



Spatial variation of different type of crimes in west Bengal

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Abstract

West Bengal is a state with a large amount of geographical and physical variation and in relation to this the socio-economic and political variation also prominent here. So, the crime pattern also varies from one area to another area with the changing geographical, physical, socioeconomic and political conditions. It is noticeable that the rapid growth of urbanization in different districts, mainly the expansion of Kolkata, the high growth of population, the international border areas, the forested areas, the industrial and mine areas are most vulnerable areas in terms of occurrence of criminal activities. North and South 24 Parganas and Kolkata always fall under very high crime intensity zone and Purulia, Bnkura, Birbhum, Purba Midnapore, Coochbehar, Malda, Uttar Dinajpur and South Dinajpur always lie under low to moderate crime intensity zone. On the contrary for the rest of the districts, viz, Paschim Midnapore, Burdwan, Howrah, Hooghly, Darjeeling, Jalpaiguri and Alipurduar, Murshidabad and Nadia, the crime intensity zones vary from low to very high over changing of time period. Maximum variation is prominent for Jalpaiguri-Alipurduar districts. This pattern of variation may be for the influence of different factors in occurrence of crime like socio-political factors, socio-psychological factors, socio-economic factors and finally the geographical and demographic factor. The Criminal Procedure Code of India classifies all types of crime in two categories; firstly, Cognizable Crime including the crime falling either under the `Indian Penal Code (IPC) or under the `Special and Local Laws (SLL)' and secondly, Non Cognizable Crime. In The IPC crimes, 23 type of crimes fall under major six crime categories like crime against body, crime against property, crime against public order, crime against women, economic crime and other IPC Crimes. Most dominating crime types for West Bengal are Attempt to commit murder, Hurt or grievous hurt, Preparation and assembly to commit dacoity, Counterfeiting, Culpable homicide not amounting to murder and Cruelty by husband or his relatives. Highest crime intensity zone are around highly populated areas with increasing rate of urbanization, border areas, and forested areas. In Urban areas major crimes are Murder, theft, Burglary, Counterfeiting, Crime against Women, Cheating and Criminal breach of trust. In case of Forested areas, Theft, Dacoity, Poaching, Corruption are most reported crimes. In areas with National and International Border, major type of crimes that are experiencing are like Smuggling, Trafficking, Murder, Robbery, Dacoity, Crime against women, kidnapping and abduction. Rural areas consist crimes like Crime against women, theft, and arson type of crimes.

Keywords: crime pattern, crime intensity zone, Indian penal code (IPC), crime categories

1. Introduction

When man first formed society, he is bounded by rules regulations and laws framed by themselves. But some people break these rules and laws and conduct criminal activities. So, crime is an unlawful act which is punishable by a certain authority. According to Sir James Stephen, "crime is an act forbidden by law and revolting the moral sentiments of the society." According to Barners and Teeters, the term crime technically means a form of anti-social behaviour that has violated public sentiments to such an extent as to be forbidden by State. Now-a-days crime is the most social pathological issue which hinders the smooth advancement of a society. According to statistics provided by the National Crime Record Bureau, in West Bengal it is observed that different types of criminal activities take place in this state and the total no. of crime is increasing with advancement of time. Different types of crime like crime against children and women, juvenile delinquency, dacoity, theft, robbery, burglary, crime against elderly people, riots, cheating, counterfeiting, arson, murder, attempt to commit murder, kidnapping & abduction, hurt, causing death by negligence, rape, property crime, economic offences, crime in railways, custodial crimes, cyber-crimes, crime against

wildlife etc. all are found out in this state. In 2016 West Bengal reported total 176569 no. of crime which shared 5.93% of total crime of India, which is quite high. Moreover the murder, attempt to murder, rape, crime against women, human trafficking have a very high rate in this state. It is also noticeable that the crime pattern varies with temporal and spatial variation in this state. From ancient period to modern era the nature and causes of crime has been changed and the spatial distribution and orientation also changed simultaneously. Some researchers studied with this crime pattern, like, Mukherjee, A. (1995) ^[12] dealt with crime and public disorder in colonial Bengal from 1861-1912 and found out general trends and regional variation of crime and criminals. Chattopadhyay, B. (2000) ^[4] examined the compulsions behind the introduction of colonial police in early colonial Bengal and emphasized on the social composition and functions of the darogah system. Karmakar, S. studied on crimes committed against women in the district of South 24 Parganas, West Bengal and found out that crime against women in South 24 Parganas is present in various forms like post marital violence, rape and molestation, eve-teasing, women trafficking and revealed the impact of illiteracy, poverty and societal customs upon

the increasing rate of crimes against women and also stated that preventive measures of crimes are not satisfactory. Bhattacharyya, P. (2014) [21] applied simple geographical techniques for identifying the crime pattern in Kolkata and concluded that certain crime types are more common and spatial diversity in crime numbers is clear in relation with road network and some socio-economic aspects. From this above discussion it is clear that the attempt to find out the spatial variation of crime patterns in different districts of West Bengal is very much significant in modern days. Umair, R. (2017) [20] worked on development of criminal law in India by discussing the judiciary system, criminal justice system in Ancient Vedic period; Sultanate and Medieval period, also the changes of criminal laws after 1772 and onwards, finally the IPC, 1860. It is noticeable that the rapid growth of urbanization in different districts, mainly the expansion of Kolkata, the high growth of population, the international border areas, the forested areas, the industrial and mine areas are most vulnerable areas in terms of occurrence of criminal activities.

2. Objectives of the Study

- To find out the spatial variation of total no. of IPC crime in different districts of West Bengal.
- To identify the different types of crime in West Bengal.
- To understand the spatial variation of different types of crime over the districts of West Bengal.
- To mark out the crime intensity zones in West Bengal.

3. Methodology of Research

This study is an investigation based on both quantitative and qualitative works by collecting data from the National Crime Record Bureau. West Bengal has been selected as study area considering variant geographical attributes contributing in differential crime patterns. The data are tabulated, organized, analyzed and interpreted for drawing sound conclusions and valid generalizations by using software like MS EXCEL 2010. Graphical representation likes bar diagrams, line graphs are used and maps are prepared by ARC GIS software version 10.3 to execute the research. Qualitative interpretations are also being done simultaneously.

4. Analysis and Interpretation

4.1. Establishment of IPC in India as well as West Bengal

India has a rich history of well-developed criminal laws and judiciary system since Ancient period. In Vedic period, Dharma is the main source of law and Hindu Criminal law was the single source of judicial system. Umair, R. (2017) [20] explained that Sacred law (Dharma), evidence (Vyavahára), history (Charitra), and edicts of kings (Rájasásana) were the four legs of judicial system. In Medieval period Sultans implemented Shariat or Islamic laws where severe physical torture and capital punishment were mostly predominating. In Mughal period, Muslim criminal laws were followed in Bengal and even after 100

years of the British Company taken over the administration. But the British rule gradually tried to change the Muslim Laws. Warren Hastings introduced his judicial plan for Bengal in 1772 and finally in 1790, Lord Cornwallis made the first attempt to modify the Muslim laws. Lord Wellesley then made lots of changes in criminal laws from 1799 to 1802. Finally, in 1833 the Government of Britain appointed "Indian Law Commission" and in 1837 Macaulay submitted the draft of Indian Penal Code which passed in into law in 1860.

