

# **INDIAN SUICIDE STATISTICAL ANALYSIS (2001-2012)**

# INDEX

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# INTRODUCTION

## What is suicide?

Suicide is the taking of one's own life. It is a death that happens when someone harms themselves because they want to end their life. A suicide attempt is when someone harms themselves to try to end their life, but they do not die.

Suicide is the third leading cause of death among young adults worldwide. There is a growing recognition that prevention strategies need to be tailored to the region-specific demographics of a country and to be implemented in a culturally-sensitive manner.

It is a multifaceted problem and hence suicide prevention programmes should also be multidimensional. Collaboration, coordination, cooperation and commitment are needed to develop and implement a national plan, which is cost-effective, appropriate and relevant to the needs of the community. In India, suicide prevention is more of a social and public health objective than a traditional exercise in the mental health sector. The time is ripe for mental health professionals to adopt proactive and leadership roles in suicide prevention and save the lives of thousands of young Indians.

NGOs also provide support to suicidal individuals by befriending them. Often these centers function as an entry point for those needing professional services. Apart from befriending suicidal individuals, the NGOs have also undertaken education of gatekeepers, raising awareness in the public and media and some intervention programmes. However, there are certain limitations in the activities of the NGOs. There is a wide variability in the expertise of their volunteers and in the services they provide. Quality control measures are inadequate and the majority of their endeavors are not evaluated.

## CODE AND RESOURCES

### Importing Libraries and Loading Data into Pandas

We attempted to analyse the dataset using python. The dataset contains Indian suicide statistics

from the year 2001 to 2012.

Our goal was to be able to find out the major cause of the suicides ,

The first thing we did is imported the libraries. To analyse our dataset, we use NumPy and pandas. We used matplotlib to visualize our dataset.

```
In [1]: import pandas as pd
import numpy as np
```

```
In [2]: %matplotlib inline
from matplotlib import pyplot as plt
```

```
In [3]: suicide_x = pd.read_csv(r"D:\Downloads\suicides_in_india.csv")
```

```
In [4]: suicide_df= pd.DataFrame(suicide_x)
suicide_df
```

Out[4]:

	State	Year	Type	Gender	Age_group	Total
0	A & N ISLANDS	2001	Cancer	Male	15-29	0
1	A & N ISLANDS	2001	Divorce	Male	60+	0
2	A & N ISLANDS	2001	Dowry Dispute	Female	60+	0
3	A & N ISLANDS	2001	Ideological Causes/Hero Worshipping	Female	60+	0
4	A & N ISLANDS	2001	Illness (Aids/STD)	Female	0-14	0
...	...	...	...	...	...	...
236578	WEST BENGAL	2012	Professional Activity	Male	60+	0
236579	WEST BENGAL	2012	Self-employed (Business activity)	Male	0-14	0
236580	WEST BENGAL	2012	Service (Government)	Male	15-29	0
236581	WEST BENGAL	2012	Service (Government)	Male	60+	0
236582	WEST BENGAL	2012	Never Married	Male	0-100+	2658

236583 rows x 6 columns

### Query to Extract Data of the Year 2001

```
In [5]: df_2001 = suicide_df.loc[(suicide_df["Year"]==2001)]
df_2001
```

```
Out[5]:
```

	State	Year	Type	Gender	Age_group	Total
0	A & N ISLANDS	2001	Cancer	Male	15-29	0
1	A & N ISLANDS	2001	Divorce	Male	60+	0
2	A & N ISLANDS	2001	Dowry Dispute	Female	60+	0
3	A & N ISLANDS	2001	Ideological Causes/Hero Worshipping	Female	60+	0
4	A & N ISLANDS	2001	Illness (Aids/STD)	Female	0-14	0
...	...	...	...	...	...	...
236377	WEST BENGAL	2001	By Overdose of sleeping pills	Male	30-44	101
236378	WEST BENGAL	2001	By touching electric wires	Female	0-14	8
236379	WEST BENGAL	2001	Public Sector Undertaking	Male	45-59	137
236380	WEST BENGAL	2001	Retired Person	Female	60+	28
236381	WEST BENGAL	2001	Unemployed	Female	30-44	110

19719 rows x 6 columns

### Calculating Total Death-Count of the Year 2001

```
In [6]: t2001_dcount = df_2001.loc[:, "Total"]
s1_1 = np.sum(t2001_dcount)
s1_1
```

```
Out[6]: 542440
```

### Query to Extract the Record of Male in the Year 2001

```
In [7]: male_2001 = df_2001.loc[(df_2001["Gender"]=="Male")]
male_2001
```

### Calculating Total Death Count of Male in the Year 2001

```
In [8]: m2001_count = male_2001.loc[:, "Total"]
s1_2 = np.sum(m2001_count)
s1_2
```

```
Out[8]: 331563
```

### Query to Extract the Record of Female in the Year 2001

```
In [9]: female_2001 = df_2001.loc[(df_2001["Gender"]=="Female")]
female_2001
```

### Calculating Total Death Count of Female in the Year 2001

```
In [10]: fm2001_count = female_2001.loc[:, "Total"]
s1_3 = np.sum(fm2001_count)
s1_3
```

Out[10]: 210877

### Query for Extracting Record of 0-14 Age Group

```
In [11]: df_age_d014_2001 = df_2001.loc[(df_2001["Age_group"]=="0-14")]
df_age_d014_2001
```

Out[11]:

	State	Year	Type	Gender	Age_group	Total
4	A & N ISLANDS	2001	Illness (Aids/STD)	Female	0-14	0
6	A & N ISLANDS	2001	Property Dispute	Male	0-14	0
8	A & N ISLANDS	2001	By Consuming Insecticides	Female	0-14	0
15	A & N ISLANDS	2001	By touching electric wires	Male	0-14	0
17	A & N ISLANDS	2001	Others	Male	0-14	0
...	...	...	...	...	...	...
236154	UTTARAKHAND	2001	Public Sector Undertaking	Female	0-14	0
236155	UTTARAKHAND	2001	Self-employed (Business activity)	Female	0-14	0
236363	WEST BENGAL	2001	Family Problems	Female	0-14	3
236367	WEST BENGAL	2001	Insanity/Mental Illness	Male	0-14	8
236378	WEST BENGAL	2001	By touching electric wires	Female	0-14	8

3749 rows × 6 columns

### Calculating Total Death Count of 0-14 Age Group

```
In [12]: t_014_2001 = df_age_d014_2001.loc[:, "Total"]
s1_4 = np.sum(t_014_2001)
s1_4
```

Out[12]: 9010

### Query for Extracting Record of Male of Age Group 0-14

```
In [23]: df_014m_2001 = df_age_d014_2001.loc[(df_age_d014_2001["Gender"]=="Male")]
df_014m_2001
```

### Calculating Total Death Count of Male of Age Group 0-14

```
In [24]: t_014m_2001 = df_014m_2001.loc[:, "Total"]

s1_9 = np.sum(t_014m_2001)
s1_9
```

```
Out[24]: 4488
```

### Query for Extracting Record of Female of Age Group 0-14

```
In [25]: df_014fm_2001 = df_age_d014_2001.loc[(df_age_d014_2001["Gender"]=="Female")]
df_014fm_2001
```

### Calculating Total Death Count of Female of Age Group 0-14

```
In [26]: t_014fm_2001 = df_014fm_2001.loc[:, "Total"]

s1_10 = np.sum(t_014fm_2001)
s1_10
```

```
Out[26]: 4522
```



## Query for Extracting record of State-Andaman & Nicobar Islands and Calculating Total Death Count

```
In [47]: df_st_AN_2001 = df_2001.loc[(df_2001["state"]=="A & N ISLANDS")]
df_st_AN_2001
```

```
Out[47]:
```

	State	Year	Type	Gender	Age_group	Total
0	A & N ISLANDS	2001	Cancer	Male	15-29	0
1	A & N ISLANDS	2001	Divorce	Male	60+	0
2	A & N ISLANDS	2001	Dowry Dispute	Female	60+	0
3	A & N ISLANDS	2001	Ideological Causes/Hero Worshipping	Female	60+	0
4	A & N ISLANDS	2001	Illness (Aids/STD)	Female	0-14	0
...	...	...	...	...	...	...
5119	A & N ISLANDS	2001	Others	Male	60+	1
5120	A & N ISLANDS	2001	Professional Activity	Female	30-44	0
5121	A & N ISLANDS	2001	Public Sector Undertaking	Female	45-59	0
5122	A & N ISLANDS	2001	Student	Male	15-29	2
5123	A & N ISLANDS	2001	Unemployed	Male	60+	0

