

SPATIAL AND TEMPORAL ANALYSIS OF CRIME AGAINST WOMEN IN NANDED CITY

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ABSTRACT

Present paper focus on the crime against women in Nanded city. Crime against women has currently become a big issue and it can't be ignored anymore because women are part of our country and they represent half the population of our country. There is a different kind of crime against women and women can be victims of this crime at any place like home, public place and workplace. Increasing crime and cruelty against women is not only a topic of serious anxiety, but also a topic of deeper contemplation. Crime and criminalities are related with urban environment. According to the National Crime Records Bureau of India (NCRB), reported total incidents of crime against women have 338954 (crime rate is 55.2 per one lakh of population) and in Maharashtra reported incidents of crime against women have 31388 (crime rate is 54.6 per one lakh of population) during 2016.

In the present study five crimes are selected i.e. Rape, Dowry Death, Kidnapping & Abduction, Molestation, Dowry or Cruelty by Husband or His Relatives for Dowry etc. Analysis includes the number of registered cases at each police station from the year 2013 to 2017 are respectively 175(2013), 116(2014), 142 (2015), 158(2016) and 164(2017). The collected data has been analyzed by using different quantitative, statistical techniques and computer based software. Google Earth application was also used to identify the crime hotspots in the Nanded city.

Key Word: Crime, women, GIS, Google Earth

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INTRODUCTION:

Crime is a social occurrence which distresses the well fare of the society, its association and development that is why crime is seen seriously by society. A typical behavior pattern has been created for each community to have a strong foundation and management.

Crime against women is the reality, which has to be spreads in a wider range so that there is more awareness in culture. Often awkward situations by men are ignored and go unreported, as the women fear that the police may further victimize them. However, it must also be recognized that crime against women has existed over the ages both in the form of domestic violence and social violence. Crime against women is neither culture specific nor region specific. It is uniformly distributed in every society. The difference in statistical figures on crime against women in every country is in degree and scale. Crimes such as wife beating, harassment, dowry death etc. also depends on the culture and status of women in different societies. While in India, reporting is low, as it is a social stigma to report incidences of sexual assault and harassment.

GIS allows police personnel to plan effectively for emergency responses, determine mitigation priorities, analyses historical events, and predict future events. It can also be used to get critical information to emergency responders upon dispatch or incident to assist in tactical planning and response. The cartographic representation has some advantages such as visual analysis and statistics of crime, aggregate information in spatial matrix, produce thematic maps all of which help to communicate the results of the analysis. Spatial incidents and hot spot analysis of Crime data can be visualized in three dimensional environments. This allows law enforcement agencies to understand where crime is occurring as well as determine if there are any patterns. Areas of high crime density are known as hot spots. A decision support system can be generated using GIS for Crime reduction and mapping.

1.2 STUDY AREA:

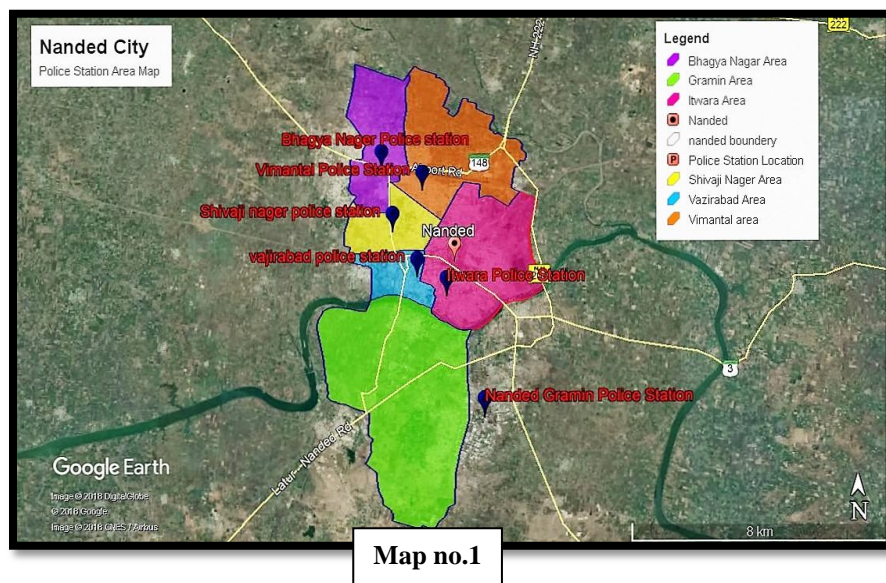
Nanded is an ancient city situated on the left bank of Godavari River. Nanded City located between 19°5'52" to 19°12'31" North latitude and 77°16'55" to 77°21'1" East Longitude. It has an area of 61.44 Sq. Km. area and is the eighth largest city in Maharashtra. The river Godavari divided the city of Nanded into two parts, the old Nanded is situated on the left bank of Godavari (20.62 Sq km area) and new Nanded includes Waghala and other six villages on the right banks of the Godavari (40.82 Sq km area). The geographical area of New Nanded is double than the old Nanded. Nanded city is the central place among the Yavatmal, Latur, Parbhani of Maharashtra,

Hyderabad, Adilabad and Nizamabad of Telangana and Bidar of Karnataka. Nanded has a population of 550,439 as of the 2011 census. There is a sex ratio of 932 females per 1,000 males in the municipal corporation.