4.2. District-wise variation of total IPC crime in West Bengal

Here Year-wise total no. of IPC crime and all the above mentioned twenty three types of crimes are plotted over different districts of West Bengal by using Choropleth method. The following maps (figure 1) are prepared by the researcher to show the changing spatial distributions of the degree of occurrence of total IPC crime in 2002 to 2016. From these maps it is clear that there are spatial variations in the degree of occurrence of crime by changing of time. The same spatial and temporal variations exist in case of these 23 types of IPC crime in West Bengal. For instance, if we consider mean of total IPC crime for different types of crime over all the districts, from 2002 to 2016, the choropleth classifies four intensity zones of occurrence of crime, namely, very high, high, moderate and low intensity zones of occurrence of crime.

The maps in figure 1 depict the disparities among the districts on the crime intensity zones and also the variation in the intensity zone of the every district over time period. If we compare the maps, it has a clear picture that the North and South 24 Parganas and Kolkata always fall under very high crime intensity zone and Purulia, Bnkura, Birbhum, Purba Midnapore, Coochbehar, Malda, Uttar Dinajpur and South Dinajpur always lie under low to moderate crime intensity zone. On the contrary for the rest of the districts, viz, Paschim Midnapore, Burdwan, Howrah, Hooghly, Darjeeling, Jalpaiguri and Alipurduar, Murshidabad and Nadia, the crime intensity zones vary from low to very high over changing of time period. Maximum variation is prominent for Jalpaiguri-Alipurduar districts. This pattern of variation may be for the influence of different factors in occurrence of crime like firstly, socio-political factors including inadequate and inaccessibility of legal services, unfair judicial system, easy access to weapons, too much political support, alcohol, growing up in high crime area and drugs etc.; secondly socio-psychological factors containing breakdown of family, lack of discipline from parents and other family members, lack of discipline from school, peer influence, mental illness and other psychological reasons and heredity issue etc; thirdly socio-economic factors including the causes like unemployment, poverty, deprivation and lack of education etc. and finally the geographical and demographic factor consisting the causes like immigration, rapid growth of urbanization and high population growth etc.

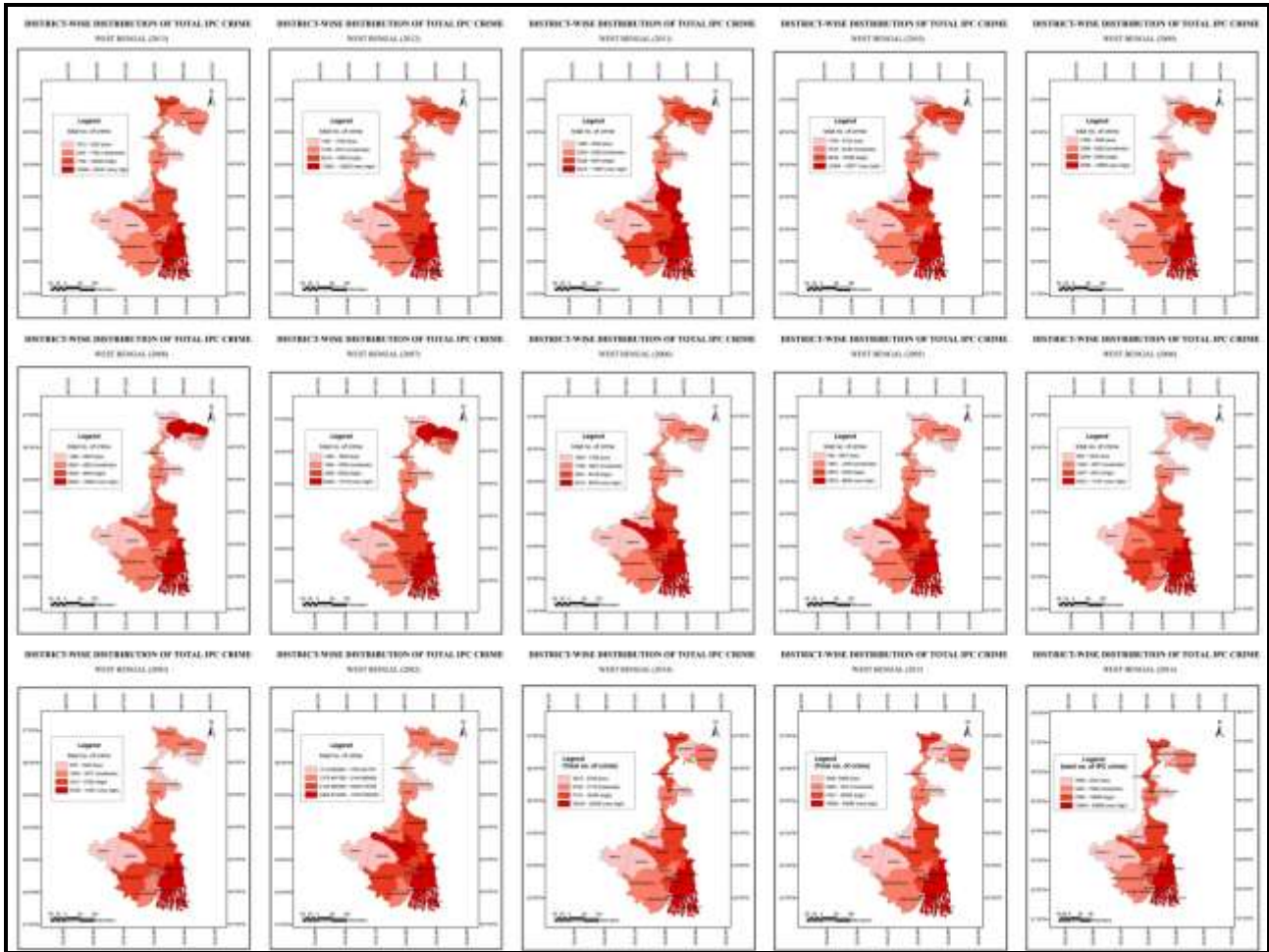


Fig 1: District-wise distribution of total IPC crime

4.3. Major categories of crime in West Bengal

The Criminal Procedure Code of India classifies all types of crime in two categories; firstly, Cognizable Crime where investigation may occur without the order of a magistrate including the crime falling either under the 'Indian Penal Code (IPC) or under the 'Special and Local Laws (SLL)' and secondly, Non Cognizable Crime which could not be investigated without the order of magistrate. Here only IPC Cognizable crimes are taken into account for this research.

The Major categorical classifications of crime for West Bengal are classified by the researcher for advancement of the study like crime against body, crime against property, crime against public order, economic crimes, crime against women and other OPC crimes. The sub-categories or different types of crime are also shown in the table no 1 along with total no. of IPC crime in West Bengal (2016) and its percentage share to the total IPC crime in India.

