DISTRICT WISE CRIME COMMITTED IN INDIA (2001-2012)
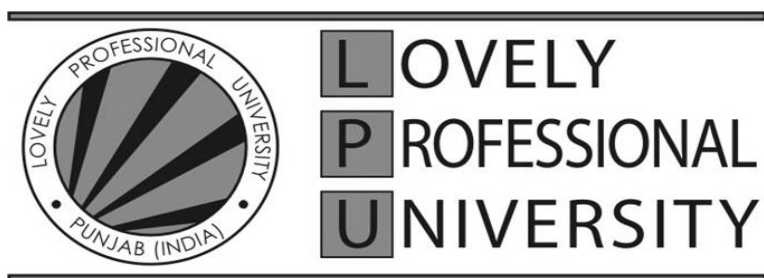
Submitted by

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Registration No : 11905805

COMPUTER SCIENCE AND ENGINEERING(HONS.)

Section - K19NS

Course Code INT217

Under the Guidance of

ASHU(23631)

Discipline of CSE/IT

Lovely School of Computer Science and Engineering

Lovely Professional University, Phagwara

CERTIFICATE

This is to certify that Sanchay Swaraj bearing Registration no. 11905805 has completed INT217 project titled, **"DISTRICT WISE CRIME COMITTED IN INDIA(2001-2012)"** under my guidance and supervision. To the best of my knowledge, the present work is the result of his/her original development, effort, and study.

Signature and Name of the Supervisor

Designation of the Supervisor
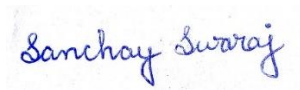
School of Computer Science and Engineering

Lovely Professional University

Phagwara, Punjab.

Date: 15-12-2021

DECLARATION

I, Sanchay Swaraj, student of Computer Science and Engineering(Hons.) under CSE/IT Discipline at, Lovely Professional University, Punjab, hereby declare that all the information furnished in this project report is based on my own intensive work and is genuine.

Date: 15-12-2021   Signature

Registration No. 11905805   Sanchay Swaraj

<u>ACKNOWLEDGEMENT</u>

A project work is a combination of views, ideas, suggestions, and contribution of many people. Thus, one of the pleasant parts of writing the report is to thank those who have contributed towards its fulfilment.

I consider it as great privilege to have esteemed Lecturer Ms. Ashu as my project guide. I take this opportunity to express my sincere gratitude to her through constant advice and constructive criticism nourished my interest in the subject and provided a free and pleasant atmosphere to work against all odd situations. I avail this opportunity to extend my heart full thanks and deep respect to faculty member for their able guidance during this project.

I would like to communicate a deep sense of gratitude to all these people without whom my project would not have been such a great learning experience

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INTRODUCTION

Crime exists in India in various forms such as murder, extortion, drug trafficking, money laundering, fraud, human trafficking, poaching and prostitution etc. These crimes have different statistical trends, and it changes with change in time. Crime is an anti-social and illegal behaviour to which penalties are attached. This anti-social behaviour is rejected by the by the society and punished by law. Those actions which are sinful, but no punishments are attached to them they are not criminal acts like anti-social activities.

Through no anti-social activity is punished by law the society and public condemn it. But in certain criminal tribes stealing is not looked upon as a crime. Children are praised if they steal property from others. They are taught the art of crime and how to become careful while committing the crime. Crime is no longer viewed as only one problem to a given society. Rather it is an integral part of understanding a nation's socio, cultural, political, and economic situation. India is no exception. Crime exists in India in various forms such as murder, extortion, drug trafficking, money laundering, fraud, human trafficking, poaching and prostitution etc.

Sometimes various social problems stem from 'uncoordinated and unsystematic' social changes, particularly among those who are unable to adapt to ever-changing new environments. Rapid social change always tends to produce social disorganization, which includes crime. Although every society experience various degrees of social change and consequent increases in crime and crime rates, rates of change differ from one society to another. If this is indeed the case, then it is possible to understand a society by examining changes in crime and crime rates where they are used as an index for measuring societal changes and their characteristics. There is no proper definition to describe criminal activities. In India, the Indian Penal Code of 1860 (IPC) states the punishment for most criminal offences. The IPC has also not defined criminal activities. However, it has laid down certain facts which can be considered as what can come under the purview of criminal offences. As per Section 40, anything which is punishable by the IPC can be stated as an offence.

The data regarding patterns of criminal behavior over a period of time is a major element for the law enforcement agencies either in apprehending the perpetrators of a crime or in curtailment and prevention of crime. This approach towards the problem of crime is clearly governed by a study called 'crime analyses'. It can be interpreted as an organized practice of various types whose objective is to collect and provide data regarding the trends and patterns of crime commission overtime. Apart from the apprehension of criminals and crime prevention, the information is also significant for law enforcement agencies to plan and allocate the police resources accordingly. As this mechanism is very important in deciding the crime across the world, further sections of the paper briefly explain the fundamentals of crime analysis by referring to the definition, elements, and types of crime analysis.