In Nanded City include 6 Police Station of Bhagyanager Police Station, shivajinager Police Station, Vazirabad Police Station, Itwara Police Station, NandedGramin Police Station and Vimantal police Station. Nanded It is increasing rapidly as industrial centers, commercial complex, educational center and main point of economic, cultural, social and administrative activities of Marathwada region.

Table no.1.1 Location of All Police Stations in Nanded City

Sr. No.	ALL POLICE STATION IN NANDED CITY	LATITUDE	LONGITUDE
1	Vazirabad police station	19° 9'12.52"N	77° 18'48.44"E
2	ShivajiNager police station	19° 9'57.95"N	77° 18'20.38"E
3	BhagyaNager police station	19° 11'1.62"N	77° 18'6.85"E
4	Itwara police station	19° 8'53.68"N	77° 19'21.53"E
5	Vimantal police station	19° 10'40.48"N	77° 18'53.36"E
6	NandedGramin police station	19° 6'56.62"N	77° 20'3.67"E



AIM AND OBJECTIVE:

The aim of research is GIS Based Analysis of Crime against Women in Nanded District, following are some objectives have been used during the research.

1. To analyze crime against women in Nanded City.
2. To study selected crimes against women in Nanded City.

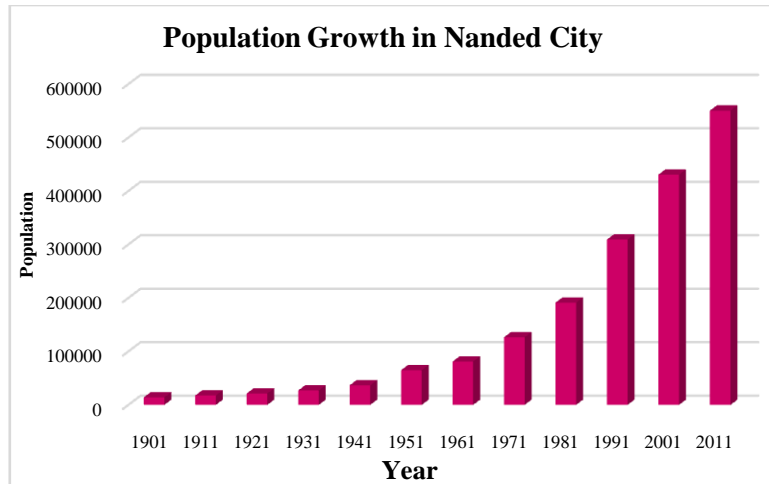
METHODOLOGY:

Present study was carried out using secondary data. The secondary data was collected through different urban police stations of Nanded city. Analysis includes the number of registered cases at each police station from the year 2013 – 2017. The collected data has been processed and analyzed by using different quantitative, statistical techniques and computer based GIS software's. The analysis of tables and representation of graphs, diagrams and maps has been done. Google Earth application is also used to identify the police station locations in the Nanded city.

Table no.1.2
GROWTH OF POPULATION IN NANDED CITY
(1901-2011)

Year	Population	Decadal	Growth In
1901	14184	-	-
1911	17625	3441	24.26
1921	21417	3792	21.51
1931	26992	5572	26.01
1941	36689	9697	35.85
1951	65024	28335	77.23
1961	81087	16063	24.7
1971	126538	45451	56.05
1981	191269	64731	51.15
1991	309316	118047	61.71
2001	430733	121417	39.25
2011	550439	119706	27.79