Table 1: Percentage share of different types of crime in West Bengal to India

Major IPC crime categories	Types of crime	Total no. of IPC crime in 2016		Percentage share of West Bengal to India (IPC crime)
		Total no. of crime in West Bengal	Total no. of crime in India	
Crimes against body	Minder	2044	30450	6.71
	Attempt to commit minder	11973	49667	24.11
	Culpable homicide int am3untilv to muter	392	3203	12.24
	Mdmpping Sr. Abduction	6045	88008	6.87
	Hutt and Grievous Hurt	18119	89039	20.35
	Causing death by negligence	6378	140215	4.55
Crimes against PIDPertY	Dacoity	115	3795	3.03
	Preparation and assembly to commit dacoity	1320	3051	43.26
	Robbery	472	31906	1.48
	Buiglaiy	276	111746	0.25
	Theft	19902	494404	4.03
Crimes against public order	Riots	2691	61974	4.34
	Arson	523	11196	4.67
Economic crimes	Ciininal breach of trust	1646	18708	8.80
	Cheating	6893	109611	6.29
	Counteifeiting	327	1476	22.15
Climes against	Rape	1110	38947	2.85

women	Dowry death	535	7621	7.02
	Cruelty by husband or his relatives	19302	110378	17.49
	Assault on women With intent to outrage her modesty	4117	84746	4.86
	Insult to the modesty of women	449	7305	6.15
	Importation of gni from foreign comity	5	431	1.16
Other IPC climes	Gillen	71935	1477834	4.87

In 2016, West Bengal ranked eighth in terms of percentage share (5.93%) of total IPC crimes to India. West Bengal accounted for very high rate of percentage share in terms of attempt to commit murder, culpable homicide not amounting to murder, Hurt or Grievous hurt, preparation and assembly to commit dacoity, counterfeiting and cruelty by husband or his relatives. In this research paper yearly means have been calculated by considering the no. of crimes from the 2002 to 2016 by using the following formula:

$$\text{Yearly mean of the crime} = \frac{\text{No. of crime in 2002} + \text{No. of crime in 2003} + \dots + \text{no. of crime 2015} + \text{No. of crime 2016}}{\text{No. of years (15)}}$$

If we consider the percentage share of different types of IPC crime of West Bengal to India (yearly annual mean of different type of crime from 2002 to 2016), we will find 4 types of percentage share rates, namely:

1. High rate of percentage share (>20%) including Attempt to commit murder, Hurt or grievous hurt, Preparation and assembly to commit dacoity, Counterfeiting;
2. Moderate rate of percentage share (10-20%) including culpable homicide not amounting to murder, Cruelty by husband or his relatives.
3. Low rate of percentage share (5-10%): Murder, Kidnapping and abduction, Criminal breach of trust, Cheating, Dowry death, Insult to the modesty of women;
4. Very low rate of percentage share (<5%) including Causing death by negligence, Dacoity, Robbery, Burglary, Theft, Riot, Arson, Rape, Assault on women with intent to outrage her, modesty, Importation of girls from foreign countries.

4.3.1. Crime against body

Crime against body is a most violent crime among the all crimes which includes crimes like murder, attempt to murder, culpable homicide not amounting to murder, kidnapping and abduction, hurt or grievous hurt, causing death by negligence. Here district-wise yearly means of all the types of crime have been calculated and plotted by using bar diagrams. From the figure 2 it has been interpreted that there is a sharp spatial variation among the districts on occurrence of different type of crimes.

The term ‘Homicide’ originated from the Latin word ‘Homo’ meaning human and ‘caedere’ meaning killing. In India homicide is divided into two types, like Culpable Homicide not amounting to murder (Section 299) and

Culpable Homicide amounting to murder (Section 300). Although both of these have a very slight difference but these differences are very important to deliver a fair judgment.

According to IPC definition, Culpable Homicide not amounting to murder or simply referred to as Culpable Homicide (Section 299 IPC) is an act done with the intention of causing death or the intention of causing such bodily injury which is likely to cause death or having the knowledge that he can likely by his act cause death, he’ll be committing the offense of culpable homicide. The figure 2 reveals that North 24 Parganas reported highest yearly men of culpable homicide followed by South-24-Parganas, Murshidabad, Burdwan, Jalpaiguri and Alipurduar districts. Under Section 300 Indian Penal Code defined Murder as an act by which death is caused with the intention of causing death or with the intention of causing such bodily injury as the offender knows to be likely to cause the death of the person to whom the harm is caused or with the intention of causing bodily injury to any person and the bodily injury intended to be in-flicted is sufficient in the ordinary course of nature to cause death or committing the act knowing that it is so imminently dangerous that it must, in all probability, cause death or such bodily injury as is likely to cause death and committing such act without any excuse for incurring the risk of causing death or such injury as aforesaid. The National Crime Record Bureau identified 13 motives behind murder, such as gain, property dispute, personal vendetta, love affairs and sexual causes, lunacy, dowry, witchcraft, terrorism, political issues, communication, casteism, class conflicts and other motives. This motives changes with spatial variation of the area and thus spatial variation of the nature and causes of murder also prominent in case of West Bengal. The both 24 Parganas reported highest mean of murder in comparison to other districts.

Attempt to Murder under Section 307, IPC defines it is an offence when whoever does any act with such intention or knowledge, and under such circumstances that, if he by that act caused death, he would be guilty of murder, shall be punished with imprisonment of either description for a term which may extend to ten years, and shall also liable to fine, and if hurt is caused to any person by such act, the offender shall be liable either to imprisonment for life, or to such punishment as is hereinbefore mentioned. like culpable homicide and murder, the attempt to murder in West Bengal has a different areal inclination, like Murshidabad, Nadia have higher yearly mean followed by North-24-parganas, Malda, Kolkata, Uttar Dinajpur.

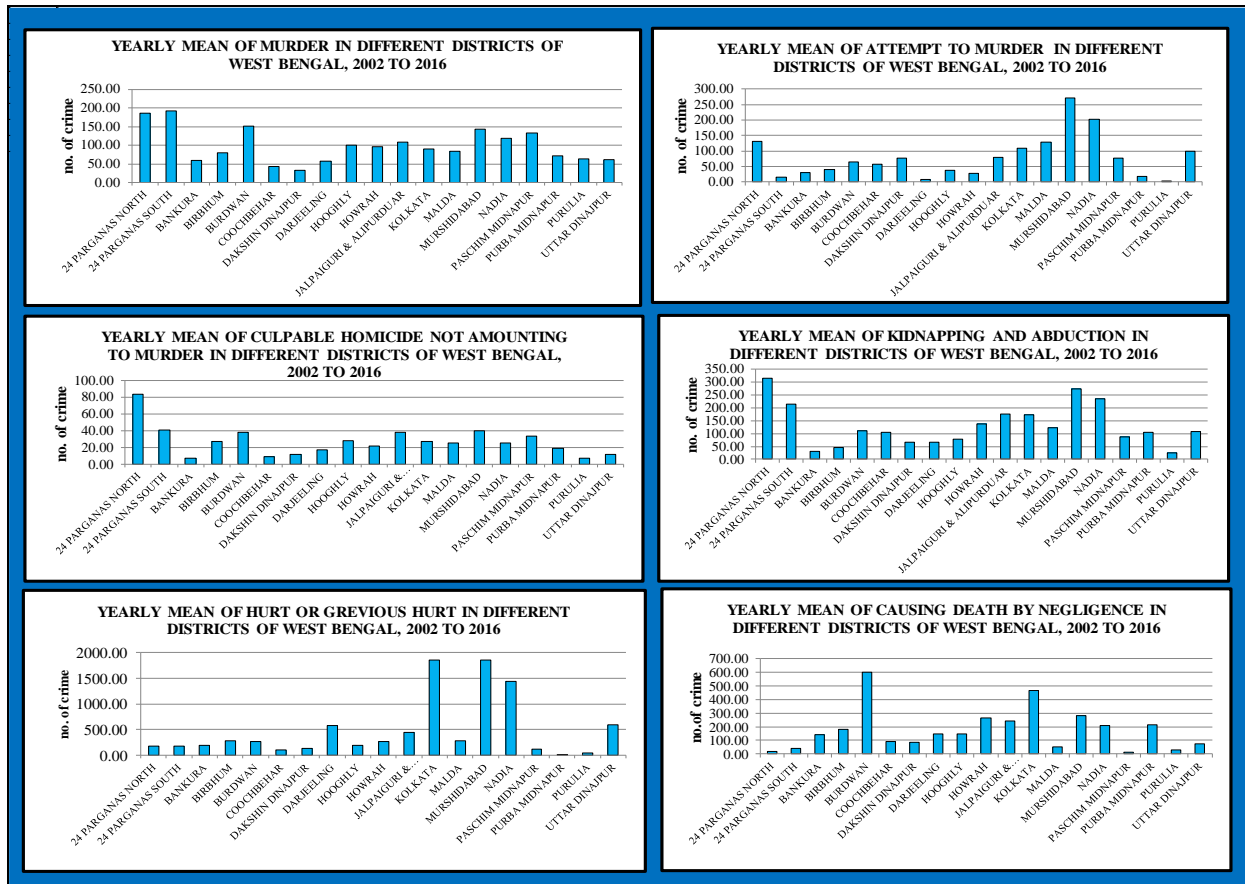


Fig 2: District-wise distribution of Yearly mean of crimes against body in West Bengal (2002 to 2016)