OBJECTIVES/SCOPE OF THE ANALYSIS

Crime in India is categorized under various sections. Different types of crime bear different type of punishment. In this report, District Wise Data of Crime in India (2001-2012) has been analyzed. Since Vast field of Data present for Crime in India There is a wide range of scope of analysis of date. For example:-

a) State-wise Total number of Crime Committed
b) Year-Wise Total number of Crime Committed
c) Most Prevalent Crime With respect to their number
d) State having highest number of the most prevalent crime
e) Crime related to Girls/women

The objectives constitute a major element in crime analysis. Among the various objectives, the main objective is to apprehend criminals. It is since the primary function of law enforcement agencies in the apprehension of criminals, and it can be executed to a greater extent through crime analysis. For this purpose, the quantitative data like date and time of the commission of a crime and the qualitative data like victim credentials will help the agencies in getting hold of the perpetrator of an offence.

The second major objective of crime analysis is the prevention or curtailment of crime. The information collected and processed by crime analysis essentially provides a mechanism to prevent or curtail crimes. For instance, the data of the neighborhood being involved in most of the crimes facilitates law enforcement agencies to concentrate on the movements of offenders living there or to create awareness among them thus enabling the curtailment of crimes to a larger extent.

The third aim of crime analysis is to reduce disorder in society. It is a known fact that unchecked social disorder possibly results in the commission of a crime. So, it is the basic duty of the law enforcement agencies to maintain order in the society and they recourse crime analysis for the same. Thus, maintaining the order in the society has also evolved as an imbibed objective of crime analysis. The indicators of the disorder are dealt with accordingly because of the research assistance and information provided by the crime analysis.

The fourth objective of crime analysis is to help in the creation and evaluation of organizational procedures. It includes staffing, resource allocation, the performance of various programs, etc.

The dataset is taken from **data.gov.in** Named as **' District Wise Crime Committed in India (2001-2012) ' .**

https://data.gov.in/resources/district-wise-crime-under-various-sections-indian-penal-code-ipc-crimes-during-2001-2012

• **Author of the Dataset :** National Crime Records Bureau (NCRB), Govt of India

• **Data last updated :** April 2016

ETL PROCESS

The mechanism of extracting information from source systems and bringing it into the data warehouse is commonly called ETL, which stands for Extraction, Transformation and Loading.

```
ETL ──────► Extraction
    ──────► Transformation
    ──────► Loading
```
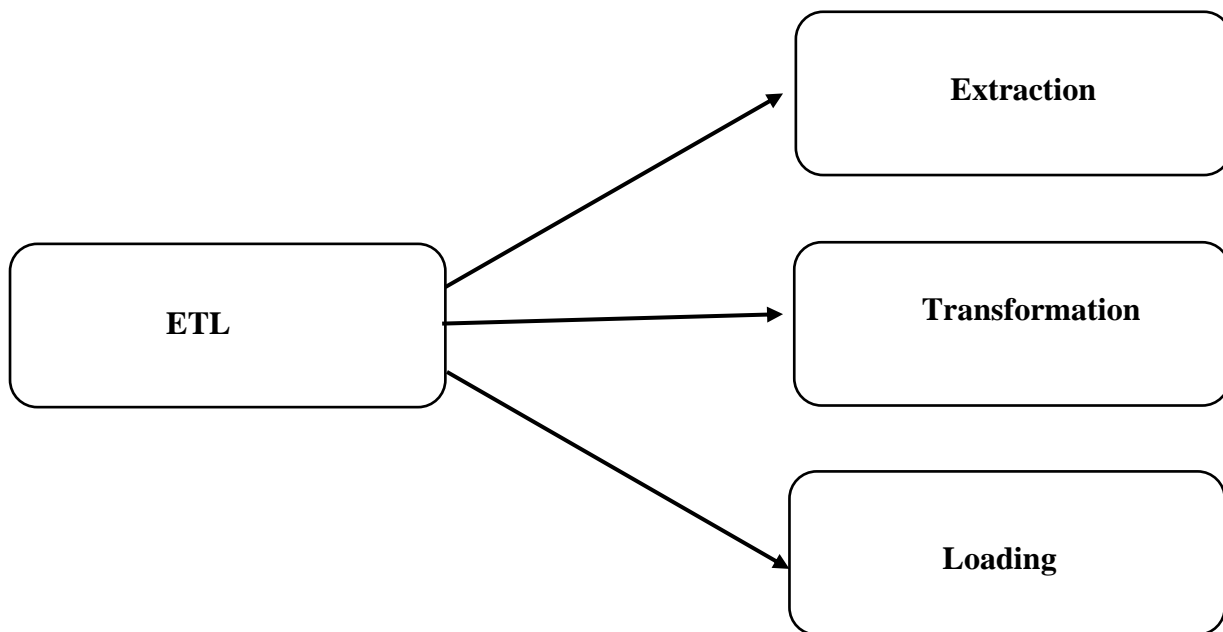
1. **Extraction**

   Extraction is the operation of extracting information from a source system for further use in a data warehouse environment. This is the first stage of the ETL process.