562 rows × 6 columns

```
In [48]: t_AN_2001 = df_st_AN_2001.loc[:, "Total"]
s1_19 = np.sum(t_AN_2001)
s1_19
```

```
Out[48]: 645
```

## Calculating Total Death Count of Male & Female in Andaman & Nicobar Islands

```
In [117]: t_ANm_2001 = np.sum(df_st_AN_2001.where(df_st_AN_2001["Gender"]=="Male")["Total"])
t_ANm_2001
```

```
Out[117]: 395.0
```

```
In [118]: t_ANfm_2001 = np.sum(df_st_AN_2001.where(df_st_AN_2001["Gender"]=="Female")["Total"])
t_ANfm_2001
```

```
Out[118]: 250.0
```

## Query for Listing out all the Causes of Suicide

```
In [187]: l_2001=list(df_2001.loc[:, "Type"].unique())
l_2001.sort()
print(l_2001, end=" ")
```

['Bankruptcy or Sudden change in Economic', 'By Consuming Insecticides', 'By Consuming Other Poison', 'By Drowning', 'By Fire-Arms', 'By Fire/Self Immolation', 'By Hanging', 'By Jumping from (Building)', 'By Jumping from (Other sites)', 'By Jumping off Moving Vehicles/Trains', 'By Machine', 'By Over Alcoholism', 'By Overdose of sleeping pills', 'By Self Infliction of injury', 'By coming under running vehicles/trains', 'By touching electric wires', 'Cancellation/Non-Settlement of Marriage', 'Cancer', 'Causes Not known', 'Death of Dear Person', 'Diploma', 'Divorce', 'Divorcee', 'Dowry Dispute', 'Drug Abuse/Addiction', 'Failure in Examination', 'Fall in Social Reputation', 'Family Problems', 'Farming/Agriculture Activity', 'Graduate', 'House Wife', 'Hr. Secondary/Intermediate/Pre-Universit', 'Ideological Causes/Hero Worshipping', 'Illegitimate Pregnancy', 'Illness (Aids/STD)', 'Insanity/Mental Illness', 'Love Affairs', 'Married', 'Matriculate/Secondary', 'Middle', 'Never Married', 'No Education', 'Not having Children(Barrenness/Impotency', 'Other Prolonged Illness', 'Others', 'Paralysis', 'Physical Abuse (Rape/Incest Etc.)', 'Post Graduate and Above', 'Poverty', 'Primary', 'Professional Activity', 'Professional/Career Problem', 'Property Dispute', 'Public Sector Undertaking', 'Retired Person', 'Self-employed (Business activity)', 'Seperated', 'Service (Government)', 'Service (Private)', 'Student', 'Suspected/Illicit Relation', 'Unemployed', 'Unemployment', 'Widowed/Widower']



### Calculating Death Count of Respective Causes

```
In [188]: cause_l_2001=[]
for i in l_2001:
    rough= np.sum(df_2001.where(df_2001["Type"]==i)["Total"])
    cause_l_2001.append(rough)

print(cause_l_2001,end=" ")

[2918.0, 21530.0, 20062.0, 8253.0, 395.0, 10822.0, 29757.0, 620.0, 728.0, 671.0, 217.0, 1291.0, 1088.0, 520.0, 3548.0, 1033.0,
924.0, 780.0, 20585.0, 871.0, 1199.0, 316.0, 1351.0, 2414.0, 1414.0, 2062.0, 1209.0, 24162.0, 16415.0, 1870.0, 21659.0, 6747.0,
104.0, 369.0, 741.0, 5858.0, 3114.0, 75123.0, 16384.0, 24910.0, 24063.0, 28725.0, 777.0, 15947.0, 53927.0, 772.0, 376.0, 604.0,
2549.0, 28067.0, 2612.0, 857.0, 1599.0, 2469.0, 884.0, 5275.0, 3044.0, 2293.0, 8981.0, 5474.0, 1200.0, 10252.0, 2734.0, 4925.0]
```

### Creating Data Frame of Causes with their Respective Death Count

```
In [190]: cause_df_2001 = pd.DataFrame(cause_l_2001,l_2001)
cause_df_2001.reset_index()
```

Out[190]:

	index	0
0	Bankruptcy or Sudden change in Economic	2918.0
1	By Consuming Insecticides	21530.0
2	By Consuming Other Poison	20062.0
3	By Drowning	8253.0
4	By Fire-Arms	395.0
...	...	...
59	Student	5474.0
60	Suspected/Illicit Relation	1200.0
61	Unemployed	10252.0
62	Unemployment	2734.0
63	Widowed/Widower	4925.0

64 rows × 2 columns

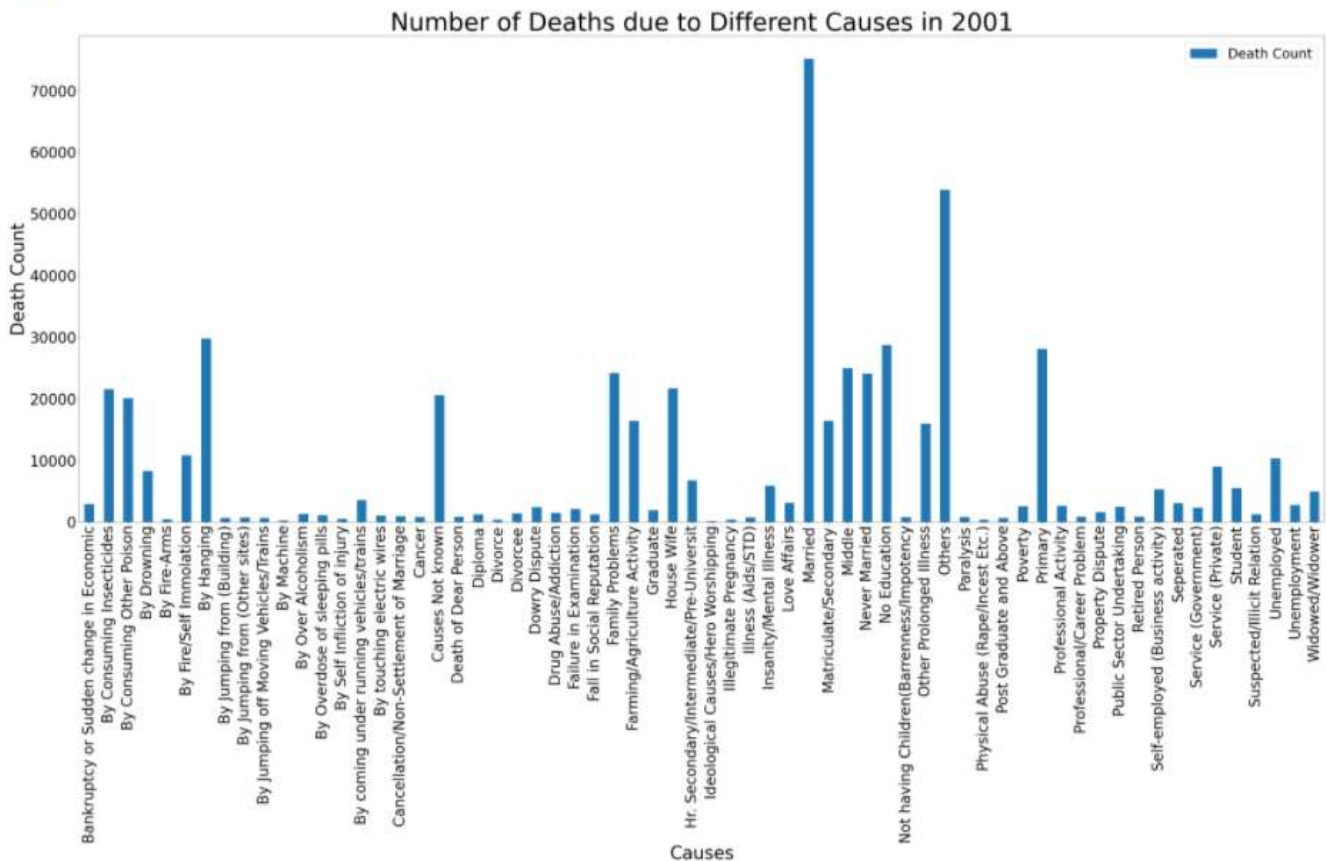
<b>Cause</b>	<b>Death Count</b>
Bankruptcy or Sudden change in Economic	2918
By Consuming Insecticides	21530
By Consuming Other Poison	20062
By Drowning	8253
By Fire-Arms	395
By Fire/Self Immolation	10822
By Hanging	29757
By Jumping from (Building)	620
By Jumping from (Other sites)	728
By Jumping off Moving Vehicles/Trains	671
By Machine	217
By Over Alcoholism	1291
By Overdose of sleeping pills	1088
By Self Infliction of injury	520
By coming under running vehicles/trains	3548
By touching electric wires	1033
Cancellation/Non-Settlement of Marriage	924
Cancer	780
Causes Not known	20585
Death of Dear Person	871
Diploma	1199
Divorce	316
Divorcee	1351
Dowry Dispute	2414
Drug Abuse/Addiction	1414
Failure in Examination	2062
Fall in Social Reputation	1209
Family Problems	24162
Farming/Agriculture Activity	16415
Graduate	1870
House Wife	21659
Hr. Secondary/Intermediate/Pre-University	6747
Ideological Causes/Hero Worshipping	104
Illegitimate Pregnancy	369
Illness (Aids/STD)	741
Insanity/Mental Illness	5858
Love Affairs	3114

