Spatio-Temporal Analysis of Kidnapping and Abduction of Women in Chandigarh

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Abstract - In this paper, an attempt has made to study the spatial and temporal pattern of Kidnapping and abduction of women in Chandigarh. The geography is the study of areal variation and distribution. To fulfill the requirement and provide a geographical base to this study, it is necessary to explain the spatial pattern of crime against women. The ward, town and village wise map of Chandigarh used to draw the crime rate of Kidnapping and abduction of women. The temporal trends of kidnapping and abduction of women are showing variation and these variation depends upon many factors like socio-culture, economic development, population growth by natural as well as through migration, female literacy etc. In this paper hot spot also used, which plays an important role in identification of crime prone areas. Hotspots also help to generate the policies for prone areas.

Index Terms - Kidnapping and abduction of women in Chandigarh; Spatial Analysis; Temporal Analysis; Hot-Spots Analysis

INTRODUCTION

The present research work “Spatio-Temporal Analysis of kidnapping and abduction of women in Chandigarh” is carried out to study the spatio-temporal pattern of kidnapping and abduction of women. It varies from class to class, culture to culture and society to society. Women of all age groups are due victims of crime and violence against them. The sexual violence and crime against women are not new in Indian society. Women are socially sensitive and moulded. They do not speak in public and not share or report most of the physical and mental violence crime against them. The increasing kidnapping and abduction of women incidents show the materialistic approach and patriarchal mindset of society.

According to Crime Statistic Report of National Crime Record Bureau (N.C.R.B) 2015:

- In every eighth minute a kidnapping and abduction of women or girl committed in India where as in Haryana it happens after every 4th hour and in Chandigarh it occurs in every 2nd day.
- Secondly, the rate of kidnapping and abduction of women or girl which is nearly three & half times higher as compare to the national rate of kidnapping and abduction of women or girl.

The objectives of the study are:

1) To examine the spatial patterns of Kidnapping and abduction of women in Chandigarh.

2) To analyse the temporal trends of Kidnapping and abduction of women in Chandigarh

3) To identify the Hot- Spot and Prone Areas of Kidnapping and abduction of women in Chandigarh.

RESEARCH METHODS

DATA SOURCE

This study based on secondary data collected from various sources. The data of the socio-economic factors has been obtained from, census report of 2001 and 2011. The required data regarding location and types of rape for 2005, 2010 and 2015 has collected from the Chandigarh Police Station and Police Headquarter.

METHODOLOGY

Crime Rate $c = CR_i = \frac{CX_i}{TFP_i} \times 100000$

Where: $CR_i = $ Rate of Crime 'X' in Wards I.
$CX_i = $ Crime 'X' in Wards I.
$TFP_i = $ Total Female Population in Wards I.

An attempts has made to get spatial patterns of crime, the processed information represents through statistical diagrams and has been drawn map using suitable cartographic techniques. The Arc GIS Version 9.3 used generating maps of Chandigarh during the years 2005, 2010 and 2015. Appropriate tables, graphs and charts used to present the trends of rape.

STUDY AREA

The study area lies between 30° 0.40′ to 30° 0.48′ North in Latitude and 76° 0.42′ to 76° 0.51′ East in Longitude. The study area Chandigarh is a union territory of India that serves as the joint capital of the states of Haryana and Punjab. It is located near the foothills of the Shivalik range of the Himalayas in northwest India. It covers an area of approximately 114 km$^2$, out of the total area i.e. 114 km$^2$, 109.53 km$^2$ is urban area and only area of 4.47 km$^2$ comprises of rural area. The study area lies between 30° 0′ to 30° 48′ North Latitude and 76° 42′ to 76° 51′ East Longitude. It has an average elevation of 321 metres (1053 ft). It situated in the northern plains, and vast fertile flat land. Bhabar is located in the northeast and rest of the area is a terai belt. Its surrounding districts are Mohali, Patiala and Roopnagar in Punjab, Panchkula and Ambala in Haryana.

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RESULT, DISCUSSION AND FINDING

The section 359-373 of the Indian Penal Code gives the legal definition of Kidnapping and Abduction:

It is more serious problem than rape. In case of kidnapping and abduction of women, they sexually abused as well as kept in captivity. According to IPC kidnapping and Abduction is under Section 359 to 373, Kidnapping is of two types:

1. Kidnapping from India
   Whoever conveys any person beyond the limits of India without the consent of that person, or of some person who legally authorized to give consent on behalf of that person, said to kidnap that person from India.

2. “Kidnapping” from lawful guardianship
   Taking or enticing away a minor or a person of unsound mind.
   Such minor must be under 16 years of age, if a male, or under 18 years of age, if a female,
   c) The taking or enticing must be out of the keeping of the lawful guardian of such minor or person of unsound mind; and
   d) Such taking or enticing must be without the consent of such guardian.

Section 362 IPC defines “Abduction”

Firstly, Forcible compulsion or inducement by deceitful means and

Secondly, he objects of such compulsion or inducement must be going of a person from any place.