   - In this Step we have extracted the data from data.gov.in in XLS Format.

   - The source systems might be complicated and poorly documented, and thus determining which data needs to be extracted can be difficult.

   - The data has to be extracted several times in a periodic manner to supply all changed data to the warehouse and keep it up to date.

2. Transformation

Transformation is the core of the reconciliation phase. It converts records from its operational source format into a particular data warehouse format. If we implement a three-layer architecture, this phase outputs our reconciled data layer.

The following points must be rectified in this phase:

- Loose texts may hide valuable information. For example, Many Cells having no value wew shown black, they were replaced by 0 for proper analysation of data.

- Different formats can be used for individual data. For example, data can be saved as a string or as three integers.

3. Loading

The Load is the process of writing the data into the target database. During the load step, it is necessary to ensure that the load is performed correctly and with as little resources as possible.

Loading can be carried in two ways:

1. **Refresh:** Data Warehouse data is completely rewritten. This means that older file is replaced. Refresh is usually used in combination with static extraction to populate a data warehouse initially.

2. **Update:** Only those changes applied to source information are added to the Data Warehouse. An update is typically carried out without deleting or modifying pre-existing data. This method is used in combination with incremental extraction to update data warehouses regularly.

3. In This stage the Crime Data is finally loaded to the new XLS file for Further Analysation.

ANALYSIS ON DATASET

1. **State-wise Total number of Crime Committed**

    a) **Introduction -** The analysis shows the State-wise data of total number of the crime committed in India.

    b) **General Description -** In this Analysis, the States/UT had been considered as the first deciding factor and has been compared to the sum total of crime committed in India, such as Murder, attempt to Murder, Theft cases, Rape Cases, Arson, Dowry, and other crime related to Girls/Women.

    c) **Specific Requirements, functions, and formulas :-**
        i)   SUM Function
        ii) Pivot table for import Data
        iii) Pivot table for export Data
        iv) VLOOKUP function
        v)   3-D Pie Chart

    d) **Analysis Result -** Following are the Result derived after analysing the Indian Crime Dataset:-
        *   Top 5 States where Crime rate is Highest in the period (2001-2012) are Madhya Pradesh, Maharashtra, Andhra Pradesh, Tamil Nadu, and Uttar Pradesh Comprising of 9.89%, 9.88%, 8.39%, 8.33%, and 7.90% of total crime committed respectively.
        *   Madhya Pradesh has the highest Crime rate in the Period(2001-2012).
        *   Madhya Pradesh has Highest Number of Total Hurt/Grievous Hurt Cases.

    e) **Visualization**
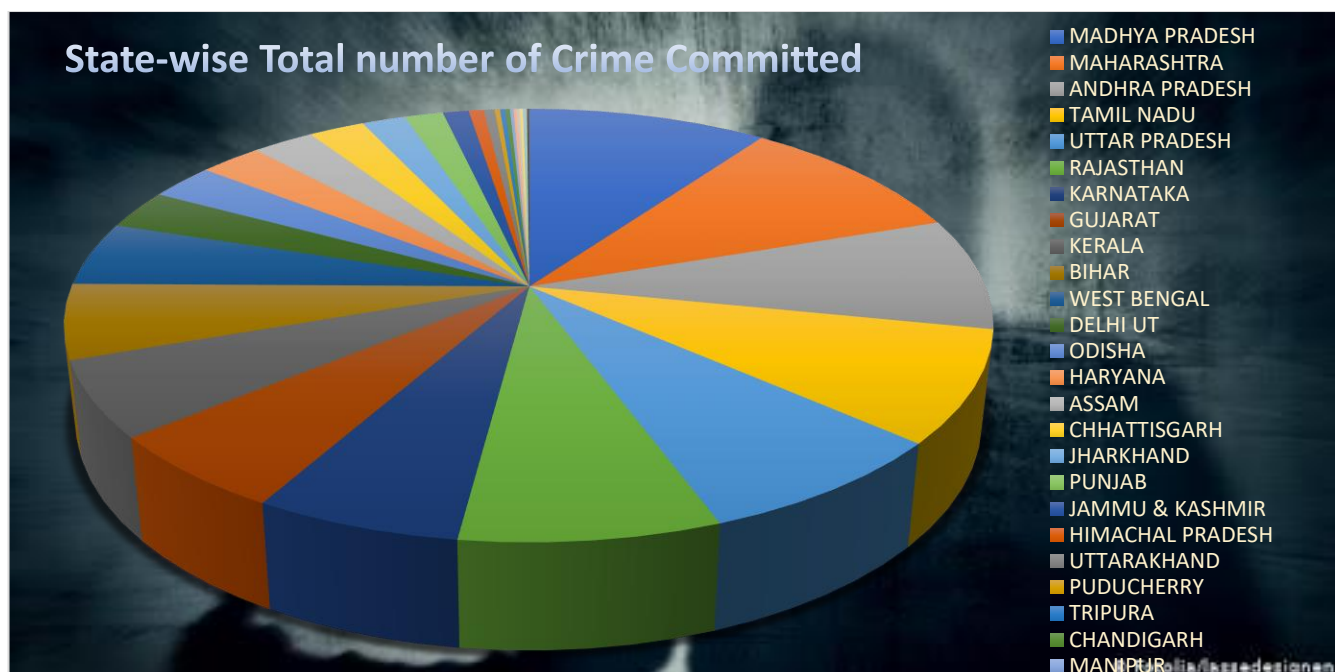
Fig: 1.1 Pie Chart of State-wise Total number of Crime Committed