<b>Married</b>	75123
<b>Matriculate/Secondary</b>	16384
<b>Middle</b>	24910
<b>Never Married</b>	24063
<b>No Education</b>	28725
<b>Not having children (Barrenness/Impotency</b>	777
<b>Other Prolonged Illness</b>	15947
<b>Others</b>	53927
<b>Paralysis</b>	772
<b>Physical Abuse (Rape/Incest Etc.)</b>	376
<b>Post Graduate and Above</b>	604
<b>Poverty</b>	2549
<b>Primary</b>	28067
<b>Professional Activity</b>	2612
<b>Professional/Career Problem</b>	857
<b>Property Dispute</b>	1599
<b>Public Sector Undertaking</b>	2469
<b>Retired Person</b>	884
<b>Self-employed (Business activity)</b>	5275
<b>Separated</b>	3044
<b>Service (Government)</b>	2293
<b>Service (Private)</b>	8981
<b>Student</b>	5474
<b>Suspected/Illicit Relation</b>	1200
<b>Unemployed</b>	10252
<b>Unemployment</b>	2734
<b>Widowed/Widower</b>	4925

## Graph Plotting -Causes vs Death Count

```
In [191]: cause_df_2001.plot.bar(stacked=True,figsize=(50,20))
plt.tick_params(axis='y', labels=33)
plt.tick_params(axis='x', labels=33)
plt.xlabel("Causes",fontsize=40)
plt.ylabel("Death Count",fontsize=40)
plt.title("Number of Deaths due to Different Causes in 2001",fontsize=55)
plt.legend(["Death Count"], prop={"size":30})
```

```
Out[191]: <matplotlib.legend.Legend at 0x10c41ce8>
```



The above graph shows that the major cause of suicides is “Married”(13.85%) which depicts that the most suicides are caused after the marriage and the least suicides are due to ideological causes/Hero Worshipping(0.02%).

## Query for Listing out all the States & Calculating their respective Total Death Count

```
In [192]: s_2001=list(df_2001.loc[:, "State"].unique())
s_2001.sort()
print(s_2001, end=" ")

['A & N ISLANDS', 'ANDHRA PRADESH', 'ARUNACHAL PRADESH', 'ASSAM', 'BIHAR', 'CHANDIGARH', 'CHHATTISGARH', 'D & N HAVELI', 'DAMAN & DIU', 'DELHI (UT)', 'GOA', 'GUJARAT', 'HARYANA', 'HIMACHAL PRADESH', 'JAMMU & KASHMIR', 'JHARKHAND', 'KARNATAKA', 'KERALA', 'LAKSHADWEEP', 'MADHYA PRADESH', 'MAHARASHTRA', 'MANIPUR', 'MEGHALAYA', 'MIZORAM', 'NAGALAND', 'ODISHA', 'PUDUCHERRY', 'PUNJAB', 'RAJASTHAN', 'SIKKIM', 'TAMIL NADU', 'TRIPURA', 'UTTAR PRADESH', 'UTTARAKHAND', 'WEST BENGAL']

In [193]: state_s_2001 = [s1_19, s1_20, s1_21, s1_22, s1_23, s1_24, s1_25, s1_26, s1_27, s1_28, s1_29, s1_30, s1_31, s1_32, s1_33, s1_34,
s1_35, s1_36, s1_37, s1_38, s1_39, s1_40, s1_41, s1_42, s1_43, s1_44, s1_45, s1_46, s1_47, s1_48, s1_49, s1_50,
s1_51, s1_52, s1_53]
print(state_s_2001, end=" ")

[645, 52610, 555, 13230, 3015, 350, 20051, 250, 69, 6195, 1280, 23955, 10031, 1535, 765, 1250, 59405, 47860, 0, 34300, 73090, 2
05, 435, 205, 200, 20254, 2645, 3240, 15975, 470, 56450, 4270, 17580, 1555, 68450]
```

## Creating List of Total Death Count of Male & Female of Each State

```
In [194]: state_m_2001=[t_ANm_2001, t_Apm_2001, t_ARpm_2001, t_Asm_2001, t_Bhm_2001, t_CHm_2001, t_CTm_2001, t_DNm_2001,
t_DDm_2001, t_DLm_2001, t_GOAm_2001, t_GJm_2001, t_HRm_2001, t_HPm_2001, t_JKm_2001, t_JHm_2001,
t_KNm_2001, t_KERm_2001, t_LDm_2001, t_MPm_2001, t_MHm_2001, t_MNm_2001, t_MGm_2001, t_MZm_2001,
t_NGm_2001, t_ODm_2001, t_PDm_2001, t_PBm_2001, t_RJm_2001, t_SMm_2001, t_TNm_2001, t_TPm_2001,
t_UPm_2001, t_UKm_2001, t_WBm_2001]
print(state_m_2001, end=" ")

[395.0, 31895.0, 380.0, 9180.0, 1535.0, 195.0, 13200.0, 175.0, 49.0, 3650.0, 835.0, 13245.0, 6820.0, 885.0, 455.0, 705.0, 3935
5.0, 33935.0, 0.0, 17680.0, 46690.0, 120.0, 345.0, 230.0, 125.0, 10439.0, 1615.0, 1980.0, 9795.0, 310.0, 35640.0, 2315.0, 9005.
0, 910.0, 37475.0]

In [195]: state_fm_2001=[t_ANfm_2001, t_APfm_2001, t_ARPfm_2001, t_ASfm_2001, t_BHfm_2001, t_CHfm_2001, t_CTfm_2001, t_DNfm_2001,
t_DDfm_2001, t_DLfm_2001, t_GOAFm_2001, t_GJfm_2001, t_HRfm_2001, t_HPfm_2001, t_JKfm_2001, t_JHfm_2001,
t_KNfm_2001, t_KERfm_2001, t_LDfm_2001, t_MPfm_2001, t_MHfm_2001, t_MNfm_2001, t_MGfm_2001, t_MZfm_2001,
t_NGfm_2001, t_ODfm_2001, t_PDfm_2001, t_PBFm_2001, t_RJfm_2001, t_SMfm_2001, t_TNfm_2001, t_TPfm_2001,
t_UPfm_2001, t_UKfm_2001, t_WBfm_2001]
print(state_fm_2001, end=" ")

[250.0, 20715.0, 175.0, 4050.0, 1480.0, 155.0, 6851.0, 75.0, 20.0, 2545.0, 445.0, 10710.0, 3211.0, 650.0, 310.0, 545.0, 20050.
0, 13925.0, 0.0, 16620.0, 26400.0, 85.0, 90.0, 40.0, 75.0, 9815.0, 1030.0, 1260.0, 6180.0, 160.0, 20810.0, 1955.0, 8575.0, 645.
0, 30975.0]
```