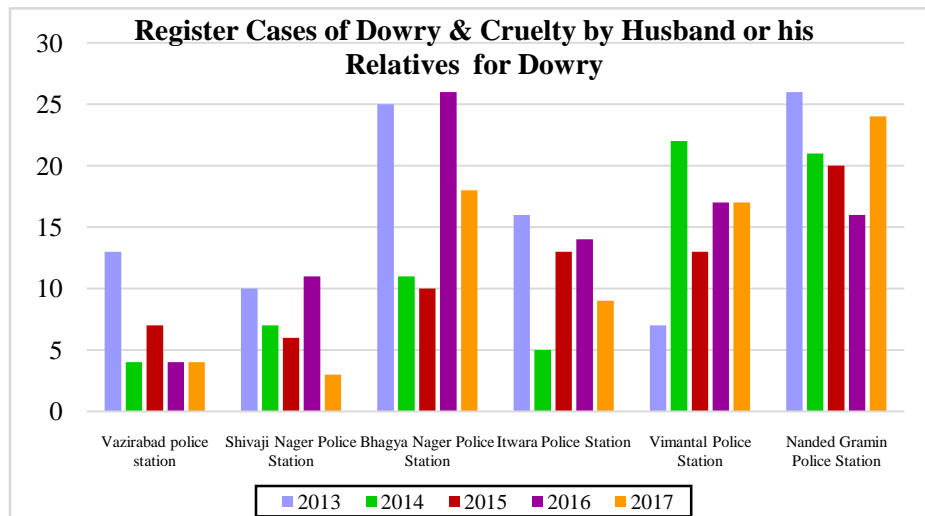
Sources: Census of India - 1901 to 2011



According to Census 1901, the population of Nanded City was 14184 in 1911, it has found increase to 17625 by 24.26 percent. In the year 1951, population was recorded 65024, it increases 77.23, according to 1961 Census, and the total population has reached to 81087 persons. This is increase of 24.7 percent. Its percentage rate was comparatively decreased in 1951 decade. In the decade 2001, the total population of the Nanded City was 430733 persons and its percentage was 39.25 and in the census year 2011, total population of the Nanded City was 550439 persons by 27.79 percent.

Table no. 1.3
Register Cases of Dowry or Cruelty by Husband or His Relatives for Dowry
In Nanded Police Station 2013-2017

Sr. No.	Name of Police Station In Nanded City	Register Cases of Dowry or Cruelty by Husband or His Relatives for Dowry					Total Crime 2013-2017	Total % of Crime 2013-2017
		2013	2014	2015	2016	2017		
1	Vazirabad police station	13	4	7	4	4	32	6.92
2	ShivajiNager Police Station	10	7	6	11	3	37	8.00
3	BhagyaNager Police Station	25	11	10	26	18	90	19.48
4	Itwara Police Station	16	5	13	14	9	57	12.33
5	Vimantal Police Station	7	22	13	17	17	76	16.45
6	NandedGramin Police Station	26	21	20	16	24	170	36.79
	Total	101	52	62	76	66	462	100



According to table (2013-2017) is showing result of study about Registered ‘Dowry or Cruelty by Husband or His Relatives for Dowry’ Cases in Nanded city. The highest percentage(36.79) regarding ‘Dowry or Cruelty by Husband or Relatives for Dowry’ cases is registered in Nanded Gramin Police Station whereas the lowest percentages (6.92) of crime regarding ‘Dowry or Cruelty by Husband or Relatives for Dowry’ are registered in Vazirabad Police Station. The total number of crimes regarding ‘Dowry or Cruelty by Husband or Relatives for Dowry’ registered from the year 2013 to 2017 under the IPC Section 498A is 462 in Nanded city.

Table no. 1.4
Registered Cases of Molestation in Nanded Police Station
2013-2017

Sr. No.	Name of Police Station In Nanded City	Registered Cases Of Molestation					Total Crimes 2013-2017	Total % of Crime 2013-2017
		2013	2014	2015	2016	2017		
1	Vazirabad Police Station	2	3	6	3	5	19	9.69
2	ShivajiNager Police Station	0	6	9	12	7	34	17.34
3	BhagyaNager Police Station	7	5	5	4	10	31	15.81
4	Itwara Police Station	9	5	5	3	5	27	13.77
5	Vimantal Police Station	1	1	7	9	6	24	12.24
6	NandedGramin Police Station	10	13	7	18	13	61	31.12
	Total	33	35	36	43	45	196	100