STATES/UT	SUM OF TOTAL CRIMES
MADHYA PRADESH	10278890
MAHARASHTRA	10273532
ANDHRA PRADESH	8719740
TAMIL NADU	8655534
UTTAR PRADESH	8213038
RAJASTHAN	7982662
KARNATAKA	6354578
GUJARAT	6008504
KERALA	5895218
BIHAR	5792604
WEST BENGAL	4951724
DELHI UT	3058802
ODISHA	2799776
HARYANA	2674132
ASSAM	2650240
CHHATTISGARH	2400220

JHARKHAND	1867318
PUNJAB	1663686
JAMMU & KASHMIR	1113104
HIMACHAL PRADESH	646312
UTTARAKHAND	461346
PUDUCHERRY	231688
TRIPURA	227184
CHANDIGARH	202018
MANIPUR	154352
GOA	145466
MIZORAM	126034
ARUNACHAL PRADESH	123678
MEGHALAYA	116502
NAGALAND	61360
A & N ISLANDS	39062
SIKKIM	30580
D & N HAVELI	20544
DAMAN & DIU	13022
LAKSHADWEEP	3214

Fig 1.2 Table of State-wise Total number of Crime Committed

2. Year-wise Total number of Crime Committed

a) **Introduction -** The analysis shows the Year-wise data total number of the crime committed in India.

b) **General Description -** In this Analysis, the Year had been considered as the first deciding factor and has been compared to the sum total of crime committed in India, such as Murder, attempt to Murder, Theft cases, Rape Cases, Arson, Dowry, and other crime related to Girls/Women.

c) **Specific Requirements, functions, and formulas :-**
  i) SUM Function
  ii) PIVOT Table to Organize Data

iii) Combo Chart

iv) Clustered Column Chart (It has been used to represent the total sum of the crime committed)

v) Line Chart (it has been used to represent the count of total crime committed)

vi) Slicers

d) **Analysis Result -** Following are the Result derived after analysing the Indian Crime Dataset:-

- Top 5 Years When Crime rate was Highest are the period (2001-2012) are 2012, 2011, 2010, 2009, 2008 With as sum of 10368596, 10121640, 9681172, 9284284, and 9110494 respectively.
- Year 2012 has the highest Crime rate in the Period(2001-2012).
- Year 2012 has Highest Number of Total Theft Cases.
- During the Period (2001-2012), In crime related to Girls/ Women, Cruelty related to husband or other family members was highest.
- During the Period(2001-2012) Theft cases were the Most prevalent Crime with a sum of 7001060.
- During the Period(2001-2012) Madhya Pradesh reported the Highest Crime Rate.
- During the Period(2001-2012) Madhya Pradesh reported Maximum number of theft Cases.

e) **Visualization**

YEAR	TOTAL CRIME CASES
2001	7659962
2002	7692690
2003	7426632
2004	7957250
2005	7919012
2006	8148558
2007	8625374
2008	9110494
2009	9244284
2010	9681172
2011	10121640

2012	10368596

Fig: 2.1 Table of Year-wise Total number of Crime Committed

Fig: 2.2   Combo Chart of Year-wise Total number of Crime Committed

3. Crime committed with Respect to their Number

a) **Introduction -** The analysis shows the crime committed in India during the Period(2001-2012).

b) **General Description -** In this Analysis, the nature of crime had been considered as the first deciding factor and has been compared to the total sum of that specific crime committed in India, such as Murder, attempt to Murder, Theft cases, Rape Cases, Arson, Dowry, and other crime related to Girls/Women.

c) **Specific Requirements, functions, and formulas :-**
   i)   SUM Function
   ii) VLOOKUP Function

iii) PIVOT Table to Organize Data

iv) PIVOT Chart

v) Clustered Column Chart (It has been used to represent the Nature of crime committed with respect to their number)

vi) Slicers

d) **Analysis Result -** Following are the Result derived after analysing the Indian Crime Dataset:-

- Top 5 Years When Crime rate was Highest are the period (2001-2012) are 2012, 2011, 2010, 2009, 2008 With as sum of 10368596, 10121640, 9681172, 9284284, and 9110494 respectively.