## Creating a Dictionary of States with Total Death Count, Male Death Count & Female Death Count

```
In [196]: df_state_2001 = {  
  
    "State":['A & N ISLANDS', 'ANDHRA PRADESH', 'ARUNACHAL PRADESH', 'ASSAM', 'BIHAR', 'CHANDIGARH', 'CHHATTISGARH',  
            'D & N HAVELI', 'DAMAN & DIU', 'DELHI (UT)', 'GOA', 'GUJARAT', 'HARYANA', 'HIMACHAL PRADESH', 'JAMMU & KASHMIR',  
            'JHARKHAND', 'KARNATAKA', 'KERALA', 'LAKSHADWEEP', 'MADHYA PRADESH', 'MAHARASHTRA', 'MANIPUR', 'MEGHALAYA',  
            'MIZORAM', 'NAGALAND', 'ODISHA', 'PUDUCHERRY', 'PUNJAB', 'RAJASTHAN', 'SIKKIM', 'TAMIL NADU', 'TRIPURA',  
            'UTTAR PRADESH', 'UTTARAKHAND', 'WEST BENGAL'],  
  
    "Total":[s1_19,s1_20,s1_21,s1_22,s1_23,s1_24,s1_25,s1_26,s1_27,s1_28,s1_29,s1_30,s1_31,s1_32,s1_33,s1_34,  
            s1_35,s1_36,s1_37,s1_38,s1_39,s1_40,s1_41,s1_42,s1_43,s1_44,s1_45,s1_46,s1_47,s1_48,s1_49,s1_50,  
            s1_51,s1_52,s1_53],  
  
    "Male":[t_ANm_2001, t_Apm_2001, t_ARpm_2001, t_Asm_2001, t_BHm_2001, t_CHm_2001, t_CTm_2001, t_DNm_2001,  
            t_DDm_2001, t_DLm_2001, t_GOAm_2001, t_GJm_2001, t_HRm_2001, t_HPm_2001,t_JKm_2001, t_JHm_2001,  
            t_KNm_2001, t_KERm_2001, t_LDm_2001,t_MPm_2001,t_MHm_2001,t_MNm_2001,t_MGm_2001,t_MZm_2001,  
            t_NGm_2001, t_ODm_2001, t_PDm_2001,t_PBm_2001,t_RJm_2001,t_SMm_2001,t_TNm_2001,t_TPm_2001,  
            t_UPm_2001, t_UKm_2001, t_WBm_2001],  
  
    "Female":[t_ANfm_2001, t_APfm_2001, t_ARPfm_2001, t_ASfm_2001, t_BHfm_2001, t_CHfm_2001, t_CTfm_2001, t_DNfm_2001,  
            t_DDfm_2001, t_DLfm_2001, t_GOAfm_2001, t_GJfm_2001, t_HRfm_2001, t_HPfm_2001,t_JKfm_2001, t_JHfm_2001,  
            t_KNfm_2001, t_KERfm_2001, t_LDfm_2001,t_MPfm_2001,t_MHfm_2001,t_MNfm_2001,t_MGfm_2001,t_MZfm_2001,  
            t_NGfm_2001, t_ODfm_2001, t_PDfm_2001,t_PBfm_2001,t_RJfm_2001,t_SMfm_2001,t_TNfm_2001,t_TPfm_2001,  
            t_UPfm_2001, t_UKfm_2001, t_WBfm_2001]  
  
}  
  
df_All_st_2001 = pd.DataFrame(df_state_2001)  
df_All_st_2001
```



## Creating Pivot Table using the above Data Frame(df\_All\_st\_2001)

```
In [197]: pivot_2001 = pd.pivot_table(df_All_st_2001, values=None, index='State', columns=None,
                                     fill_value=None, margins=False, dropna=True, margins_name='All', observed=False)

pivot_2001
```

Out[196]:

	State	Total	Male	Female
0	A & N ISLANDS	645	395.0	250.0
1	ANDHRA PRADESH	52610	31895.0	20715.0
2	ARUNACHAL PRADESH	555	380.0	175.0
3	ASSAM	13230	9180.0	4050.0
4	BIHAR	3015	1535.0	1480.0
5	CHANDIGARH	350	195.0	155.0
6	CHHATTISGARH	20051	13200.0	6851.0
7	D & N HAVELI	250	175.0	75.0
8	DAMAN & DIU	69	49.0	20.0
9	DELHI (UT)	6195	3650.0	2545.0
10	GOA	1280	835.0	445.0
11	GUJARAT	23955	13245.0	10710.0
12	HARYANA	10031	6820.0	3211.0
13	HIMACHAL PRADESH	1535	885.0	650.0
14	JAMMU & KASHMIR	765	455.0	310.0
15	JHARKHAND	1250	705.0	545.0
16	KARNATAKA	59405	39355.0	20050.0
17	KERALA	47860	33935.0	13925.0
18	LAKSHADWEEP	0	0.0	0.0
19	MADHYA PRADESH	34300	17680.0	16620.0
20	MAHARASHTRA	73090	46690.0	26400.0
21	MANIPUR	205	120.0	85.0
22	MEGHALAYA	435	345.0	90.0
23	MIZORAM	205	230.0	40.0
24	NAGALAND	200	125.0	75.0
25	ODISHA	20254	10439.0	9815.0
26	PUDUCHERRY	2645	1615.0	1030.0
27	PUNJAB	3240	1980.0	1260.0
28	RAJASTHAN	15975	9795.0	6180.0
29	SIKKIM	470	310.0	160.0
30	TAMIL NADU	56450	35640.0	20810.0
31	TRIPURA	4270	2315.0	1955.0
32	UTTAR PRADESH	17580	9005.0	8575.0
33	UTTARAKHAND	1555	910.0	645.0
34	WEST BENGAL	68450	37475.0	30975.0



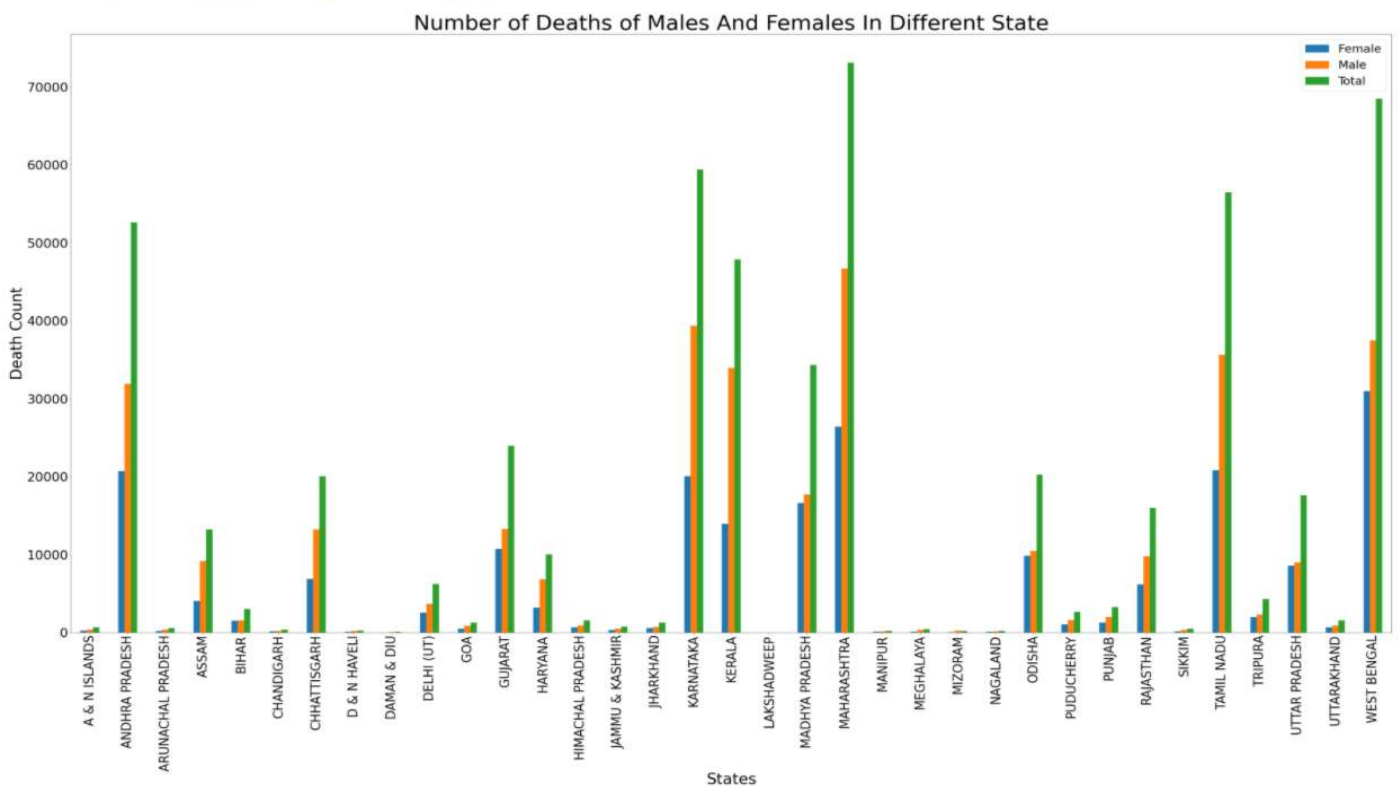
## Graph Plotting-State vs Death Count

```
In [198]: pivot_2001.plot(kind='bar',figsize=(60,30))

plt.tick_params(axis='y', labels=33)
plt.tick_params(axis='x', labels=33)
plt.xlabel("States",fontsize=40)
plt.ylabel("Death Count",fontsize=40)
plt.title("Number of Deaths of Males And Females In Different State",fontsize=55)
plt.legend(["Female","Male","Total"], prop={"size":30})

plt.show
```