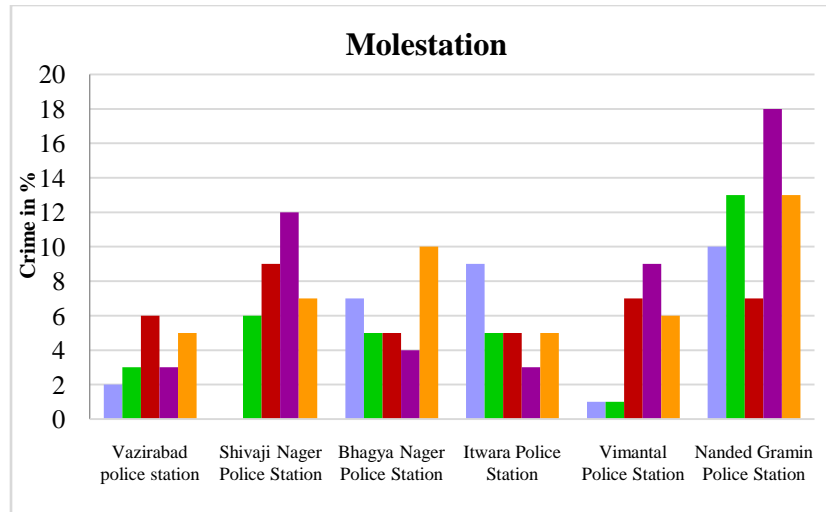
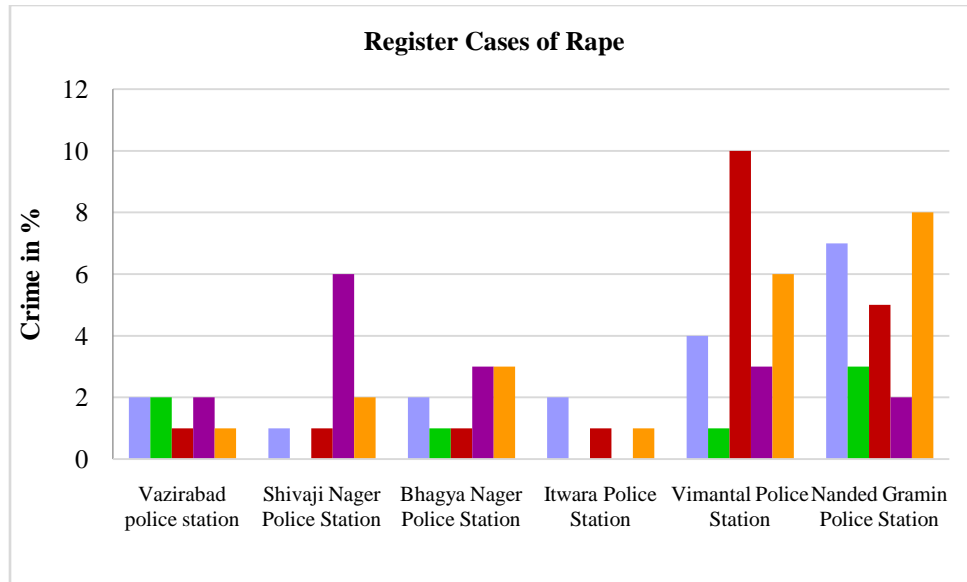


Table no.1.4is showing results of registered ‘Molestation’ Cases in Nanded city. In Nanded city 31.12%‘Molestation’cases are registered in NandedGramin Police Station and only9.69%‘Molestation’ cases are registered in Vazirabad Police Station. The total numbers of crimes regarding Molestation are registered from the year 2013 to 2017 under the IPC Section 354A is 196 in Nanded city.

Table no. 1.5
Register Cases of Rape in Nanded Police Station
2013-2017

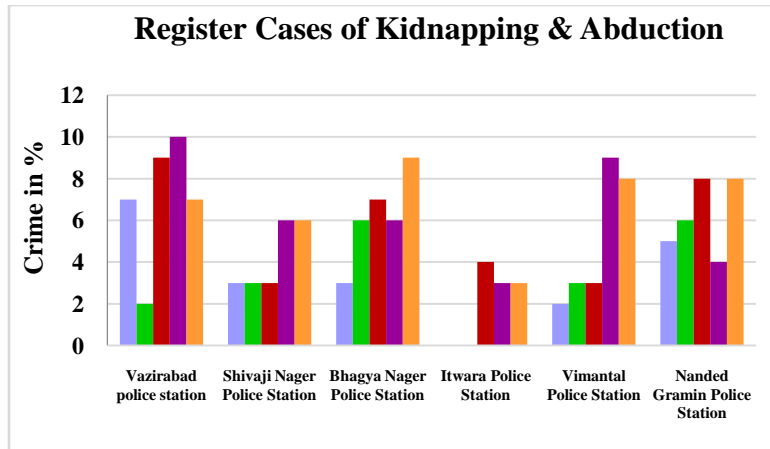
Sr. No.	Name of PoliceStation In Nanded City	Register Cases of Rape					Total Crime 2013-2017	Total % of Crime 2013-2017
		2013	2014	2015	2016	2017		
1	Vazirabad police station	2	2	1	2	1	8	9.87
2	ShivajiNager Police Station	1	0	1	6	2	10	12.34
3	BhagyaNager Police Station	2	1	1	3	3	10	12.34
4	Itwara Police Station	2	0	1	0	1	4	4.93
5	Vimantal Police Station	4	1	10	3	6	24	29.62
6	NandedGramin Police Station	7	3	5	2	8	25	30.86
	Total	14	6	9	14	15	81	100



Above Table (2013-2017) is showing result of study about Registered 'Rape' Cases in Nanded city. In Nanded city the registered 'Rape' 30.86 percentage cases most in occurred in Nanded Gramin Police Station and in Vimantal Police Station 29.62 percentage is obtained. The lowest 4.93 percentage of registered cases in this crime is obtained in Itwara Police Station and in Vazirabad Police Station 9.87 percentage is obtained. This is less than compare to Nanded Gramin. Than the total number of 'Rape (IPC Section 376)' cases of all police station is 81 in Nanded city.