- Theft cases were the most prevalent crime during the period followed by Hurt/Grievous hurt cases.

- Death Caused by negligence is again seen as the Most Prevalent crime after Hurt and grievous hurt cases.

e) **Visualization**

Nature Of Crime	Total Cases
TOTAL MURDER CASES	805086
TOTAL ATTEMPT TO MURDER CASES	703954
TOTAL CULPABLE HOMICIDE NOT AMOUNTING TO MURDER CASES	89228
TOTAL RAPE CASES	478274
TOTAL CAUSING DEATH BY NEGLIGENCE CASES	2003728
TOTAL IMPORTATION OF GIRLS FROM FOREIGN COUNTRIES CASES	1784
TOTAL CRUELTY BY HUSBAND OR HIS RELATIVES CASES	1750402
TOTAL INSULT TO MODESTY OF WOMEN CASES	248108
TOTAL ASSAULT ON WOMEN WITH INTENT TO OUTRAGE HER MODESTY CASES	906310
TOTAL DOWRY DEATHS CASES	182404
TOTAL HURT/GREVIOUS HURT CASES	6743752
TOTAL ARSON CASES	227408

TOTAL COUNTERFIETING CASES	53436
TOTAL CHEATING CASES	1535194
TOTAL CRIMINAL BREACH OF TRUST CASES	368042
TOTAL RIOTS CASES	1549854
TOTAL OTHER THEFT CASES	4460320
TOTAL AUTO THEFT CASES	2540740
TOTAL THEFT CASES	7001060
TOTAL BURGLARY CASES	2234678
TOTAL ROBBERY CASES	496534
TOTAL PREPARATION AND ASSEMBLY FOR DACOITY CASES	63882
TOTAL DACOITY CASES	118818
TOTAL KIDNAPPING AND ABDUCTION OF OTHER CASES	185900
TOTAL KIDNAPPING AND ABDUCTION OF WOMEN AND GIRLS CASES	527814
TOTAL KIDNAPPING & ABDUCTION CASES	713714
TOTAL OTHER RAPE CASES	478222
TOTAL CUSTODIAL RAPE CASES	52

Fig: 3.1 Table of crime committed in India during the Period(2001-2012).

Fig: 3.2 Column Chart of State-wise Total number of Crime Committed

4. States having highest number of the most prevalent crime

   a) **Introduction -** The analysis shows the data of State having highest number of the most prevalent crime(2001-2012).

   b) **General Description -** In this Analysis, State had been considered as the first deciding factor and has been compared to the total sum of that specific crime i.e., Theft Cases.

   c) **Specific Requirements, functions, and formulas :-**
       i) SUM Function
      ii) VLOOKUP Function
     iii) PIVOT Table to Organize Data
     iv) PIVOT Chart
      v) Line Chart (It has been used to represent the Name of states with respect to the most prevalent crime i.e., Theft cases.)
     vi) Slicers

   d) **Analysis Result -** Following are the Result derived after analysing the Indian Crime Dataset:-

- Top 5 States where Theft cases were Highest in the period(2001-2012) are Maharashtra, Uttar Pradesh, Andhra Pradesh, Madhya Pradesh, and Rajasthan With Total theft cases count of 1113614, 624094, 574380, 527720, and 469548 respectively.
- States Falling in North-East Zones have comparatively a smaller number of theft Cases when compared with other states.
- Year 2012 has Highest Number of Total Theft Cases.
- The least number of Theft Cases were reported in Lakshadweep.

   e) **Visualization**

STATES/UT	TOTAL THEFT CASES
MAHARASHTRA	1113614
UTTAR PRADESH	624094
ANDHRA PRADESH	574380
MADHYA PRADESH	527720

RAJASTHAN	465948
DELHI UT	463092
GUJARAT	426414
KARNATAKA	399920
WEST BENGAL	380936
TAMIL NADU	370320
BIHAR	306744
HARYANA	262788
ASSAM	170950
ODISHA	165674
JHARKHAND	142644
CHHATTISGARH	125746
KERALA	124706
PUNJAB	101006
JAMMU & KASHMIR	51534
UTTARAKHAND	40070
CHANDIGARH	36948
MIZORAM	19606
HIMACHAL PRADESH	19316
GOA	16090
PUDUCHERRY	14732
MEGHALAYA	12008
ARUNACHAL PRADESH	10356
MANIPUR	9668
TRIPURA	9246
NAGALAND	7604
A & N ISLANDS	2248
SIKKIM	2038
D & N HAVELI	1546
DAMAN & DIU	1128
LAKSHADWEEP	226