Out[198]: <function matplotlib.pyplot.show(close=None, block=None)>



The above graph depicts the total number of suicides in each state, number of suicides of male, and female in respective states.

Total male suicide rate is (61.1243%).

Total female suicide rate is (38.875%).

Maximum total death count is in Maharashtra (73090 i.e. (13.475%)) followed by West Bengal (68450 i.e. (12.620%)) and the Minimum total death count is in Lakshadweep (0 i.e. (0%)).

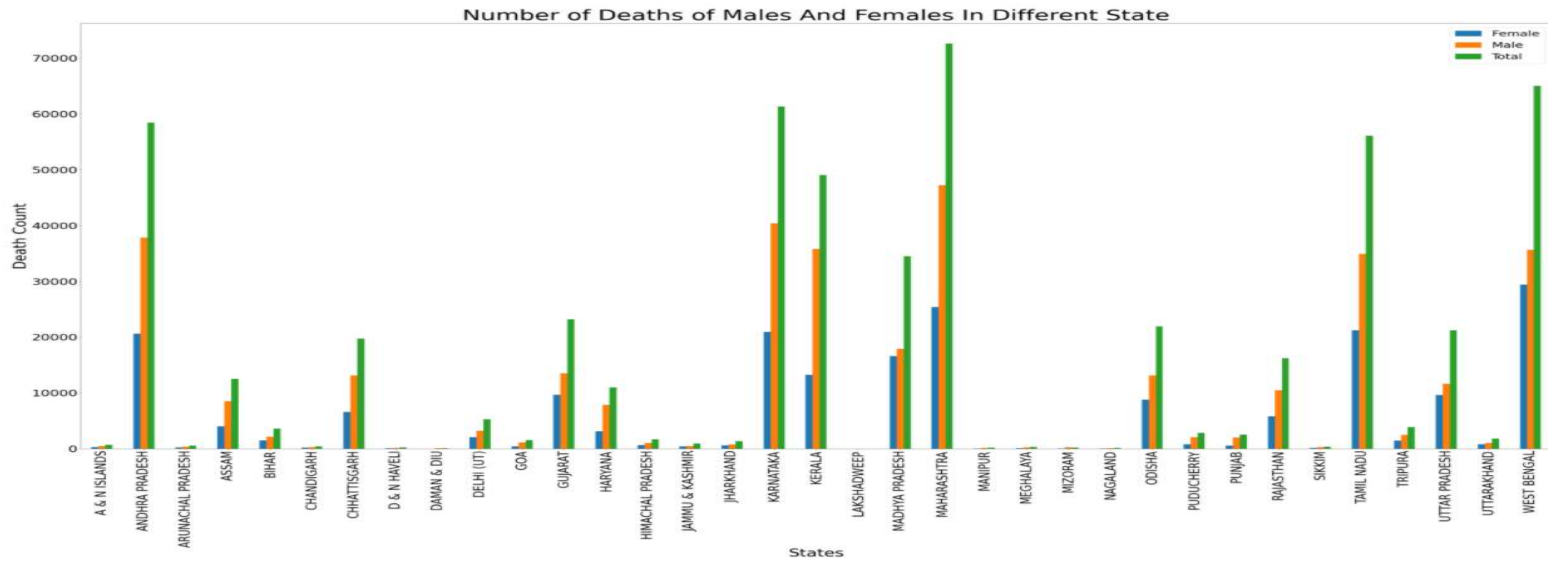
Maximum death count among Male is in Maharashtra (46690) and Minimum death count among Male is in Daman & Diu (49) after Lakshadweep (0).

Maximum death count among Female is in Maharashtra (26400) and Minimum death count among Male is in Daman & Diu (20) after Lakshadweep (0).

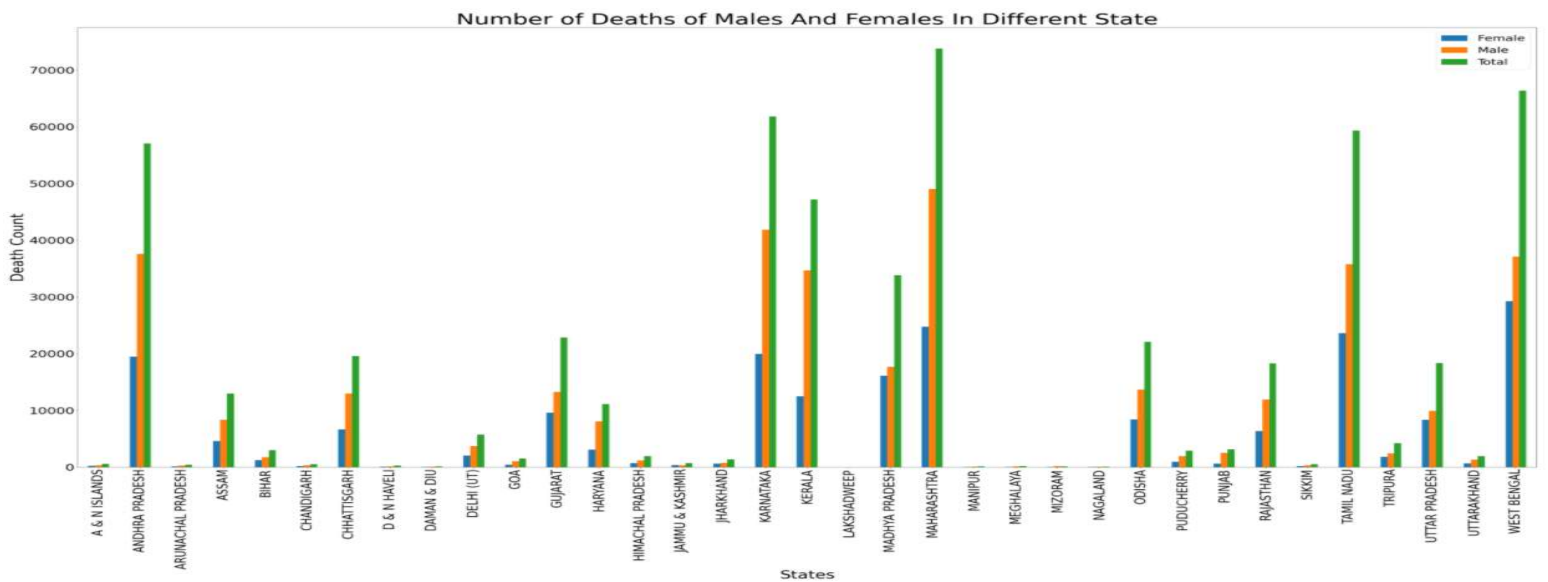
## GRAPH PLOTTING (2002 – 2012)