Section 304(a) IPC states that whoever causes the death of any person by doing any rash or negligent act not amounting to culpable homicide shall be punished with imprisonment of either description for a term which may extend to two years, or with fine, or both and the person will be charged under this section as Death by Negligence. There are different kinds of negligence like 1. Medical negligence for negligence if a medical practitioner deviates from the standard treatment which is necessary for taking care of his/her patient causing death or injury; 2. Motor vehicle accidents because of driver’s negligence or rashness; 3. Corporate Negligence if the authorities provide an unsafe environment for its employees or cheat their shareholders, release personal information without permission and many more. In West Bengal, Burdwan followed by Kolkata, Murshidabad accounted for higher yearly mean of this type of crime.

From section 319 to 338 of IPC deals with the various forms of hurt and Grievous Hurt. Section 319 of the Indian Penal Code defines Hurt as whoever reasons bodily pain, infirmity, disorder or disease to any man or woman is said to have caused simple hurt. Physical or bodily pain means that mentally or emotionally hurting to anyone does not fall under this section 319. Section 320 classifies certain types of hurts as Grievous Hurt including hurts like emasculation, permanent injury to eyesight or either of the eye, permanent deafness or injury to either of the eye, privation of any member or joint (loss of limb), impairing of Limb, permanent disfiguration of the head or face, fracture or dislocation of a bone or tooth and finally any hurt which risks life or which causes the victim to be during the time of

twenty days in severe bodily pain, or unable to follow his ordinary pursuits. In West Bengal Kolkata, Murshidabad, Nadia accounted for the higher yearly mean of this type of crime.

In Section 359 of IPC there are two forms of Kidnapping, i.e., Kidnapping from India and Kidnapping from Lawful Guardianship. Section 360 of IPC defines that when a person is conveyed beyond the limits of India without that person’s consent, or of some person legally authorized to consent on behalf of that person, is said to commit the offence of kidnapping from India. By Section 361, IPC tells whoever takes or entices a minor male under 16 years of age if a male, or under 18 years of age if a female, or any person of unsound mind, out of the keeping of the lawful guardianship of such minor or person of unsound mind, without the consent of such guardian, is said to commit the offence of kidnapping from lawful guardianship. On the other hand, Abduction has been defined in Section 362 of IPC that whoever, by force compels, or by any deceitful means induces, any person to go from any place, is said to commit the offence of abduction. Both 24 Parganas, Murshidabad and Nadia in West Bengal reported higher yearly mean of kidnapping and abduction.

4.3.2. Crime against property

Protection of public property with human being should also be ensured and thus IPC in its chapter XVII includes laws for protecting public property. National Crime Record Bureau clubbed theft, burglary, robbery, dacoity, preparation to commit dacoity under crime against property.

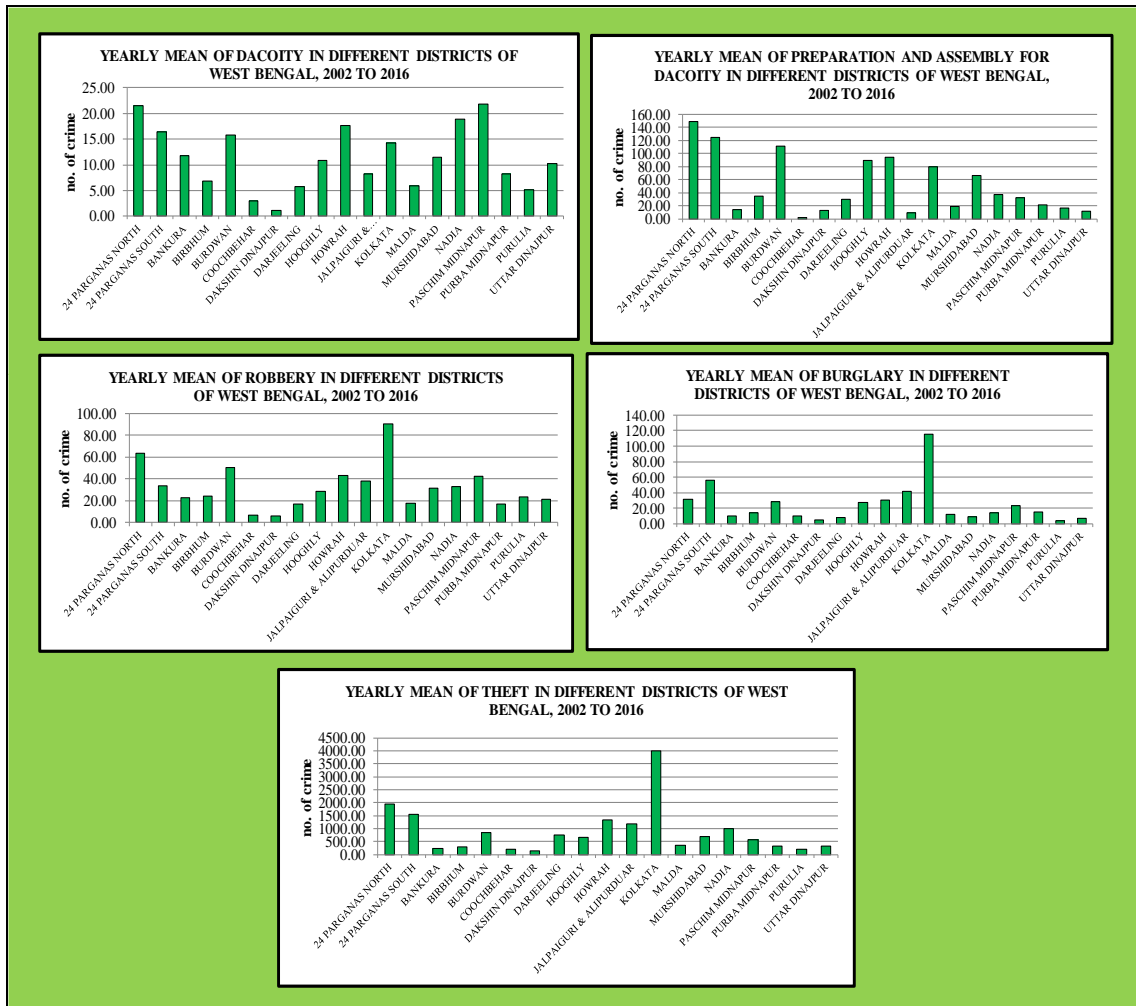


Fig 3: District-wise distribution of Yearly mean of crimes against property in West Bengal (2002 to 2016)