Fig :4.1 Table of States having highest number of the most prevalent crime
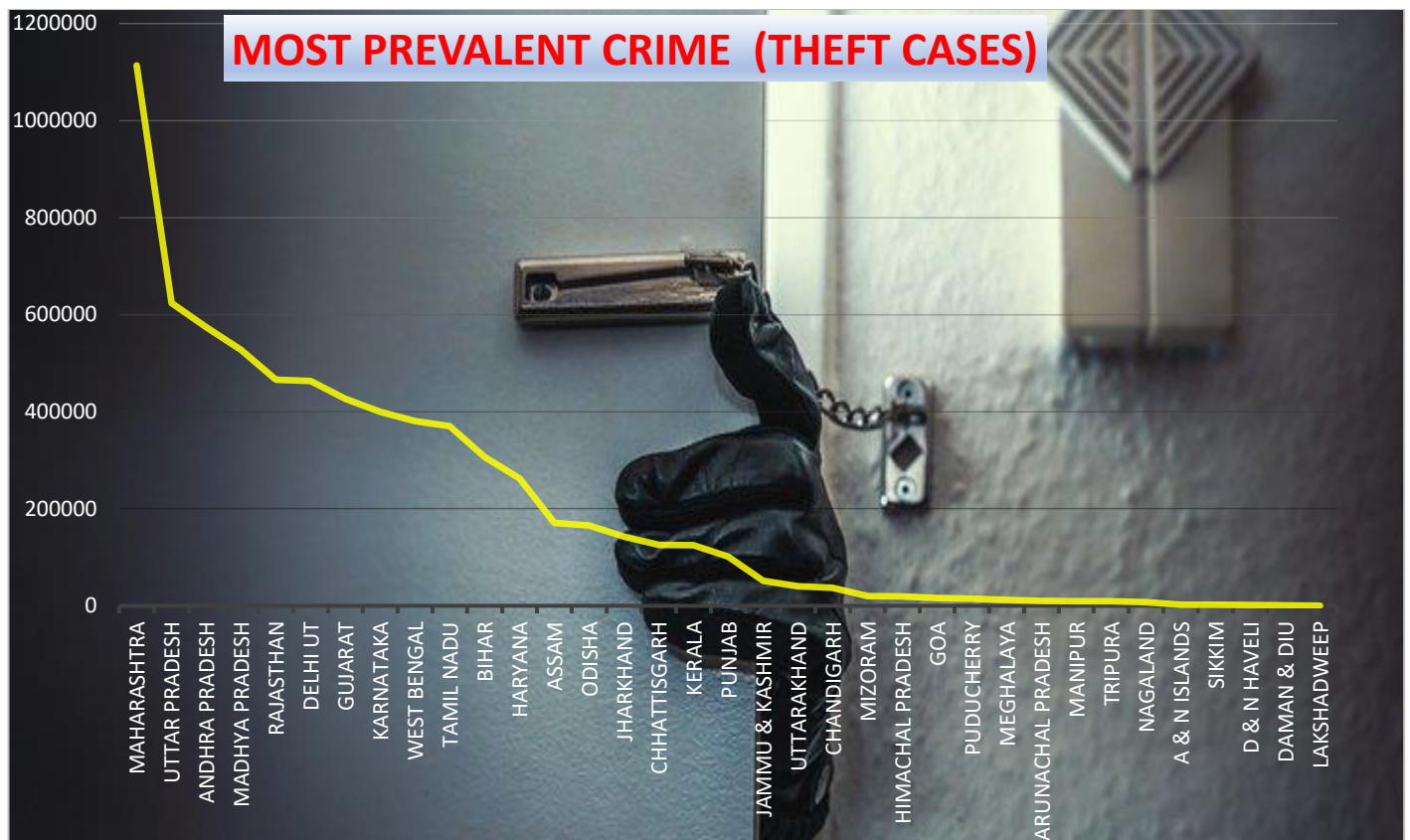
Fig :4.2 Line CHART of States having highest number of the most prevalent crime

5. Crime related to Girls/Women

a) **Introduction -** The analysis shows the data of Crime related to Girls/Women During the period (2001-2012)

b) **General Description -** In this Analysis, Nature of crime related to girls/women had been considered as the first deciding factor and has been compared to the total sum of that specific crime.