Table no. 1.6
Register Cases of Kidnapping & Abduction in Nanded Police Station
2013-2017

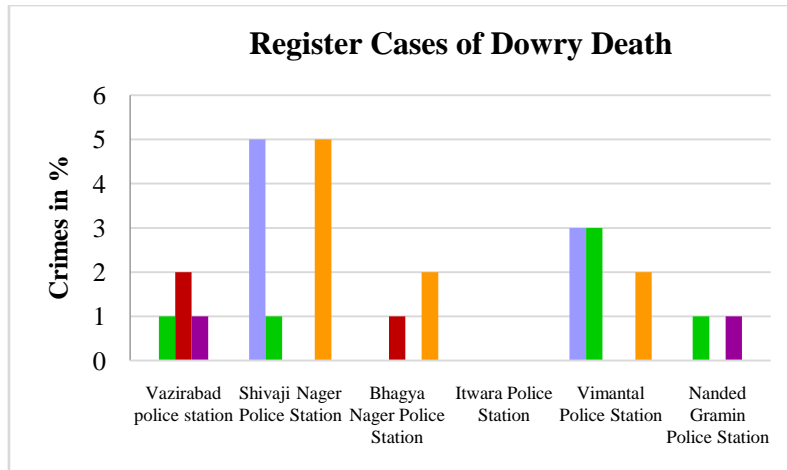
Sr. No.	Name of Police Station In Nanded City	Register Cases of Kidnapping & Abduction					Total Crime 2013-2017	Total % of Crime 2013-2017
		2013	2014	2015	2016	2017		
1	Vazirabad police station	7	2	9	10	7	35	22.87
2	Shivaji Nager Police Station	3	3	3	6	6	21	13.72
3	Bhagya Nager Police Station	3	6	7	6	9	31	20.26
4	Itwara Police Station	0	0	4	3	3	10	6.53
5	Vimantal Police Station	2	3	3	9	8	25	16.33
6	Nanded Gramin Police Station	5	6	8	4	8	31	20.26
	Total	20	20	33	24	31	153	100



Above Table (2013-2017) is showing result of study about Registered ‘Kidnapping & Abduction’ Cases in Nanded city. The highest percentage 22.87 regarding ‘Kidnapping & Abduction’ cases are registered in Vazirabad Police Station. The lowest percentage of registered cases in this crime is obtained 6.53 in Itwara Police Station. Than the total number of ‘Kidnapping & Abduction’ (IPC Section 359) cases of all police stations are 153 in Nanded city.

Table no. 1.7
Register Cases of Dowry Death in Nanded Police Station
2013-2014

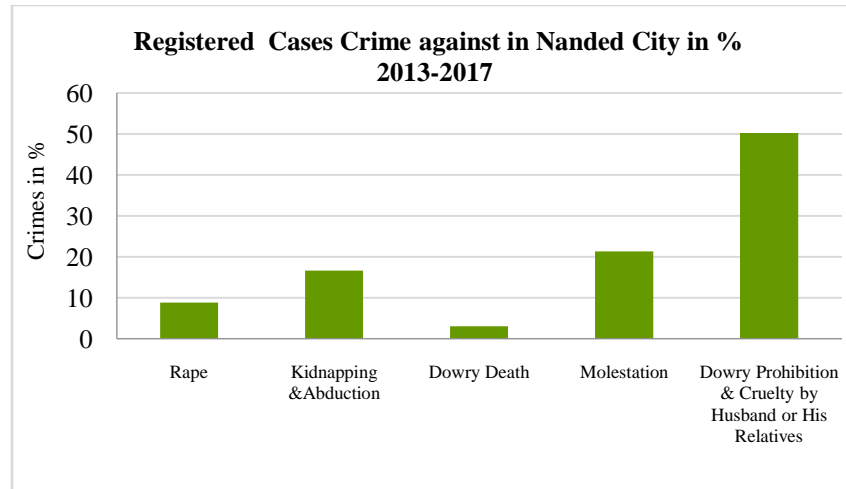
Sr. No.	Name of Police Station In Nanded City	Register Cases of Dowry Death					Total Crime 2013-2017	Total % Of Crime 2013-2017
		2013	2014	2015	2016	2017		
1	Vazirabad police station	0	1	2	1	0	4	14.28
2	Shivaji Nager Police Station	5	1	0	0	5	11	39.28
3	Bhagya Nager Police Station	0	0	1	0	2	3	10.71
4	Itwara Police Station	0	0	0	0	0	0	0
5	Vimantal Police Station	3	3	0	0	2	8	28.57
6	Nanded Gramin Police Station	0	1	0	1	0	2	7.14
	Total	7	3	2	1	7	28	100



