Crimescape Analysis of Kolkata, the City of Joy

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Abstract:
A highly urbanizing system is an expression of admixture of grandeur and sufferings, the privileged and the exploited giving rise to fragile cityscape, vulnerable to crime, that is defined by Paul Tappan (1960) as "an intentional act or omission in violation of criminal law committed without defence or justification and sanctioned by the state for punishment as a felony or a misdemeanour". A brief perusal of crime in Kolkata is made by plotting the data and information regarding some selected crime types on the city map, thereby trying to apply simple geographical techniques in recognition of crime pattern in the city. Certain crime types are more common than others and spatial disparity in crime numbers is clearly identifiable with an intimate relation with road network and some socio-economic aspects.

Key words: urbanizing, crime, pattern, murder, pocket picking, criminal breach of trust and cheating, robbery, theft, hot spot, buffer zone

1. Introduction

Prof. Amartya Sen says that Kolkata has a very low crime rate and in many serious crimes, the city has the lowest incidence among Indian cities. Kolkata is perhaps the safest city in India. But according to NCRB reports, in 2011, Kolkata with crime rate 71% and Madurai with 206.2% were the only two cities which reported fewer rates than their domain states West Bengal (79%) and Tamil Nadu (227.8%). On the contrary, there's a rising hue and cry regarding a sudden escalation of deviance in the city. Kolkata reported the highest rise of crime in one year, a 13.9% rise from 2009, i.e. from 13615 IPC cases in 2009 to 15510 in 2010, but actual numbers are far less than Delhi's 45994 cases in 2010 from 45247 in 2009 and Mumbai's 33932 in 2010 from 31262 in 2009. It will be vague to regard the city as a criminal's den or a peaceful heaven based. The omnipresent truth remains that embedded in the dynamic social system of every developing city is its crime component, influencing and getting influenced by the elements of the socio-economic fabric.

2. Objectives

The study aims at a brief perusal of deviance in our city, emphasizing only certain crime types, spatial variation, linkage with road network, interrelation with certain socio-economic parameters, and profile of criminals. Important crime type patterns, locations of crime-prone areas will be analyzed to make an attempt at recognizing the applicability of geographical mapping in crime understanding and management.

3. Methodology

3.1. Study Area

For the present study, the Kolkata Police area has been chosen and within it falls 66 Police Stations (Map1), again grouped into 9 Police Divisions, viz. North and North Suburban, Central, Eastern Suburban, South, Port, South-east, South Suburban, South-west Divisions and River Traffic.
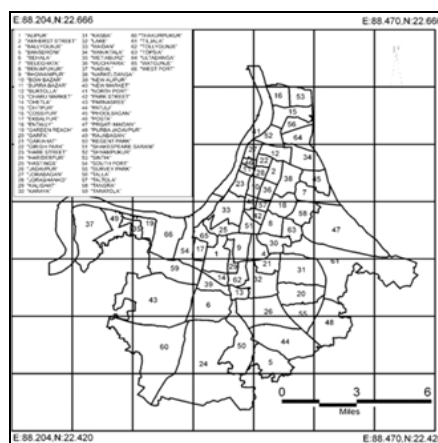
Map 1: Police Stations of Kolkata

3.2. Study Period
The period of study is from 2000 to 2011. The delimitation of 2011 is due to a methodological problem being encountered due to the restructuring of the Kolkata Police jurisdiction area in 2011, reducing chances of temporal comparability.

3.3. Data Collection
The paper is mainly based on an inventory of data and information provided by the Criminal Records Section, Kolkata Police Headquarters, Lal Bazar and all other police stations. Of the recorded criminal cases of the years from 2000-2011 at Lal Bazar, a sampling has been done taking about 75% of the total recorded cases of robbery, house breaking by day and night, thefts, pocket picking and snatching, criminal breach of trust and cheating and murder. The detailed information like address of the crime, age, sex and religion of the criminal have also been recorded and specifically located with the help of respective police stations.