In Section 378 IPC defines Theft as whoever, intending to take dishonestly any moveable property out of the possession of any person without that person’s consent, moves that property in order to such taking, is said to commit theft. Theft is very common type of crime which occurs very high in number and Kolkata reported very high yearly mean of theft among the other districts. 24 Parganas South and North, Howrah, Jalpaiguri and Alipurduar Districts have also higher yearly mean than other districts. The term Burglary is not defined in Indian Penal Code but it is a common-law offense of breaking and entering another’s dwelling as well as any building with the intent to commit a felony. The IPC Sections 380 and 449 to 451 give an explanation of burglary where burglary is the intent to break into a property without consent with the intent of committing a crime inside (including theft). Like theft, Kolkata reported very high yearly mean of burglary followed by 24 Parganas South and North. Under Section 390, IPC defines Robbery. The offense of theft or burglary becomes Robbery if the offender, at the time of committing the theft or extortion, put the other person in fear of instant death or of instant hurt, or of instant wrongful restraint. In West Bengal, Kolkata followed by North-24-Parganas, Burdwan and Howrah districts experienced higher yearly mean of Robbery. Dacoity is defined under Section 391 in IPC which is the broader part than robbery. Dacoity, without committing the robbery, it is not possible. IPC defines dacoity as when five

or more persons co-jointly commit or attempt to commit or robbery, or where the whole number of persons co-jointly committing or attempting to commit a robbery, and persons present and aiding such commission or attempt, amount to five or more every person so committing, attempting or aiding is said to commit dacoity. Unlike the other categories of crime against property, dacoity has been occurred in maximum number of districts with a higher yearly mean. Although Paschim Midnapore followed by North-24-Parganas, Nadia, Howrah, South-24-Parganas, Burdwan, Kolkata, Bankura, Murshidabad reported very high yearly mean of dacoity, other districts except Dakshin Dinajpur and Coochbehar also have a higher mean. In Section 399 IPC describes Preparation to Commit Dacoity which is an unsuccessful attempt to commit dacoity. Unlike Dacoity, Preparation to commit Dacoity has a diversified spatial distribution among different districts where this type of crime has been occurred in North-24 Parganas with a highest yearly mean followed by South-24-Parganas and Burdwan.

4.3.3 Crime against public order

Siegel (2004) defined crime against public order as “crime which involves acts that interfere with operations of society and the ability of people to function efficiently”. To maintain peace and tranquility, IPC conveys some laws against public-order-crime like riots and arson.

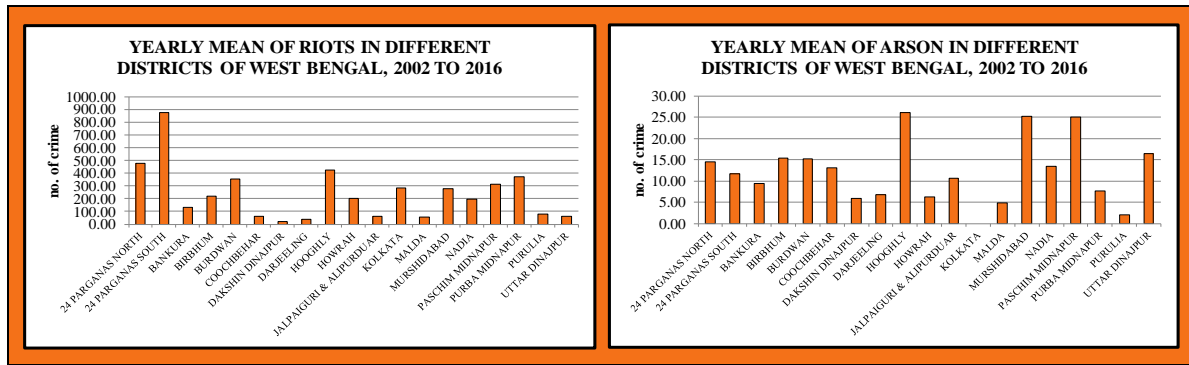


Fig 4: District-wise distribution of Yearly mean of crimes against public order in West Bengal (2002 to 2016)

Section 146 of IPC defines Rioting as whenever force or violence is used by an unlawful assembly, or by any member thereof, in prosecution of the common object of such assembly, every member of such assembly is guilty of the offence of rioting. In west Bengal, South-24-Parganas dominates over highest yearly mean of rioting and other districts have a significant lower mean than South-24-Parganas.

Arson is defined under Section 435 and Section 436 of the IPC. Section 435 defines arson as whoever commits mischief by fire or any explosive substance intending to cause, or knowing it to be likely that he will thereby cause, damage to any property to the amount of one hundred rupees or upwards. Section 436 of IPC states that whoever commits mischief by fire or any explosive substance, intending to cause, or knowing it to be likely that he will thereby cause, the destruction of any building which is ordinarily used as a place of worship or as a human dwelling or as a place for the custody of property, shall be punished. Hooghly followed by Murshidabad and Paschim Midnapore have higher yearly mean of arson and Kolkata has zero occurrence of arson.

4.3.4. Economic Crime

Economic crime or financial crime is an illegal act; involving unlawful conversion of the ownership of property, cheating, counterfeiting, criminal breach of trust; committed by an individual or a group of people for obtaining an economic gain or professional advantage. Section 415 to Section 420 of the IPC defines Cheating as

an act done with dishonest or unfair means to gain an advantage. In IPC, section 415 defines cheating as a crime when a person must deceive other with fraudulent or dishonest intention to induce another person in delivering any property or consent to retain any property or deceive to do or omit to do anything which is likely to cause damage or harm to body, mind, reputation, or property. In west Bengal, cheating is highly dominated in Kolkata and moderately in North-24-Parganas and rest districts have very low yearly mean of cheating.

According to Section 28 of IPC a person is said to counterfeit who causes one thing to resemble another thing, intending by means of that resemblance to practice deception, or knowing it to be likely that deception will thereby be practiced. In West Bengal counterfeit occurs mostly in Kolkata, Malda and Murshidabad and for rest of the districts the occurrence rate is very low.

Section 405 of IPC stated about Criminal Breach of Trust that Whoever, being in any manner entrusted with property, or with any dominion over property, dishonestly misappropriates or converts to his own use that property, or dishonestly uses or disposes of that property in violation of any direction of law prescribing the mode in which such trust is to be discharged, or of any legal contract, express or implied, which he has made touching the discharge of such trust, or willfully suffers any other person so to do, commits “criminal breach of trust”. Criminal breach of trust is predominant only over Kolkata in West Bengal and the occurrence rate is insignificant for other districts.

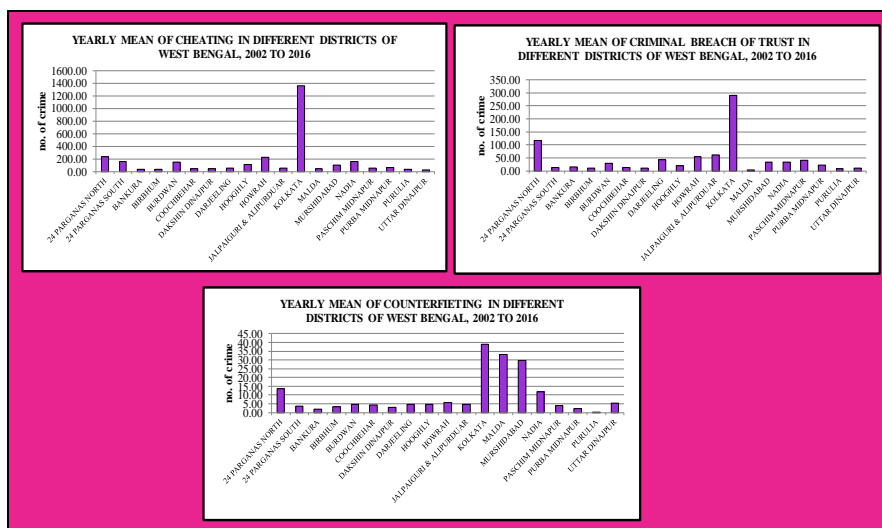


Fig 5: District-wise distribution of Yearly mean of economic crime in West Bengal (2002 to 2016)

4.3.5. Crime against women

IPC considers rape, dowry deaths, cruelty by husbands or his relatives, assault on women intent to outrage her modesty, insult the modesty of a woman, importation of girl from foreign country as crime against women which involve physical and sexual violence committed against woman.