### Number of Deaths Of Males And Females in Different State

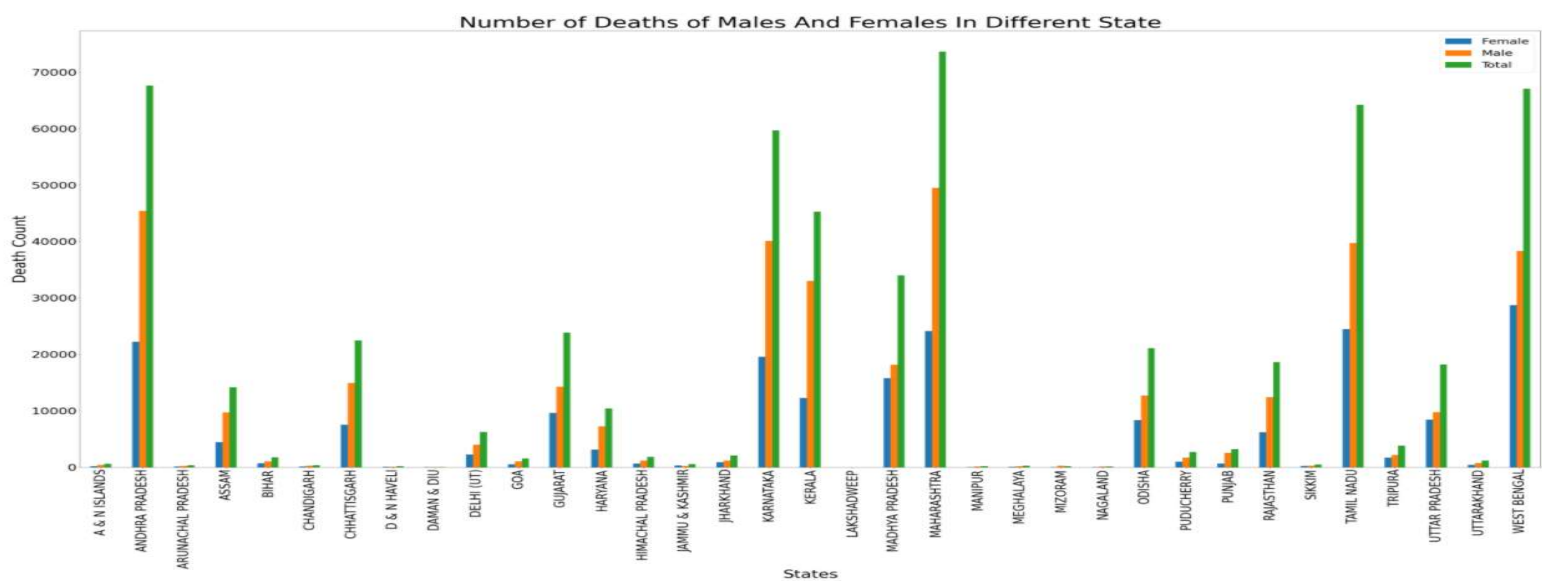
2002



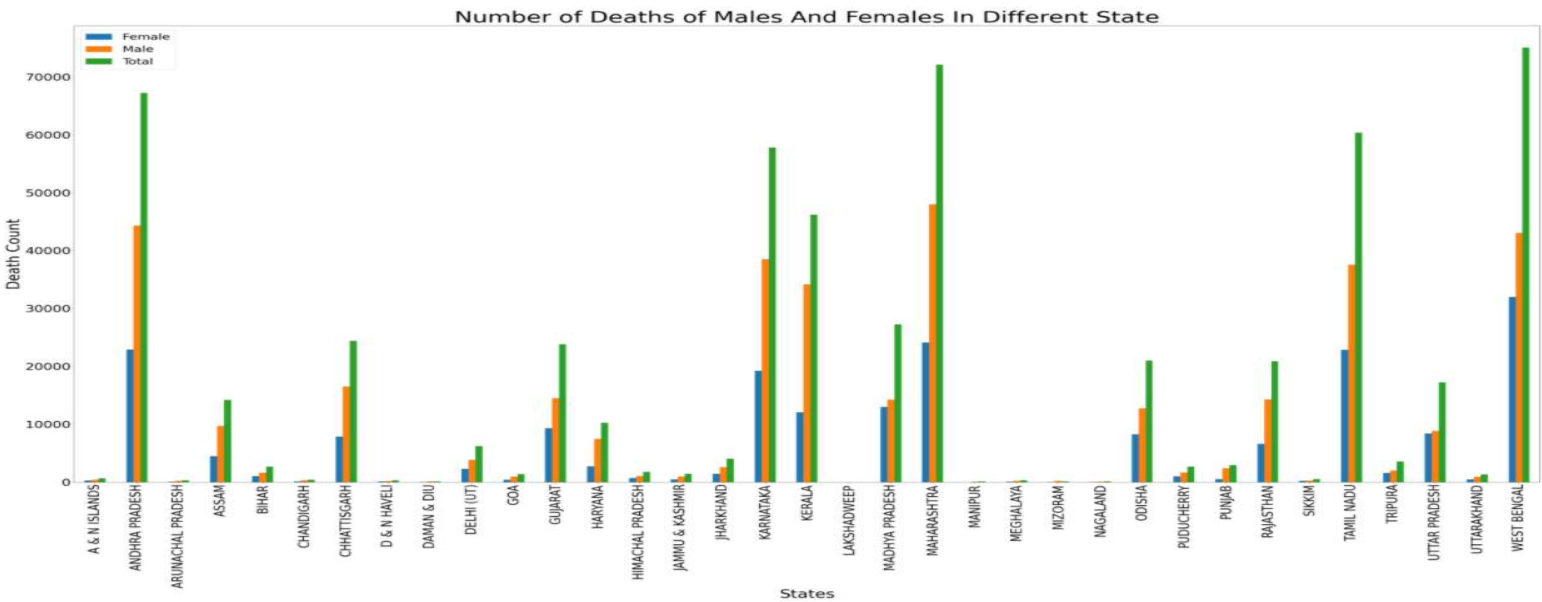