3.4. Method and Tools of Analysis
The data has been plotted on Kolkata maps, specific cases on the exact locations of the city using cartographic methods and GIS softwares.

4. Results and Discussion

4.1. State of Crime in Kolkata
In Kolkata, thefts, including motor car theft, 2-wheeler theft, car parts theft, theft by servant, electric wire theft, house theft, etc dominate. Next in importance is criminal breach of trust and cheating cases. These form about 15% in all divisions, except in the Central division, where these form nearly 30%. Pocket picking & snatching proportions are nearly same (about 10%) everywhere. Dacoity, robbery and murders are relatively very less in every year. Thefts and CB of Trust have been increasing over the years. There has been a constant rise of total FIRs and total IPC cases from 2005-2011. Total FIRs were 10808 (2005), 10283 (2006), 11563 (2007), 13902 (2008), 14616 (2010) and 18339 (2011). Total IPC cases were 9391(2005), 9381(2006), 10901(2007), 13005(2008), 13615 (2009), 15510 (2010) and in 17152 (2011).

### 4.2. Spatial and Temporal Pattern
Crime data from 2000 to 2011 depict that in all years large police station-wise disparity in total crime numbers is clearly noted. Whereas some stations show consistently high numbers, some moderate numbers, some show very less numbers. In most years, maximum number was recorded in Hare Street PS (367 in 2000, 384 in 2001,321 in 2002, 308 in 2003, 314 in 2004, 453 in 2011) and the rate is increasing constantly. Other stations with high crime numbers and sudden rises are Shakespeare Sarani, Bowbazar, Bhowanipur, New Market, Muchipara, Burrabazar, Gariahat, Park Street, Jorasanko, Taltala, Lake and Karaya. Some PSs show very decreasing numbers some very surprisingly like Talla, Hastings, Taratola, North Port, West Port, Pragati Maidan, Tiljala, Metiaburz, Rajabagan (Map 2).
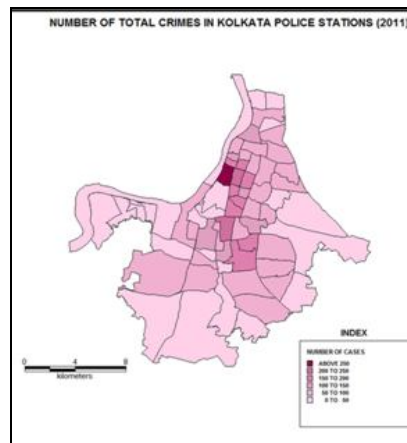
*Map 2: Numbers of Total Crimes in Kolkata Police Stations (2011)*

4.3. Spatial Concentration of Some Cognizable Crimes under IPC
Theft cases are highest in nearly all Police Stations from 2000-2011. In 2011, Hare Street reported maximum 151 cases, Bhowanipur 112, Bowbazar 102, Gariahat 99, Burrabazar 91 and New Market 90 and these have constant high values every year. Numbers are moderately high in Shyampukur, Posta, Muchipara, Park Street, Shakespeare Sarani, Alipur, Entally, Lake, Karaya and Phoolbagan. The new stations like Thakurpukur, Haridebpur, Purba Jadavpur, Survey Park, Kasba, Garfa, Regent Park, Bansdroni also have high numbers (Map 3A).
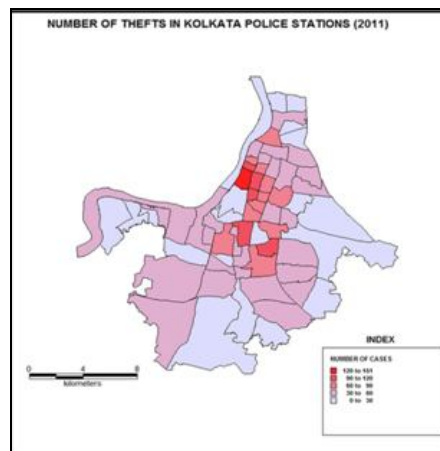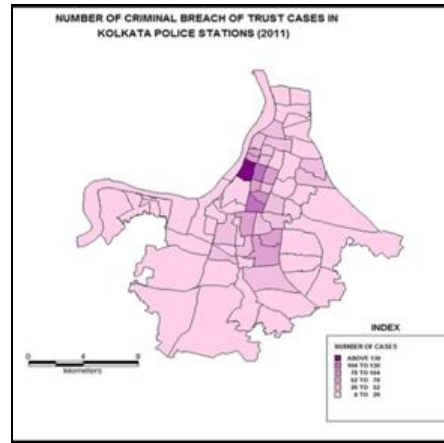