Above Table (2013-2017) is showing result of study about Registered ‘Dowry Death’ Cases in Nanded city. The highest percentage (39.28) regarding Dowry Death cases registered in ShivajiNager Police Station whereas the lowest percentage (7.14) regarding Dowry Deathcases registered in NandedGramin Police Station. This is less than compare to ShivajiNager Region. Than the total number of ‘Dowry Death’ (IPC Section 304B) cases of all police stationsare28 in Nanded city.

Table no. 1.8
Register Cases of Crime against Women in Nanded City
2013-2017

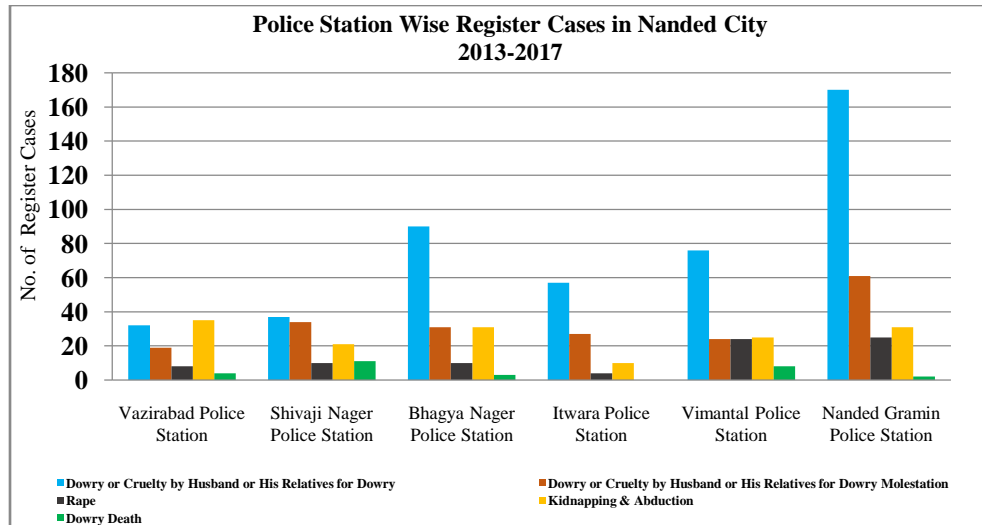
Sr.No.	Name Of Crimes	Registered Crimes	Registered Crime in %
1	Rape	81	8.80
2	Kidnapping &Abduction	153	16.63
3	Dowry Death	28	3.04
4	Molestation	196	21.30
5	Dowry or Cruelty by Husband or His Relatives for Dowry	462	50.21
	TOTAL	920	100