2003



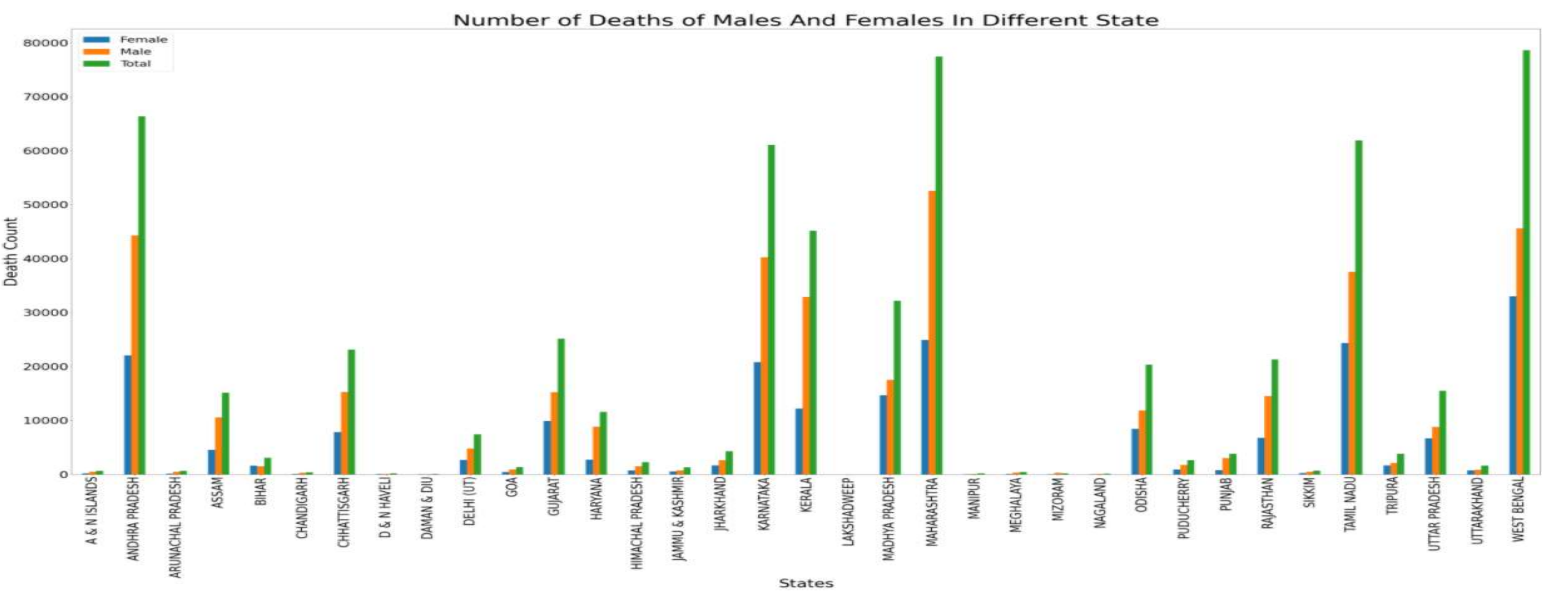
2004



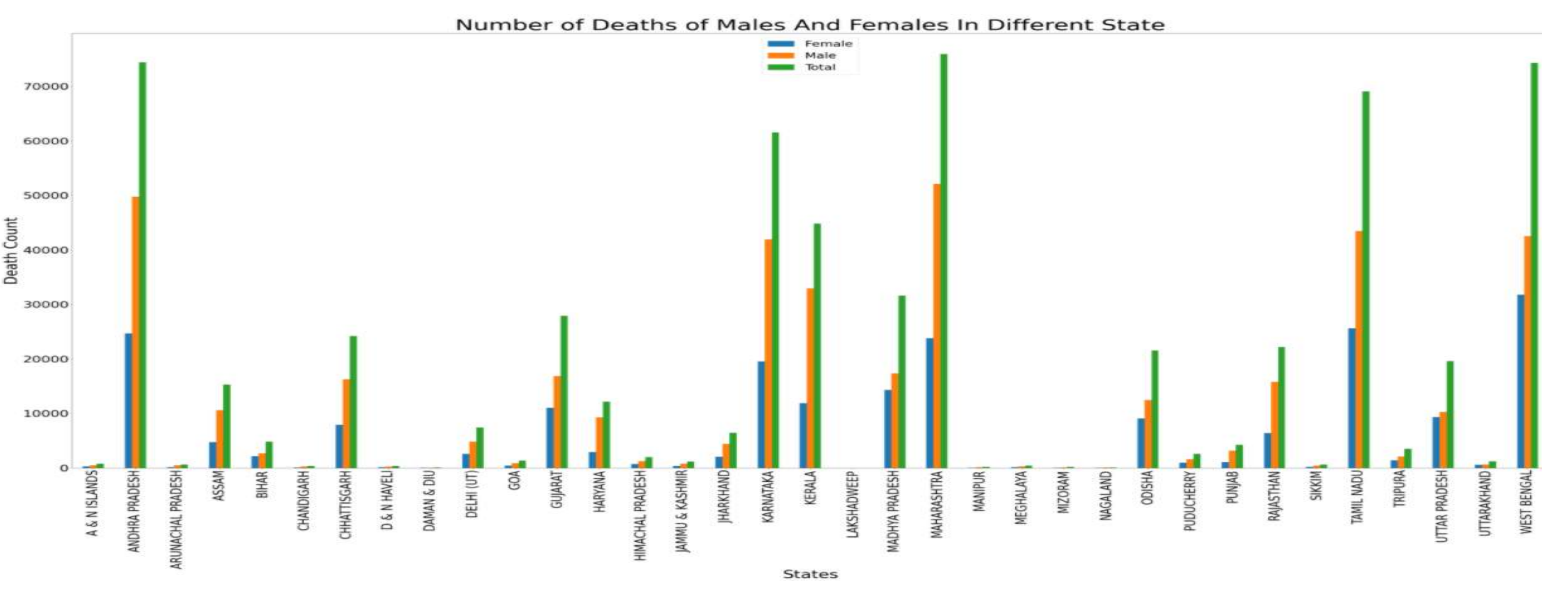
2005



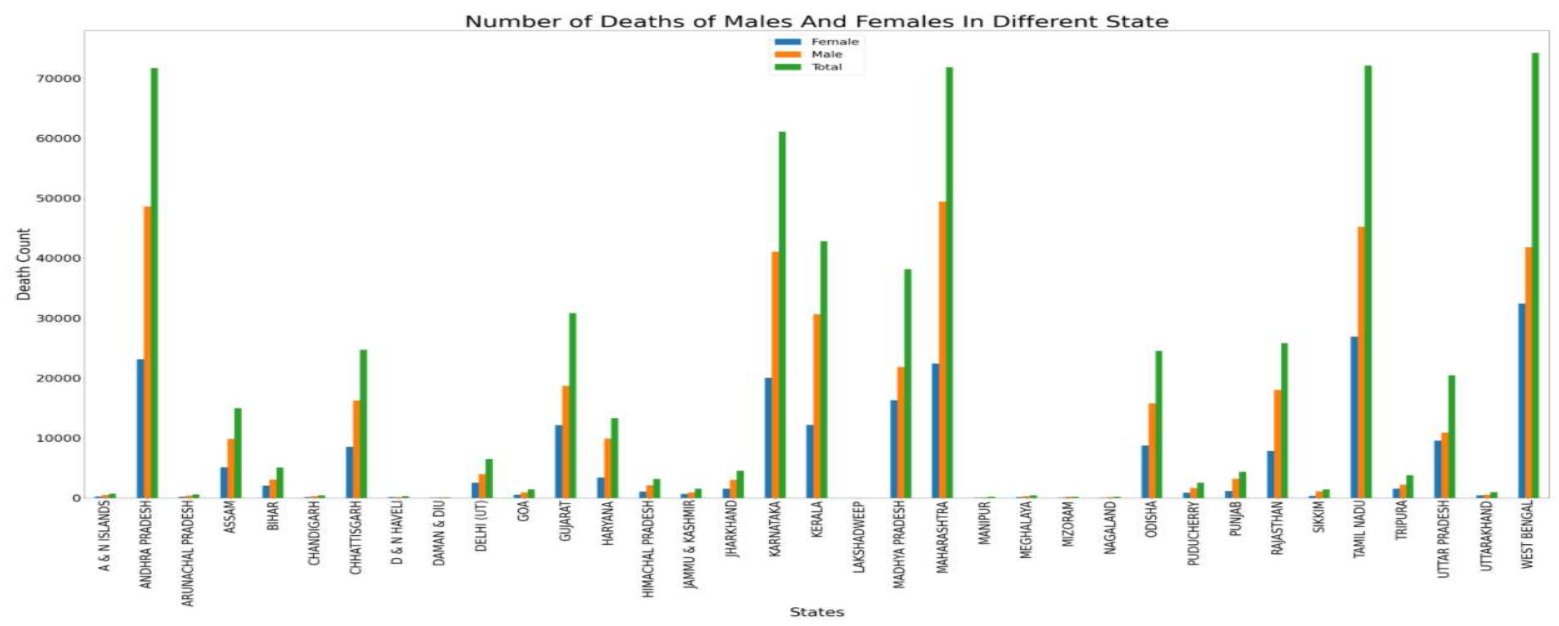