Map 3A: Number of Thefts in Kolkata Police Stations (2011)

Pocket picking and snatching cases are moderately high in Kolkata, the maximum recorded in Hare Street (37) in 2011, followed by Burrabazar, Muchipara, Jorasanko, Bhowanipur. Other prone PS like New Market, Bowbazar, S. Sarani, Park Street, Entally, Gariahat, Narkeldanga are mostly market and business areas (Map 3B).
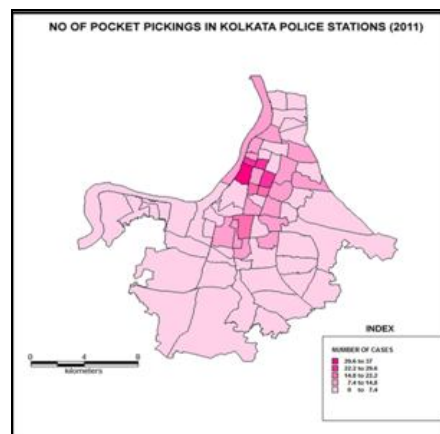

Map 3B: Number of Pocket Pickings in Kolkata Police Stations (2011)

Criminal Breach of Trust and Cheating reigns supreme in the most important business, administrative, office and the market areas of Kolkata. In 2011, maximum was recorded in Hare Street (262), followed by Bowbazar (123), S. Sarani (114). High and medium values fluctuate in Burrabazar, Posta, New Market, Taltala, Muchipara, Park Street, Gariahat, Jorabagan, Shyampukur, Kalighat, Alipur. Such crimes are common in business and service sectors (Map 3C).

Map 3C: Number of Criminal Breach of Trust Cases in Kolkata Police Stations (2011)

Robbery incidents are very negligible in Kolkata. Hare Street, Burrabazar, Bhowanipur, Gariahat recorded 3 cases each in 2011 and Lake, Parnasree, Survey Park 2 cases each. In 2011, 5 cases of House Breaking by Day and Night have taken place in Ultodanga, 4 each in Amherst Street, Jorasanko, 3 each in Thakurpukur, Chitpur, Bowbazar, Metiaburz. Robbery and house breaking reigns supreme in certain peripheral parts of both North & South Kolkata, especially in elite residential neighbourhoods with relatively more open spaces and commercial with close proximity to main thoroughfares (Map 3D). Murder is not a frequent crime in Kolkata. Maximum number of 7 cases reported from Ultadanga, followed by 5 in Burtolla. Murders do not generally have a definite pattern unless in highly crime prone cities with organized criminal groups playing havoc in society.
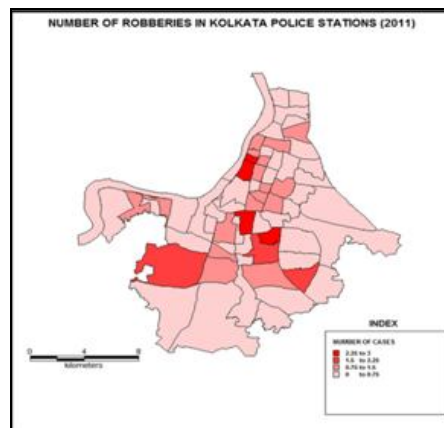
Map 3D: Number of Robberies in Kolkata Police Stations (2011)

