	4.44	1.37	2.41	43.98	-23%
Bhopal	34.52	12.04	5.91	10.18	6.40	1.60	30.52	13%
Indore	34.88	14.85	3.35	14.61	2.07	1.62	30.32	15%
Nagpur	36.32	10.38	9.38	14.68	1.88	1.89	36.93	-2%
Jamshedpur	37.42	24.48	4.94	5.52	2.47	1.40	43.10*	-13%
Agra	37.56	23.62	9.04	3.88	1.02	2.68	96.82	-61%
Patna	45.36	23.36	11.27	9.56	1.17	1.95	72.99	-38%
All Cities	19.2 (10.6)						22.9 (20.9)	-16%

Note: Figures in parenthesis shows the standard deviation

\* for year 2002