According to Section 375 of IPC, a man commits Rape if he penetrates his genital into the woman’s vagina, mouth, urethra or anus, or compels the woman to do such act with him or any other person or if he inserts his genital part or any other part of the body or any object into the woman’s vagina, urethra or anus, or compels the woman to do such act with him or any other person or, if he manipulates any part of the woman’s body to penetrate or insert the genital part into the vagina, urethra or anus, or compels the woman to do such act with him or any other person or if he puts his mouth to the woman’s urethra, vagina or anus, or compels her to do such act with him or any other person. District Murshidabad of West Bengal accounted for the highest yearly mean of rape followed by South-24-Parganas, North-24- Parganas, Jalpaiguri and Alipurduar Districts and Nadia. Kokata has lower occurrence rate of rape and also lower than Malda, Coochbehar, Burdwan, Uttar Dinajpur and Paschim Midnapur which have moderate rate of rape.

Section 304B of IPC explains that if a woman dies within seven years of marriage by any burns or bodily injury or it was revealed that before her marriage she was exposed to cruelty or harassment by her husband or any other relative of the husband in connection to demand dowry then the death of the woman will be considered as a Dowry Death. Dowry death is highest in North-24-Parganas and it has higher yearly mean for South-24-Parganas, Burdwan, Nadia and Murshidabad.

Section 498-A of IPC described about Husband or relative of husband of a woman subjecting her to cruelty by defining that whoever, being the husband or the relative of the husband of a woman, subjects such woman to cruelty shall be punished with imprisonment for a term which may extend to three years and shall also be liable to fine. In India it is a major problem of reporting this kind of crime as majority of women in India are not aware and also do not want to go to the police due their family reputation, illiteracy, afraid, unawareness and sometimes they accept these kind of cruelty as their fate or husband’s right. The West Bengal Crime Record Bureau marked South-24Parganas having highest mean of this kind of crime followed y North-24-Parganas, Murshidabad, Nadia. The remaining districts have low to moderate yearly mean.

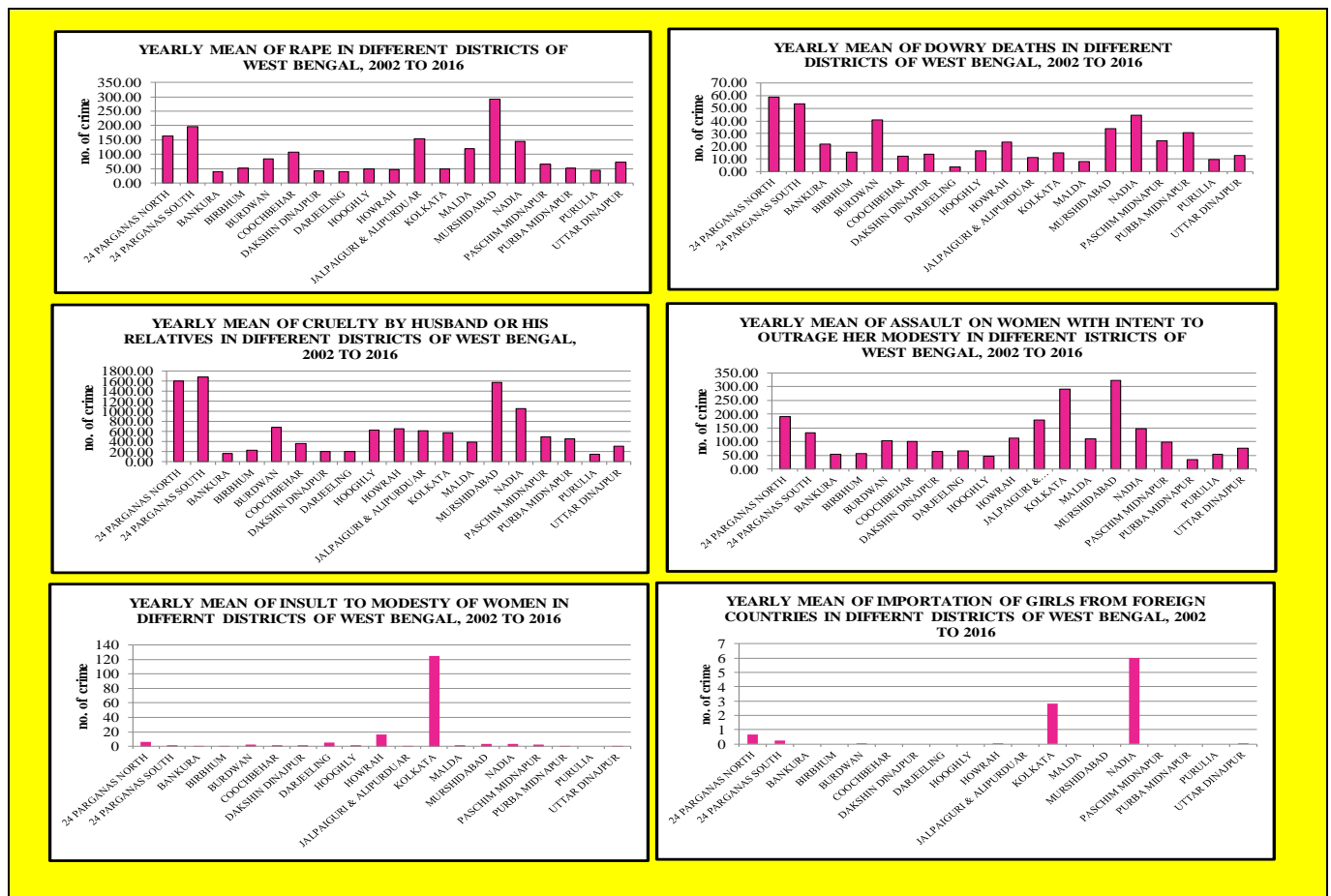


Fig 6: District-wise distribution of Yearly mean of crimes against women in West Bengal (2002 to 2016)

Section 351 of IPC stated about Assault that whoever makes any gesture, or any preparation intending or knowing it to be likely that such gesture or preparation will cause any person present to apprehend that he who makes that gesture or preparation is about to use criminal force to that person, is said to commit an assault. Like cruelty by husband and his

relatives, there is a gap between occurrence of assault and its proper reporting to the police. Hence, the data from West Bengal Crime Record Bureau revealed that Murshidabad is highest among the all districts in terms of yearly mean of assault and Kolkata also has a higher mean. North-24-Parganas and Jalpaiguri and Alipurduar districts have a

moderate yearly mean.

Section 509 of IPC describes word, gesture or act intended to insult the modesty of a woman as whoever, intending to insult the modesty of any woman, utters any word, makes any sound or gesture, or exhibits any object, intending that such word or sound shall be heard, or that such gesture or object shall be seen, by such woman, or intrudes upon the privacy of such woman, shall be punished with simple imprisonment for a term which may extend to one year, or with fine, or with both. Like cruelty by husband and his relatives and assault, insult to modesty of women also not reported accurately, but the data shows that Kolkata has predominance in this kind of crime and other districts have insignificant number of occurrence rate.