*4.4. Analysis of Sampled Crime Cases (2000-2011)*
A graduated dot map has been prepared to show the total number of crime events taking place at a particular location. The largest circles indicating 7- 8 crimes are seen in CIT Road-Narkeldanga area, Chetla, Lenin Sarani- Chandni Chowk- Bowbazar area, Garden Reach and Park Circus along Topsia Road. Circle representing 6 crimes are seen at Entally, Mominpur, north of Hazra Road along Sarat Bose Road, 5 crimes at Bipin Behari Ganguly Street, Entally, Beniatola, Ballygunj and Beniapukur, 4 crimes at Park Circus, Broad Street, Gariahat, Sura and Debendra Chandra Dey Road. Small sized circles congregate at Shova Bazar, Burrabazar, Kankurganchi, at and around Shyambazar Five Point crossing along APC Road, Aurobindo Sarani, Bhupen Bose Avenue, along Dumdum Road, Beniapukur, Park Street, west of Syed Amir Ali Avenue, Bhowanipur, Khidirpur and Watgunj areas. Dispersed events occur in rest areas. General pattern of incidents depict a common feature, i.e. close proximity to main thoroughfares connecting directly to EM Bypass (Map 4).
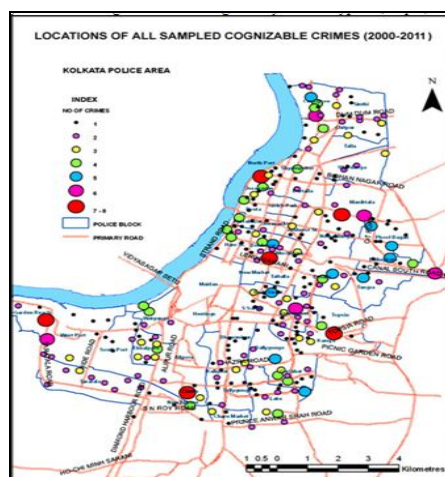
Map 4: Locations of all Sampled Cognizable Crimes (2000-2011)

4.5. Hot Spots of Kolkata
Clearly discernible are areas in Kolkata where crime is more frequent. Hot spots, both clustered and dispersed, can be identified. A hot spot is an "area with high crime intensity" (Ratcliffe, 2004). A hot spot is "a specific location or small area where an unusual amount of criminal activity occurs that is committed by one or more offenders" (Velasco and Boba, 2000). Hot spots are of three categories: i) Dispersed hot spot: The incident locations are spread throughout the area but are more concentrated than in others. ii) Clustered hot spot: The incident locations congregate in one or more smaller clusters. iii) Hot point: The incidents occur at one particular place.
Kolkata has both clustered and dispersed hot spots. Clustered hot spots are located in CIT Road-Manicktola, Bow Bazar-Chandni Chawk; Tiljala-Park Circus-Beniapukur, Topsia-Karaya; Gariahat, Chetla-New Alipur, Garden Reach, Mominpur and Watgunj. Dispersed hot spots extending over larger space are in Shova Bazar, Beniatola, Jorasanko; Burrabazar, Tiretta, BBD Bag, Bowbazar, Chandni Chawk; Tangra, Entally, Hazra Road-Gariahat; Deshapriya Park- Rabindra Sarobar; and Ekbalpur-Watgunj areas. Interestingly the hot spots are near places with high slum population. (Maps 5a, 5b)
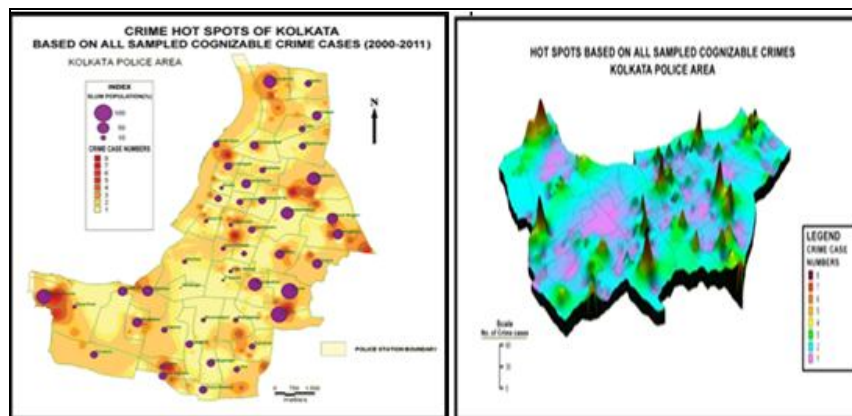