Abduction differs from kidnapping from guardianship. Kidnapping from guardianship is committed only in respect of minor or person of unsound mind, whereas abduction in respect of any person. In kidnapping, the person kidnapped removed out of lawful guardianship. In abduction, this is not necessary. In kidnapping the minor or the person of unsound mind simply taken away or enticed to go with the kidnapper, in abduction force, compulsion or deceitful means are used.

In kidnapping consent of the person moved, if freely and voluntarily given condones it. In kidnapping, the intent of the offender is irrelevant but in abduction, it is the all-important factor. Kidnapping from lawful guardianship is not a continuing offence. As soon as the minor is removed out of custody of his or her guardian, the offence is completed, but a person is being abducted not only when he is first taken from any place but also when he is removed from one place to another. In kidnapping from India, there is removal of a person outside India without his consent or of someone authorized to give it. He may or may not be a minor or of unsound mind.

KIDNAPPING AND ABDUCTION IN INDIA

Data of N.C.R.B Report 2015, shows that in year 2015 maximum numbers of Kidnapping and Abduction cases were registered in the state of Uttar Pradesh (10,156 cases) followed by Bihar (5,158), Maharashtra (5,096), Assam (5,039) and Madhya Pradesh (4,547). These five states constitute 50.60 percent of the total Kidnapping and Abduction cases reported in the country as a whole. Whereas in terms of rate, the national Kidnapping and Abduction rate is 9.8. Among the states, Assam (32.1) ranked first followed by Arunachal Pradesh (20.7), Haryana (18.7), Jammu and Kashmir (18.2) and Orissa (12.4) and in case of union territories, the Kidnapping and Abduction rate was 46.3 in Delhi followed by Chandigarh (10.1) and Daman and Diu (12.3).

SPATIAL PATTERN OF KIDNAPPING AND ABDUCTION IN CHANDIGARH IN 2005

A total 22 wards and 22 villages are analysed here. Incidence of Kidnapping and Abduction at the wards and villages level shows that in the year 2005, maximum numbers of such cases were reported in the Ward No. 17 (11 cases) followed by Ward No. 15 (5 cases), Ward No. 1, 8, 19 and village Hallo Majra have (3). These five Wards and one village constitute 62.8 percent of the total case registered in Chandigarh as a whole. Whereas in terms of rate, the rate of Kidnapping and Abduction during 2005 shows that the Ward No. 17 has (97.3) followed by Mauli Jagran (72), Dadu Majra (69.3) and Hallo Majra (68.7). The average crime rate of Kidnapping and Abduction in Chandigarh in 2005 was 11.4.

The geographical pattern of Kidnapping and Abduction in the year 2005 shows that the South Western, South Eastern and the Northern Wards including (Ward No. 17, Mauli Jagran, Dadu Majra and Hallo Majra) shows higher crime rate, the Central part shows moderate rate and the rest wards shows lower crime rate of Kidnapping and Abduction.

SPATIAL PATTERN OF KIDNAPPING AND ABDUCTION IN CHANDIGARH IN 2010

A total 22 wards and 22 villages are analysed here. Incidence of Kidnapping and Abduction at the wards and villages level shows that in the year 2010, maximum numbers of such cases were reported in the Ward No. 19 (4 cases) followed by Ward No.
15,17,18 (3 cases) and village Hallo Majra have (3). These four Wards constitute 57 percent of the total case registered in the Chandigarh as a whole. Whereas, the rate of Kidnapping and Abduction of women in Chandigarh during 2010, highest i.e. 49.2 in Palsora ranked first followed by Maloya (44.3), Ward No. 17 (26.5) and Ward No. 18 (22.6). The average crime rate of Kidnapping and Abduction in Chandigarh in 2010 was 7.1.

The geographical pattern of Kidnapping and Abduction in the year 2010 shows that the South Western and South Eastern Wards including (Ward No. 17, 18, Palsora and Maloya) shows higher crime rate, the Northern and the North Eastern part shows moderate rate and the rest wards shows lower crime rate of Kidnapping and Abduction.

**SPATIAL PATTERN OF KIDNAPPING AND ABDUCTION IN CHANDIGARH IN 2015**

A total 28 wards, 5 towns and 5 villages are analysed here. Incidence of Kidnapping and Abduction at the wards and villages level shows that in the year 2015, maximum numbers of such cases were reported in the Ward No. 12 (14 cases). It were followed by Dhanas (12), Ward No. 23 (11) and Ward No. 14, 20, 25 have (10). These five Wards and one village constitute 40 percent of the total case registered in the Chandigarh as a whole. Whereas in terms of rate, the rate of Kidnapping and Abduction during 2015, the village Dhanas has (423.1) followed by Muli Jagran (201.2), Kaimbwala (148.5) and Khuda Alisher (97.1) the average crime rate of Kidnapping and Abduction in Chandigarh was 34.8 in Chandigarh.

The geographical pattern of Kidnapping and Abduction in the year 2015 shows that the Northern and South Eastern Wards including (Dhanas, Muli Jagran, Kaimbwala, Khuda Alisher) shows higher crime rate, the Central part shows moderate rate and the rest wards shows lower crime rate of Kidnapping and Abduction.