According to Section 366B of IPC, Importation of girl from foreign country as whoever imports into India from any

country outside India or from the State of Jammu and Kashmir any girl under the age of twenty-one years with intent that she may be, or knowing it to be likely that she will be, forced or seduced to illicit intercourse with another person, shall be punishable with imprisonment which may extend to ten years, and shall also be liable to fine. In West Bengal this kind of crime is very less; only in Nadia and Kolkata it has been seen in a higher men than other districts and that also very lesser amount, i.e. yearly mean is 6 for Nadia and 3 for Kolkata.

4.3.6. Other IPC crime

The any other cognizable crime under IPC lies under other-IPC-crime categories which has quite higher yearly mean for Kolkata, North and South-24-Parganas and moderate for Howrah, Burdwan, Jalpaiguri and Alipurduar Districts.

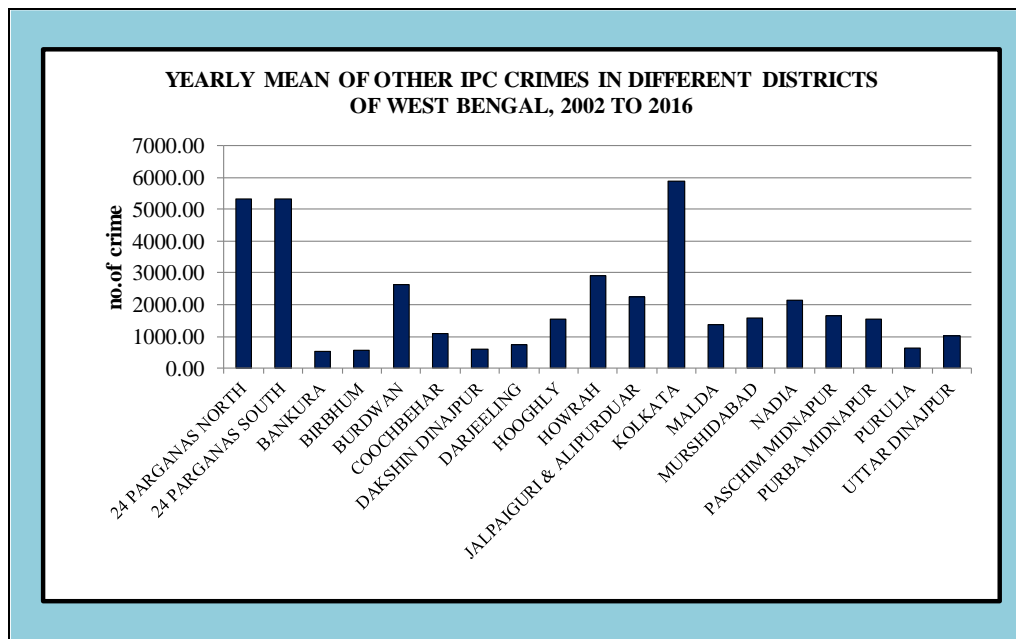


Fig 7: District-wise distribution of Yearly mean of other IPC crime in West Bengal (2002 to 2016)

Table 2: Crime occurrence intensity zone (2002 to 2016)

Categories	Types of crime	Districts under the crime occurrence intensity zone by using mean of total no. of IPC crime from 2002 to 2016			
		Very High	High	Moderate	Low
Crimes against body	Murder	24 Parganas North, 24 Parganas South	Burdwan, Murshidabad, Nadia, Paschim Midnapore	Birbhum, Hooghly, Howrah, Jalpaiguri and Alipurduar, Kolkata, Malda	Bankura, Dakshin Dinajpur, Purba Midnapore, Uttar Dinajpur, Purulia, Coochbehar
	Attempt to commit murder	Murshidabad	Nadia	24 Parganas North, Dakshin Dinajpur, Jalpaiguri and Alipurduar, Kolkata, Malda, Paschim Midnapore	24 Parganas South, Bnakura, Birbhum, Coochbehar, Darjeling, Hooghly, Howrah, Purba Midnapore, Purulia
	Culpable homicide not amounting to murder	24 Parganas North	24 Parganas North, Burdwan, Murshidabad	Birbhum, Hooghly, Jalpaiguri and Alipurduar, Kolkata, Nadia, Paschim Midnapore	Bankura, Dakshin Dinajpur, Purba Midnapore, Uttar Dinajpur, Purulia, Coochbehar, Howrah, Malda, Nadia, Darjeeling
	Kidnapping & Abduction	24 Parganas North, Murshidabad	24 Parganas South, Jalpaiguri and Alipurduar, Kolkata, Nadia	Burdwan, Coochbehar, Howrah, Malda, Purba Midnapore, Uttar Dinajpur	Bankura, Birbhum, Dakshin Dinajpur, Darjeeling, Hooghly, Paschim Midnapore, Purulia
	Hurt and Grievous Hurt	Kolkata, Murshidabad, Nadia	Darjeeling, Jalpaiguri and Alipurduar, Uttar	Birbhum, Burdwan, Howrah, Malda	24 Parganas North, 24 Parganas South, Bankura, Coochbehar, Dakshin Dinajpur, Hooghly,

			Dinajpur		Paschim Midnapore, Purba Midnapore, Purulia
	Causing death by negligence	Burdwan	Kolkata, Murshidabad	Birbhum, Howrah, Jalpaiguri and Alipurduar, Nadia, Purba Midnapore	24 Parganas North, 24 Parganas South, Bankura, Coochbehar, Dakshin Dinajpur, Darjeeling, Hooghly, Malda, Paschim Midnapore, Purulia, Uttar Dinajpur
Crimes against property	Dacoity	24 Parganas North, Paschim Midnapore	24 Parganas South Burdwan Howrah, Kolkata, Nadia	Bankura, Murshidabad, Uttar Dinajpur	Birbhum, Coochbehar, Dakshin Dinajpur, Darjeeling, Hooghly, Jalpaiguri and Alipurduar, Malda, Purba Midnapore, Purulia
	Preparation and assembly to commit dacoity	24 Parganas North, 24 Parganas South,	Burdwan, Hooghly, Howrah, Kolkata	Birbhum, Murshidabad, Nadia, Paschim Midnapore,	Bankura, Coochbehar, Dakshin Dinajpur, Darjeeling, Jalpaiguri and Alipurduar, Malda, Purba Midnapore, Purulia, Uttar Dinajpur
	Robbery	Kolkata	24 Parganas North, Burdwan	24 Parganas South, Howrah, Jalpaiguri and Alipurduar, Murshidabad, Nadia, Paschim Midnapore	Bankura, Birbhum, Coochbehar, Dakshin Dinajpur, Darjeeling, Hooghly, Malda, Purba Midnapore, Purulia, Uttar Dinajpur
	Burglary	Kolkata	24 Parganas South, Jalpaiguri and Alipurduar	24 Parganas North, Burdwan, Hooghly, Howrah, Paschim Midnapore	Bankura, Birbhum, Coochbehar, Dakshin Dinajpur, Darjeeling, Malda, Murshidabad, Nadia, Purba Midnapore, Purulia, Uttar Dinajpur
	Theft	Kolkata	24 Parganas North, 24 Parganas an South, Howrah, Jalpaiguri and Alipurduar, Nadia	Burdwan, Darjeeling, Hooghly, Murshidabad, Paschim Midnapore	Bankura, Birbhum, Coochbehar, Dakshin Dinajpur, Malda, Purba Midnapore, Purulia, Uttar Dinajpur
Crimes against public order	Riots	24 Parganas South	24 Parganas North, Hooghly	Burdwan Howrah Kolkata, Murshidabad Midnapore, Purba Midnapore	Bankura, Birbhum, Coochbehar, Dakshin Dinajpur, Darjeeling, Jalpaiguri and Alipurduar, Malda, Nadia, Purulia, Uttar Dinajpur
	Arson	Hooghly, Murshidabad, Paschim Midnapore	24 Parganas North, Nadia, Birbhum, Burdwan, Coochbehar, Uttar Dinajpur	24 Parganas South, Bankura, Jalpaiguri and Alipurduar, Purba Midnapore	Dakshin Dinajpur, Darjeeling, Howrah, Kolkata, Malda, Purulia,
Economic crimes	Criminal breach of trust	Kolkata	24 Parganas North, Jalpaiguri and Alipurduar	Darjeeling, Howrah, Malda, Murshidabad, Nadia, Paschim Midnapore	24 Parganas South, Bankura, Birbhum, Burdwan, Coochbehar, Dakshin Dinajpur, Hooghly, Purba Midnapore, Purulia, Uttar Dinajpur
	Cheating	Kolkata	24 Parganas North, Howrah, Nadia,	24 Parganas South, Burdwan, Hooghly, Murshidabad,	Bankura, Birbhum, Coochbehar, Dakshin Dinajpur, Darjeeling, Jalpaiguri and Alipurduar, Malda, Paschim Midnapore, Purba Midnapore, Purulia, Uttar Dinajpur
	Counterfeiting	Kolkata, Malda	Murshidabad	24 Parganas North, Nadia	24 Parganas South, Bankura, Birbhum, Burdwan, Coochbehar, Dakshin Dinajpur, Darjeeling, Hooghly, Howrah, Jalpaiguri and Alipurduar, Paschim Midnapore, Purba Midnapore, Purulia, Uttar Dinajpur
Crimes against women	Rape	Murshidabad	24 Parganas North, 24 Parganas South	Coochbehar, Jalpaiguri and Alipurduar, Malda, Nadia	Bankura, Birbhum, Burdwan, Dakshin Dinajpur, Darjeeling, Hooghly, Howrah, Kolkata, Paschim Midnapore, Purba Midnapore, Purulia,