Map 5a, 5b: Crime Hot Spots of Kolkata (2000-2011)

The hot spot locations are also related with main roads which act as evacuation linkages for criminals like EM By pass connecting main roads, railway stations like Sealdah, and bridges like Vidyasagar Setu & Rabindra Setu. Most crimes occur very near or within 500 m & 1 Km of these links. The hot spots are hence related to landuse & road pattern of the city and also certain other socio-economic aspects.

*4.6. Relation of Crime and some socio-economic aspects*
A bulk of Kolkata's community lives in slums and in poverty and deprivation. Slum dwellers are maximum in Topsia (87%), followed by Karaya (85%), Garden Reach (75.33%), Maniktala (61.66%), Beniapukur (61.50%), Narkeldanga (58.10%), Cossipur (55%). Clearly discernible is the fact that these police stations are cursed with the most dangerous crime hot spots (Maps 6, 7).
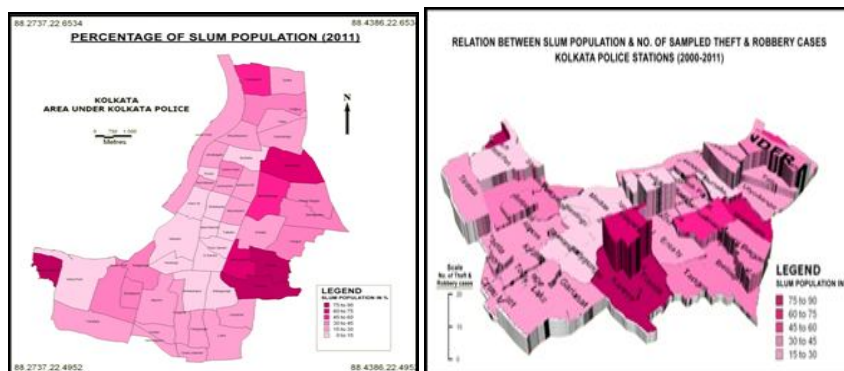
Map 6: Percentage of Slum Population of Kolkata Police Stations (2011)
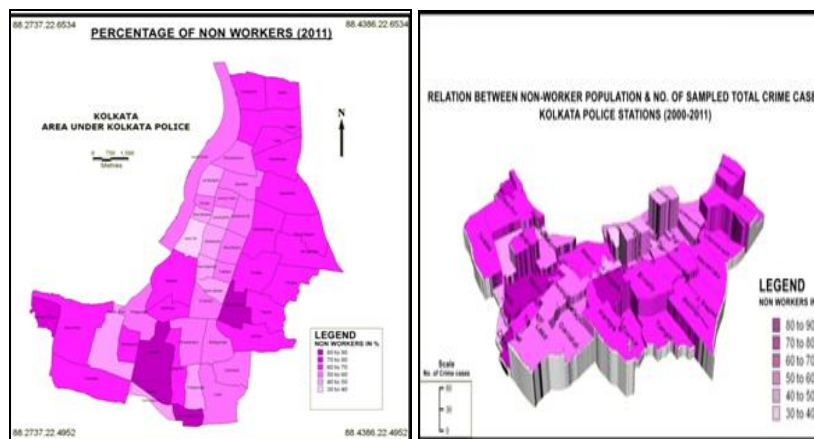*Map 7: Relation between Slum Population & Sampled Theft & Robbery Cases (2000-2011)*