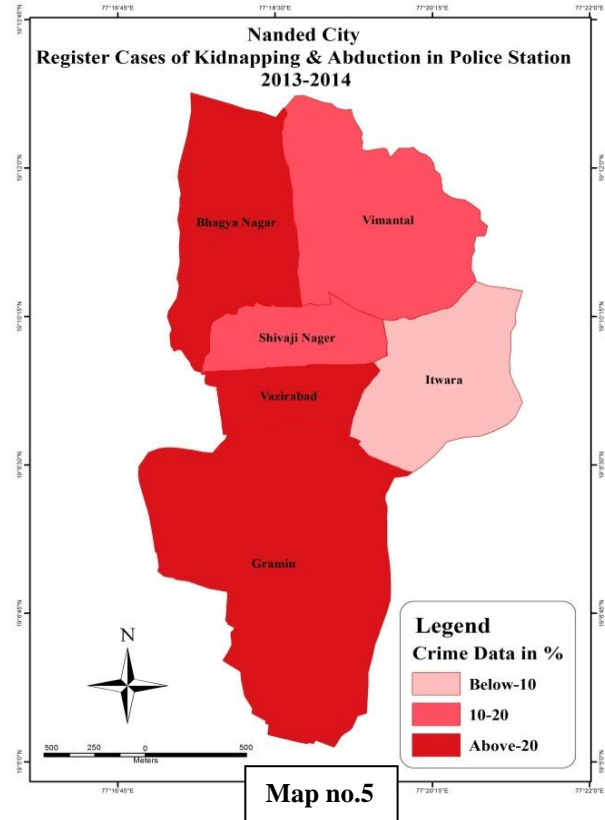
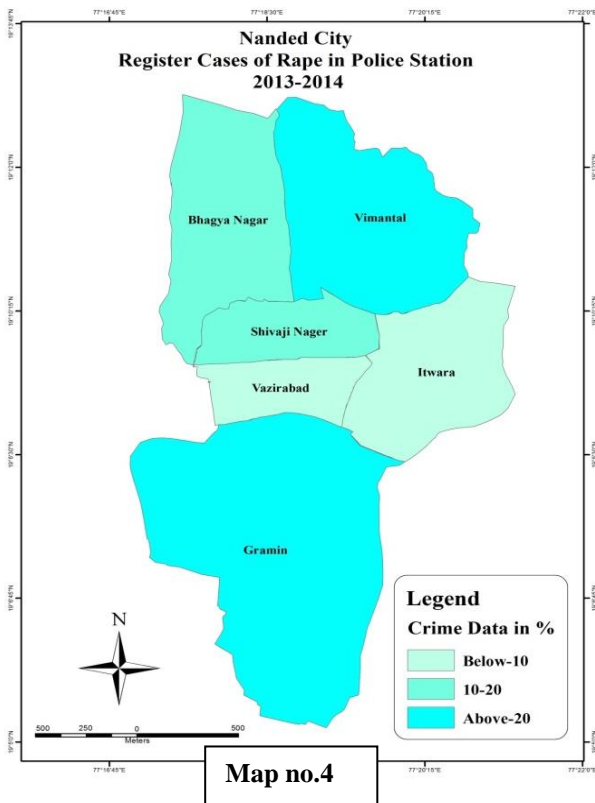
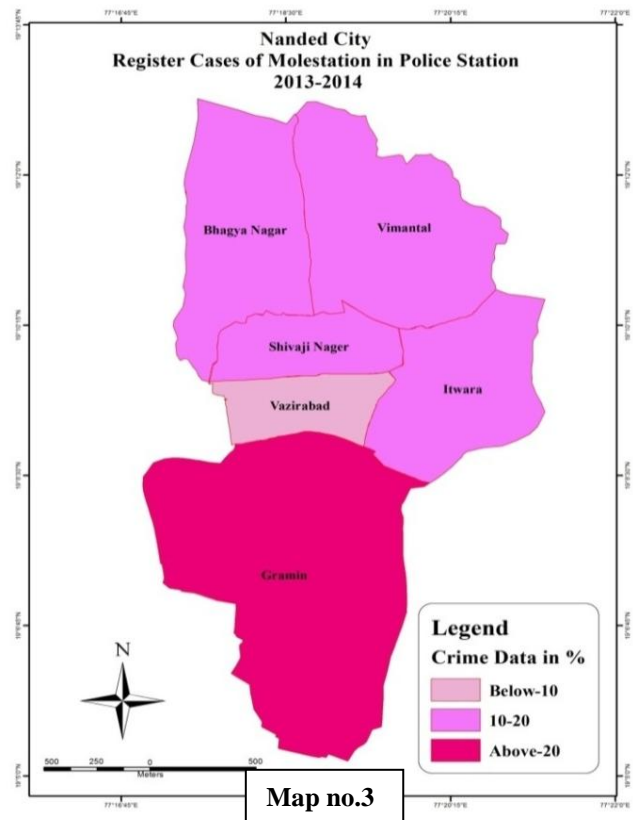
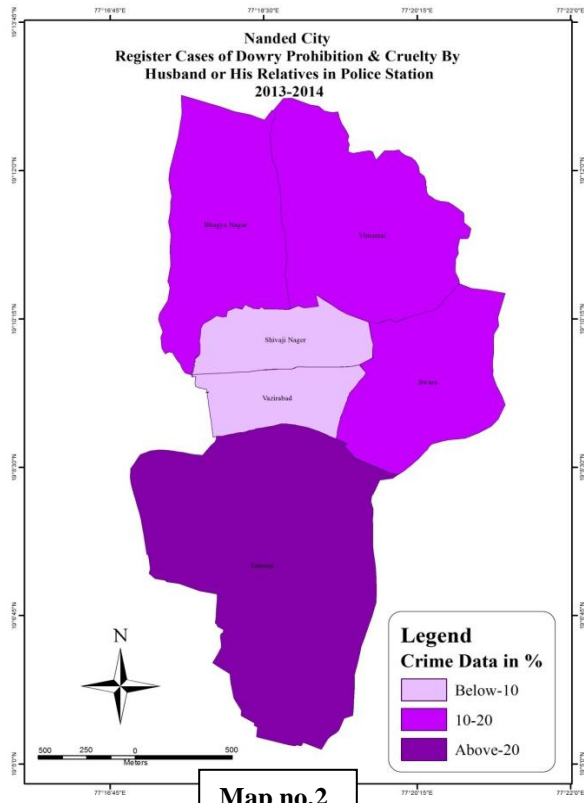
Above Table (2013-2017) is showing result of study about Total Number of Registered Cases of Crime against Women in Nanded city. The highest Total Number 462 regarding ‘Dowry or Cruelty by Husband or His Relatives for Dowry’ cases are registered in Nanded City. The lowest Total Number of registered cases of Dowry Death crime is obtained 28 in Nanded City. Than the Registered Total Number of all Crimes are 920 in Nanded city.