					Uttar Dinajpur
	Dowry death	24 Parganas North, 24 Parganas South	Burdwan, Murshidabad, Nadia	Bankura, B a, Howrah, Paschim Midnapore, " Purba Midnapore	Birbhum, Coochbehar, Dakshin Dinajpur, Darjeeling, Hooghly, Jalpaiguri and Alipurduar, Kolkata, Malda, Purulia, Uttar Dinajpur
	Cruelty by husband or his relatives	24 Parganas North, 24 Parganas South	Murshidabad, Nadia	Burdwan, Hooghly, Howrah, Jalpaiguri and Alipurduar, Kolkata, Paschim Midnapore	Bankura, Birbhum, Coochbehar, Dakshin Dinajpur, Darjeeling, Malda, Purba Midnapore, Purulia, Uttar Dinajpur
	Assault on women with intent to outrage her modesty	Kolkata, Murshidabad	24 Parganas North, Howrah, Jalpaiguri and Alipurduar	24 Parganas South, Burdwan, Coochbehar., Malda, Nadia,	Bankura, Birbhum, Dakshin Dinajpur, Darjeeling, Hooghly, Paschim Midnapore, Purba Midnapore, Purulia, Uttar Dinajpur
	Insult to the modesty of women	Kolkata	24 Parganas North, Darjeeling, Howrah	Burdwan, Murshidabad, Nadia, Paschim Midnapore	24 Parganas South, Bankura, Birbhum, Coochbehar, Dakshin Dinajpur, Hooghly, Jalpaiguri and Alipurduar, Malda, Purba Midnapore, Purulia, Uttar Dinajpur
	Importation of girl from foreign country	Nadia	Kolkata	24 Parganas North, 24 Parganas South, Burdwan	Bankura, Birbhum, Coochbehar, Dakshin Dinajpur, Darjeeling, Hooghly, Howrah, Jalpaiguri and Alipurduar, Malda, Murshidabad, Paschim Midnapore, Purba Midnapore, Purulia, Uttar Dinajpur
Other IPC crimes	Others	24 Parganas North, 24 Parganas South, Kolkata	Burdwan, Howrah, Jalpaiguri and Alipurduar, Nadia	Hooghly, Murshidabad, Paschim Midnapore, Purba Midnapore	Bankura, Birbhum, Coochbehar, Dakshin Dinajpur, Darjeeling, Malda, Purulia, Uttar Dinajpur

4.4: Crime intensity zone in West Bengal in terms of different types of IPC crime

The following table 3 is depicting the districts under the crime occurrence intensity zone by using mean of total no. of IPC crime from 2002 to 2016, where red zone, orange zone, yellow zone and green zone are denoting very high crime intensity zone, high crime intensity zone, moderate crime intensity zone and low crime intensity zone respectively. The tabulated data reveals that the most problematic districts are 24 Parganas North and South, Kolkata, Murshidabad, Nadia and Howrah. It is also noticeable that the intensity zones vary with the different types of crime

5. Conclusion

5.1. Findings

- India has a rich history of well-developed criminal laws and judiciary system since ancient period and present Indian Penal Code was passed into law in 1860
- Most dominating crime types: Attempt to commit murder, Hurt or grievous hurt, Preparation and assembly to commit dacoity, Counterfeiting, Culpable homicide not amounting to murder, Cruelty by husband or his relatives.
- North & South 24 Parganas and Kolkata: very high crime intensity zone.
- Purulia, Bnkura, Birbhum, Purba Midnapore, Coochbehar, Malda, Uttar Dinajpur and South Dinajpur: low to moderate crime intensity zone.
- Paschim Midnapore, Burdwan, Howrah, Hooghly, Darjeeling, Jalpaiguri and Alipurduar, Murshidabad and Nadia: the crime intensity zones vary from low to very high over changing of time period.

- Maximum variation is prominent for Jalpaiguri-Alipurduar districts.
- Most problematic districts: 24 Parganas North and South, Kolkata, Murshidabad, Nadia and Howrah where maximum type of crime are happening in a large amount.
- Highest crime intensity zone around: highly populated areas with increasing rate of urbanization, border areas, and forested areas.
- In Urban areas major crimes are Murder, theft, Burglary, Counterfeiting, Crime against Women, Cheating and Criminal breach of trust
- In case of Forested areas, Theft, Dacoity, Poaching, Corruption are most reported crimes.
- In areas with National and International Border, major type of crimes that are experiencing are like Smuggling, Trafficking, Murder, Robbery, Dacoity, Crime against women, kidnapping and abduction.
- Rural areas consist Crime against women, theft, and arson type of crimes.

5.2 Suggestions

- Planning and community development from grass root level.
- Ensuring public health to the all residents mainly for the poor people.
- Combating poverty by proper implementation of strategies and policies.
- Generating more employment.
- Increasing public security.
- Finding out the root cause behind the crime for a definite area.
- Enhancing crime monitoring system.

- Developing public safety indicators.
- Developing economy.
- Developing the society and social background.
- Strengthening of criminal laws and its proper execution.
- More orientation towards evidences like confession to the Police made by victims, eye-evidences and others; forensic evidences including handwriting, finger print, body samples, blood samples; monitoring call list, e-mails, chat box.
- Implementation of witness protection program.
- More digitization in finding out crime and criminals.
- Introduction of more acts about crimes and corruptions, harder punishments, strict and uncorrupted judiciary system.

In conclusion it can be said that in West Bengal the changing geographical background, socio-economic and political conditions are responsible for specific crime patterns over spatial variation so the present research is a way to comprehend this pattern and its variation over space.

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