The scenario of literacy in Kolkata depicts something that is not abnormal, but puzzling. Quite a few police stations have large percentage of illiterates, eg., Tangra, Talla, New Market, Bhowanipur, Topsia, Karaya, Beniapukur, Entally, Narkeldanga, Garden Reach. These places are either crime locations or are the addresses of many criminals, a fact revealed from analyses of crime cases. A striking feature is that places with high % of literates are also crime infested. Cheating & Criminal Breach of Trust are mostly recorded in localities with very high literate population. Maximum such cases were recorded in Bowbazar with 63.82% literates. Shakespeare Sarani recorded many such cases with 84.9% literates (the 2nd highest literacy % recorded PS). Hastings PS with 70% literates and Shyampukur PS with 80.55% literates also regularly record many such cases (Maps 8, 9).
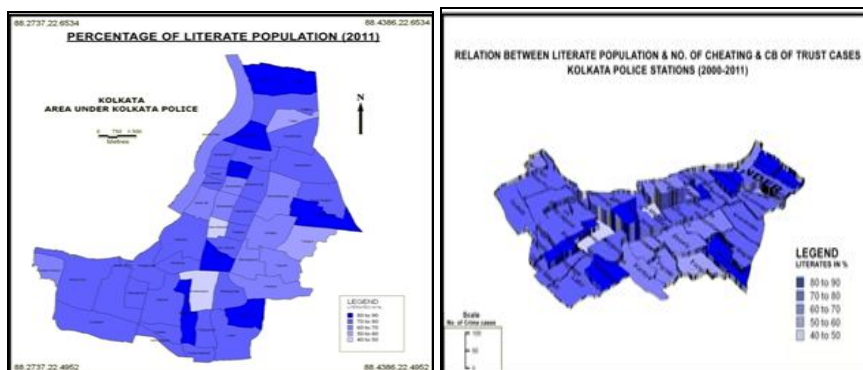
Map 8: Percentage of Literate Population of Kolkata Police (2011)
Map 9: Relation between Literate Population & Cheating & CB of Trust Cases (2000-2011)

The high percentage of non-workers in many parts, eg. Beniapukur (83.23%), Alipur, Chetla, Topsia, Karaya, Tangra, Entally,GardenReach, Narkeldanga, Phool Bagan, Beliaghata are also seats of criminal activities and abodes of many criminals (Maps 10, 11).

Map 10: Percentage of Non-workers of Kolkata Police Stations (2011)
Map 11: Relation between Non-worker Population & Sampled Total Crime Cases (2000-2011)

4.7. A Brief Profile of Criminals

It has been established and accepted that crime rate is much higher for males than females and the highest (51.3%) is in the age group of 18 to 30 yrs. The percentage is 0.2 in age group below 16 yrs, 1.2 in 16-18 yrs, 41.3 in 31-50 yrs and 6.0 in 51 plus age group.

In the case of dacoity and robbery, the bar diagrams reveal that in the age group 15-20 yrs, the % of criminals is 18.46, in the group 20-25 yrs, the % is 38.84, in 25-30 yrs group 29.23, in the 30-35 yrs group, 5.38, in 35-40 yrs group, 3.84, in 40-45 yrs group, 0.76, and above 55 yrs group, only 0.38. The trend shows that in Kolkata, 86.54% of dacoits and robbers are youths. (Fig.1) In case of the murder cases sampled, 17.85% of criminals falls in the 15-20 yrs age group, 42.85% in the 20-25 yrs group, 14.28% in the 25-30 yrs group, 8.92% in the 30-35 yrs group, 7.14%in the 35-40 yrs group, 3.57% in the 40-45 yrs group, 3.57% in the 45-50 yrs group and 1.78% in the above 55 yrs group. Hence it becomes evident that 75% of murderers belong to 15-30 yrs. (Fig.2)