c) **Specific Requirements, functions, and formulas :-**
   i) PIVOT Table to Organize Data
   ii) PIVOT Chart
   iii) 3-D Clustered Bar chart (It has been used to represent the Name of Crime related to girls/Women) with respect to Their total sum.
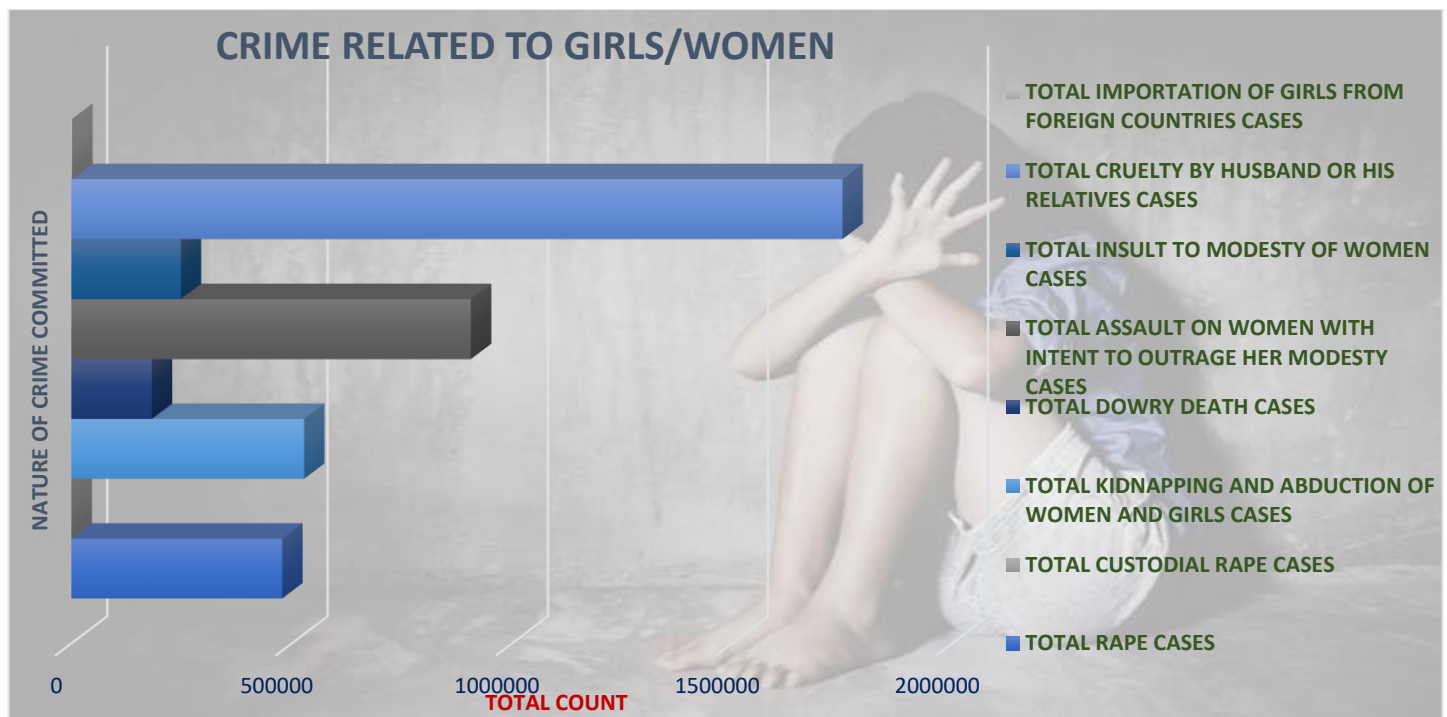   iv) Slicers

d) **Analysis Result -** Following are the Result derived after analysing the Indian Crime Dataset:-

- Top 5 Crime related to Girls/Women in the period(2001-2012) are total cruelty by husband or his relatives cases, assault on women with intent to outrage her modesty cases, kidnapping and abduction of women and girls cases, rape cases, dowry death cases, With a total sum of 1750402, 906310, 527814, 478274, 182404.

- Cruelty by husband or his relatives cases are the most committed cases in Girl/Women related crimes during the period(2001-2012).

- Custodial Rape Cases are least in number in Girl/Women related crimes during the period(2001-2012) followed by total importation of girls from foreign countries cases.

e) Visualization

Crime Related to Girls/Women	Total
TOTAL RAPE CASES	478274
TOTAL CUSTODIAL RAPE CASES	52
TOTAL KIDNAPPING AND ABDUCTION OF WOMEN AND GIRLS CASES	527814
TOTAL DOWRY DEATH CASES	182404
TOTAL ASSAULT ON WOMEN WITH INTENT TO OUTRAGE HER MODESTY CASES	906310
TOTAL INSULT TO MODESTY OF WOMEN CASES	248108
TOTAL CRUELTY BY HUSBAND OR HIS RELATIVES CASES	1750402
TOTAL IMPORTATION OF GIRLS FROM FOREIGN COUNTRIES CASES	1784