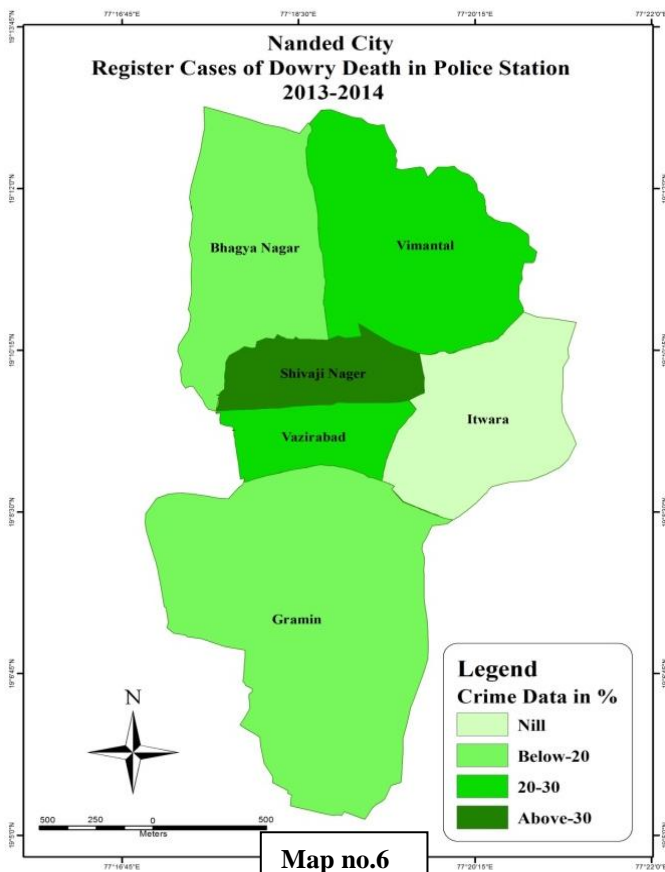
**Table no. 1.9
Police Station Wise Register Cases in Nanded City
2013-2017**

Sr. No.	Name of Police Station In Nanded City	Dowry or Cruelty by Husband or His Relatives for Dowry	Molestation	Rape	Kidnapping & Abduction	Dowry Death	Total Crime 2013-2017	Total % Of Crime 2013-2017
1	Vazirabad Police Station	32	19	8	35	4	98	10.65
2	ShivajiNager Police Station	37	34	10	21	11	113	12.28
3	BhagyaNager Police Station	90	31	10	31	3	165	17.93
4	Itwara Police Station	57	27	4	10	0	98	10.65
5	Vimantal Police Station	76	24	24	25	8	157	17.06
6	NandedGramin Police Station	170	61	25	31	2	289	31.41
	Total	462	196	81	153	28	920	100



In Nanded City the highest registered ‘Dowry or Cruelty by Husband or his Relatives for Dowry’ 170 number of cases most in Occurred in obtained in NandedGramin Police Station, Molestation 61, Rape 25 number of cases registered in Gramin Police Station and Kidnapping &Abduction 35 number of Cases registered in Vajirabad police station as well as Dowry Death 11 number of Cases Registered in ShivajiNager Police Station.





CONCLUSION:

In it was noticed that, the highest percentage 36.79(170) regarding 'Dowry or Cruelty by Husband or Relatives for Dowry' cases are registered in Nanded Gramin Police Station whereas the lowest percentage 6.92(32) of crime regarding 'Dowry or Cruelty by Husband or Relatives for Dowry' are registered in Vazirabad Police Station. The registered 'Molestation'(61) 31.12% cases most in occurred in Nanded Gramin Police Station and the lowest number of registered cases in this crime is obtained(19) 9.69% in Vazirabad Police Station. In Nanded city the registered 'Rape' (25) 30.86% cases most in occurred in Nanded Gramin Police Station. The

lowest number of registered cases in this crime is obtained (4) 4.93% in Itwara Police Station. The highest number of 'Kidnapping & Abduction' (35) 22.87% cases registered Vazirabad Police Station. In this case, the number of crimes records of both the police stations is identical. The lowest number of registered cases in this crime is obtained (10) 6.53% in Itwara Police Station. The registered 'Dowry Death' (11) 39.28% cases most in occurred in Shivaji Nager Police Station. The lowest number of registered cases in this crime is obtained (2) 7.14% in Nanded Gramin Police Station. This is less than compare to Shivaji Nager.

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