With 86.54% and 75%criminals being between 15-30 years in dacoity, robbery and murder, deviance among the youths in Kolkata is a matter of concern and undoubtedly indicates degeneration of values and rising dissatisfaction.
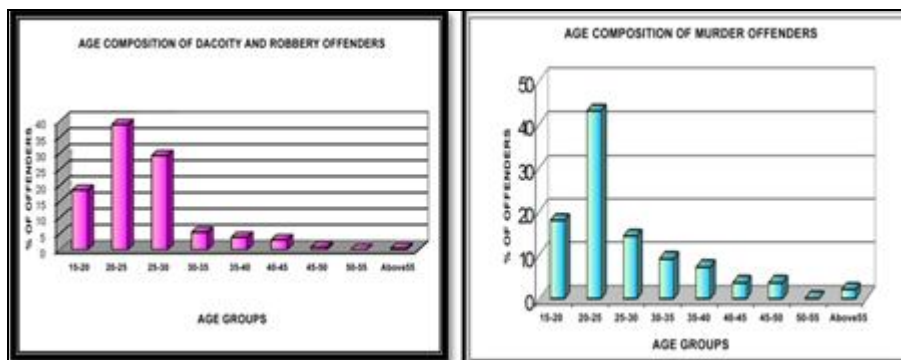

Figure 1: Age Composition of Dacoity and Robbery Offenders
Figure 2: Age Composition of Murder Offenders

The case reviews sampled also reveal the religious faith of the offenders. The bar diagrams show that in the case of dacoity and robbery, 51.93% of criminals are Muslims, 40.8% are Hindus and 6.97% are Sikhs. In crime against women, 60.78% of offenders are Hindus, 36.81% Muslims, 2.31% Sikhs and 0.08% Christians. In murder, 45.18% are Hindus, 41.48% are Muslims, 11.11% are Sikhs and 2.2% are Christians. The maximum number of offenders is from the Hindu and Muslim communities, with the Muslims surpassing the Hindus in cases of dacoity and robbery. A very small proportion is from the Sikh community, the proportion of criminals from the Christian community is really negligible. (Figs 3, 4)
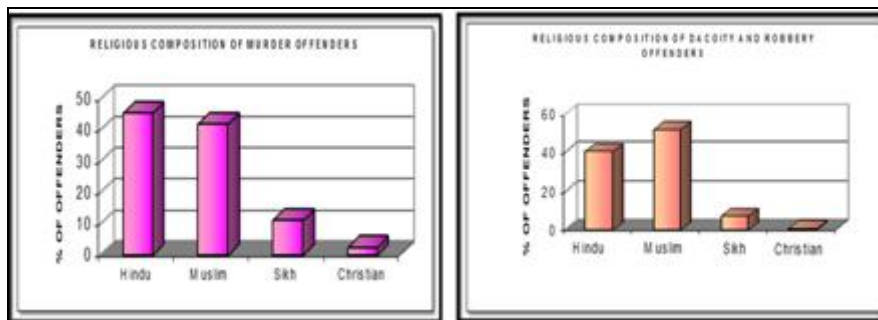

Figure 3: Religious Composition of Murder Offenders
Figure 4 Religious Composition of Dacoity & Robbery Offenders

5. Conclusion

It is evident that though Kolkata is not India's crime capital, but crime here still remains to be of immense societal and administrative concern. In this diverse urban space, the have-nots discover in crime easy means of help and sustenance and the rich strives to be richer by any means, both often collaborating in mutual need. Appraisal of Kolkata's crime by spatial localization of events, associating with landuse, road network and with even cultural landscape can be very successfully applied in efficient policing and decreasing the vulnerability of zones to crime. Such techniques can be efficiently applied in establishing an orderly and safe city and increasing livability.

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