**CHANGING PATTERN AND CAUSES OF KIDNAPPING AND ABDUCTION OF WOMEN RATE IN CHANDIGARH FROM 2005-2015**

In the year 2005, there is lower rate of kidnapping and abduction of women in central parts of Chandigarh but the scenario has changed in 2010 and 2015, it shifted from the central side and separate in whole Chandigarh.

The major factors responsible for higher rate of Kidnapping and Abduction of Women are following separation from the family, small size of household, lower sex ratio, lower percentage of working women population, low level of female literacy, low percentage of house ownership, low level of basic amenities availability in households, sex selected immigration and materialistic approach towards women. Kidnapping and Abduction of Women higher rate found in following areas including Dhanas, Muli Jagran, Kaimbwala, Khuda Alisher and Ward No 17.

**TEMPORAL TRENDS OF KIDNAPPING AND ABDUCTION OF WOMEN IN INDIA**

The analysis of Kidnapping and Abduction of women in India from 1991 to 2015 shows variation across the time. The maximum numbers of Kidnapping and Abduction of women incident are found in year 2015 (59,277 cases) followed by year 2014 (57,311), 2013 (51,881) and 2012 (38,262) however lowest in year 1993 (11,837), 1992 (12,077), 1991 (12,300) and 1994 (12,998). From 1991, it was increasing continuously, however, after 2013, its trends increased tremendously.

Whereas, in case of Kidnapping and Abduction of women rate the year 2015 shows the highest i.e. 10.1 followed by 2014 (9.8), 2013 (8.8), and 2012 (6.5) however the year 2003 shows the lowest Kidnapping and Abduction of women rate 2.7 followed by 1993(2.9), 1991, 1992 and 2000 have (3.0).

**TEMPORAL TRENDS OF KIDNAPPING AND ABDUCTION OF WOMEN IN HARYANA**

The reported cases of Kidnapping and Abduction of women in Haryana show variation across the time. The maximum numbers of Kidnapping and Abduction of women incident are found in year 2015 (2,336 cases) followed by year 2013 (1,957), 2014 (1,922) and 2012 (900), however, lowest in year 1991 (158), 1993 (180) and 1992 (228).

Whereas, in case of Kidnapping and Abduction of women rate, the year 2015 shows the highest Kidnapping and Abduction of women rate i.e. 19.7 followed by 2013 (16.5), 2014 (16.2), and 2012 (7.6). However, the year 1991 shows the lowest Kidnapping and Abduction of women rate 2.1 followed by 1993 (2.4), 2003 (2.8), 2001, 2002, 2004 and 1992 (3).
down in crime rate but it is continuously increasing trends as shown in the diagram. Incidences of Kidnapping and Abduction of women in Chandigarh show variation across the time. The maximum numbers of Kidnapping and Abduction of women incident are found in year 2013 (174 cases) followed by year 2015 (165), 2014 (133) and 2012 (66) however lowest in year 1991 (14), 1992 (19), 1997 (25) and 1996 (26 cases). Whereas, in case of Kidnapping and Abduction of women rate, the highest Kidnapping and Abduction of women rate i.e. 36.6 in 2013 followed by 2015 (34.8), 2014 (28), and 2000 (18.3). However, the lowest Kidnapping and Abduction of women rate i.e. 4.9 in 1991 followed by 1992 (6.7), 2010 and 2003 (7.1).

KIDNAPPING AND ABDUCTION OF WOMEN INCIDENT AND RATE

<table>
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<tr>
<th>YEARS</th>
<th>INDIA INCIDENT</th>
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<td>2015</td>
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<td>2336</td>
<td>19.7</td>
<td>165</td>
<td>34.8</td>
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</table>


Total 1303 reported cases of kidnapping and abduction of women are filed in Chandigarh from 1991-2015. The trends of kidnapping and abduction of women cases is not uniform. With respect of time period, the year 2013 shows the highest numbers of case of Kidnapping. The year 1991 shows the least number of reported cases of kidnapping and abduction in Chandigarh. Reasons behind this have immigration and natural growth.

Hot Spot of Kidnapping and Abduction of Women

Kidnapping and abduction hot spot recorded a fast changing scenario during 2005-2015 in Chandigarh. Sharp decline in rate of reported cases of kidnapping and abduction is mainly responsible for this. The rate of reported incidence of kidnapping and abduction against women, which 11.4 cases per lakh of female population in 2005 declined to 7.1 by 2010. Interesting
however, this has been a sharp increase in rate during 2010 and 2015. During this period, rate of such crimes increased by about five times. Spatially spreading, crime hot spots, which were scattered toward peripheral areas, having rural and slum population, entered in all parts of Chandigarh by 2015.

![Graphical representation of Chandigarh's Kidnapping and Abduction of Women Hot Spots, 2005-2015](image)

The Lack of child and parent’s communication inside and outside the home, Low level of living, lack of basic amenities availability, and lack of house ownership of houses in these areas are major cause behind this scenario.

<table>
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<th>Year</th>
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<td>Maloya, Palsora, ward no. 14, 15, 17 &amp; 18</td>
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<td>2015</td>
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<td>20</td>
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</tbody>
</table>

Source: Based on data/information collected through fieldwork conducted during November and December, 2016

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