Fig: 5.1 Table of Crime related to Girls/Women

CRIME RELATED TO GIRLS/WOMEN

Legend:
- TOTAL IMPORTATION OF GIRLS FROM FOREIGN COUNTRIES CASES
- TOTAL CRUELTY BY HUSBAND OR HIS RELATIVES CASES
- TOTAL INSULT TO MODESTY OF WOMEN CASES
- TOTAL ASSAULT ON WOMEN WITH INTENT TO OUTRAGE HER MODESTY CASES
- TOTAL DOWRY DEATH CASES
- TOTAL KIDNAPPING AND ABDUCTION OF WOMEN AND GIRLS CASES
- TOTAL CUSTODIAL RAPE CASES
- TOTAL RAPE CASES

Y-axis: NATURE OF CRIME COMMITTED
X-axis: TOTAL COUNT (0, 500000, 1000000, 1500000, 2000000)

Fig: 5.2 Bar Chart of Crime related to Girls/Women

6. Top 10 States Having Maximum Crime Rate

a) **Introduction -** The analysis shows the data of Top 10 States Having Maximum Crime Rate During the period (2001-2012)

b) **General Description -** In this Analysis, States had been considered as the first deciding factor and has been compared to the total sum of crime.

c) **Specific Requirements, functions, and formulas :-**
   i)   PIVOT Table to Organize Data
   ii) PIVOT Chart
   iii) 3-D Pie chart
   iv) Slicers

d) **Analysis Result -** Following are the Result derived after analysing the Indian Crime Dataset:-
   Top 10 States With Highest crime rate are :-
   ➢ MADHYA PRADESH
   ➢ MAHARASHTRA
   ➢ ANDHRA PRADESH
   ➢ TAMIL NADU

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- UTTAR PRADESH
- RAJASTHAN
- KARNATAKA
- GUJARAT
- KERALA
- BIHAR

e) Visualization

STATES/UT	SUM OF TOTAL CRIMES
MADHYA PRADESH	10278890
MAHARASHTRA	10273532
ANDHRA PRADESH	8719740
TAMIL NADU	8655534
UTTAR PRADESH	8213038
RAJASTHAN	7982662
KARNATAKA	6354578
GUJARAT	6008504
KERALA	5895218
BIHAR	5792604
Grand Total	78174300

Fig: 6.1 Table of Top 10 States Having Maximum Crime Rate

Fig: 6.2 Pie Chart of Top 10 States Having Maximum Crime Rate

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7. DASHBOARD

LIST OF ANALYSIS WITH RESULTS

- Top 5 States where Crime rate is Highest in the period (2001-2012) are Madhya Pradesh, Maharashtra, Andhra Pradesh, Tamil Nadu, and Uttar Pradesh Comprising of 9.89%, 9.88%, 8.39%, 8.33%, and 7.90% of total crime committed respectively.
- Madhya Pradesh has the highest Crime rate in the Period(2001-2012).
- Madhya Pradesh has Highest Number of Total Hurt/Grievous Hurt Cases.
- Top 5 Years When Crime rate was Highest are the period (2001-2012) are 2012, 2011, 2010, 2009, 2008 With as sum of 10368596, 10121640, 9681172, 9284284, and 9110494 respectively.
- Year 2012 has the highest Crime rate in the Period(2001-2012).
- Year 2012 has Highest Number of Total Theft Cases.
- During the Period (2001-2012), In crime related to Girls/ Women, Cruelty related to husband or other family members was highest.
- During the Period(2001-2012) Theft cases were the Most prevalent Crime with a sum of 7001060.
- During the Period(2001-2012) Madhya Pradesh reported the Highest Crime Rate.
- During the Period(2001-2012) Madhya Pradesh reported Maximum number of theft Cases.

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- Top 5 Years When Crime rate was Highest are the period (2001-2012) are 2012, 2011, 2010, 2009, 2008 With as sum of 10368596, 10121640, 9681172, 9284284, and 9110494 respectively.
- Theft cases were the most prevalent crime during the period followed by Hurt/Grievous hurt cases.
- Death Caused by negligence is again seen as the Most Prevalent crime after Hurt and grievous hurt cases.
- Top 5 States where Theft cases were Highest in the period(2001-2012) are Maharashtra, Uttar Pradesh, Andhra Pradesh, Madhya Pradesh, and Rajasthan With Total theft cases count of 1113614, 624094, 574380, 527720, and 469548 respectively.
- States Falling in North-East Zones have comparatively a smaller number of theft Cases when compared with other states.
- Year 2012 has Highest Number of Total Theft Cases.
- The least number of Theft Cases were reported in Lakshadweep.
- Top 5 Crime related to Girls/Women in the period(2001-2012) are total cruelty by husband or his relatives cases, assault on women with intent to outrage her modesty cases, kidnapping and abduction of women and girls cases, rape cases, dowry death cases, With a total sum of 1750402, 906310, 527814, 478274, 182404.
- Cruelty by husband or his relatives cases are the most committed cases in Girl/Women related crimes during the period(2001-2012).
- Custodial Rape Cases are least in number in Girl/Women related crimes during the period(2001-2012) followed by total importation of girls from foreign countries cases.

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