2006



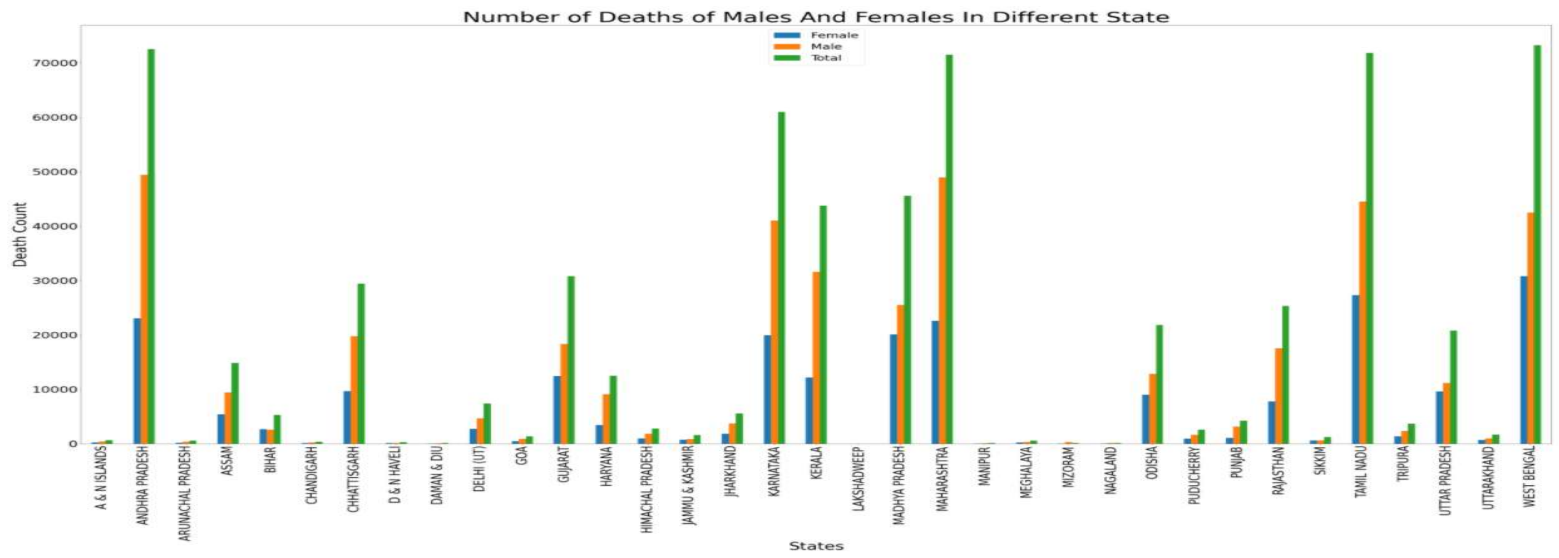
2007



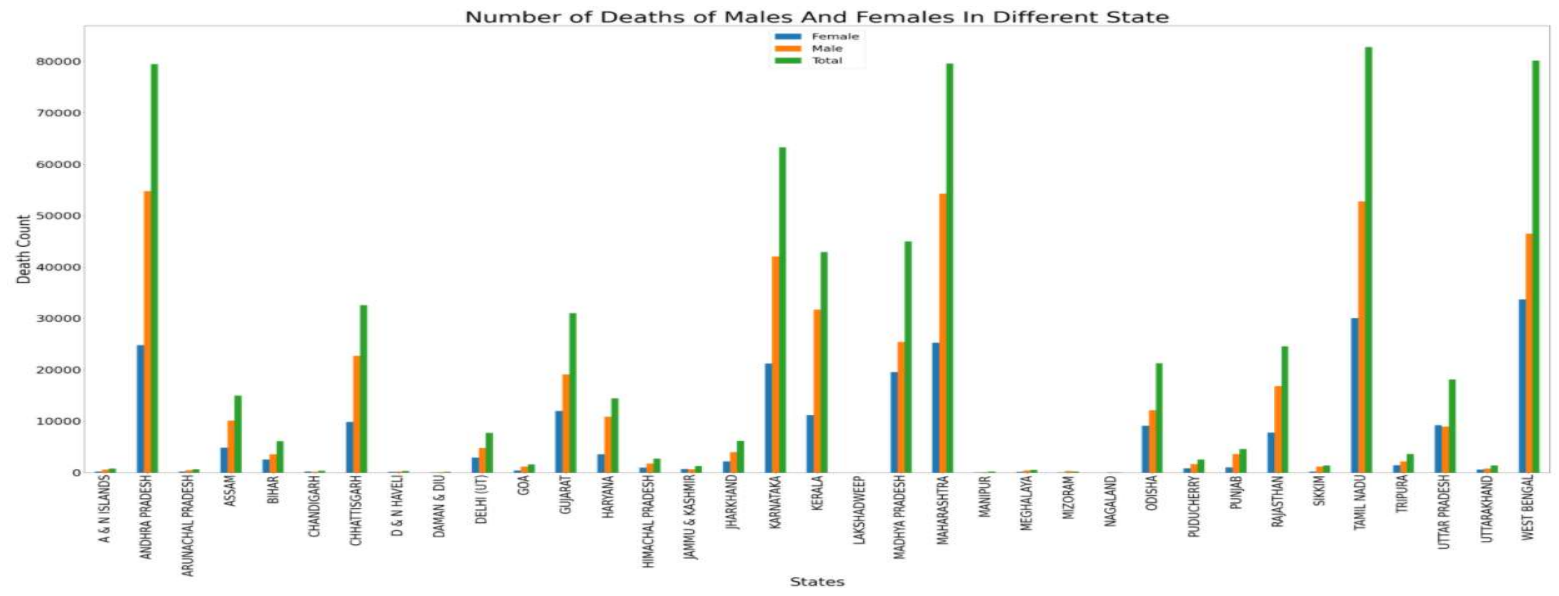
2008



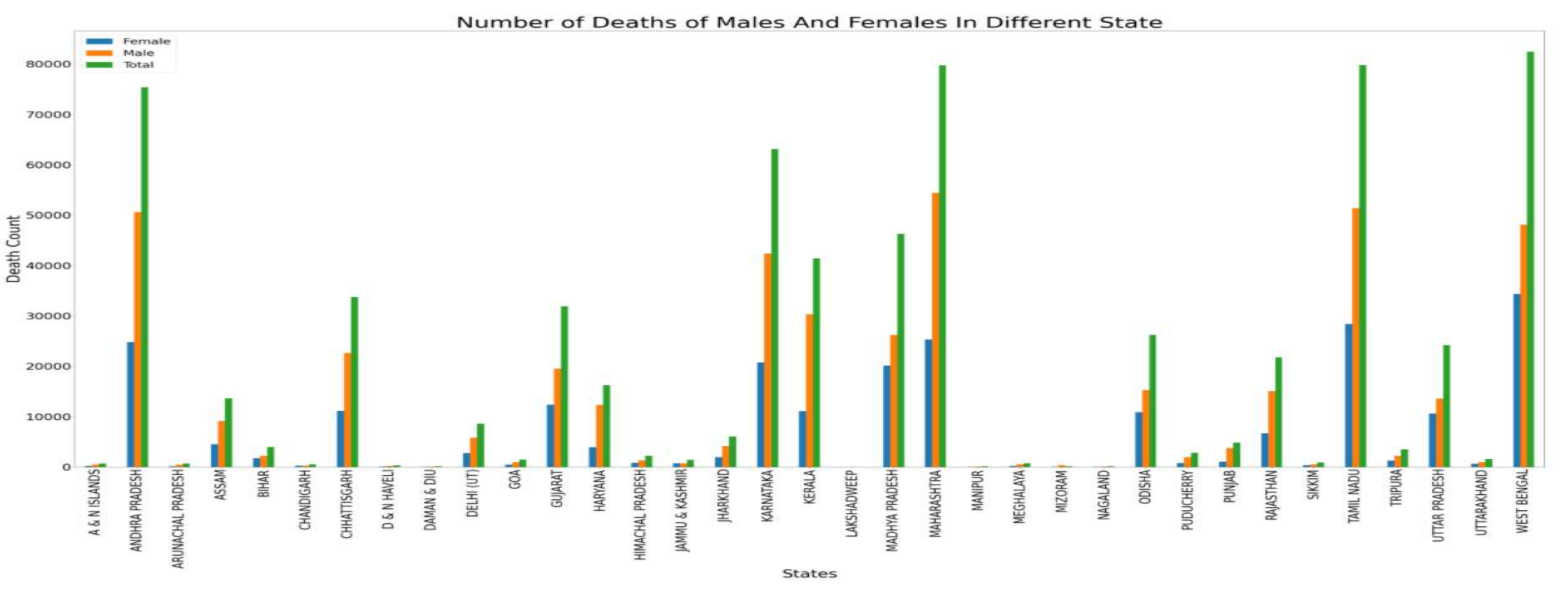
2009



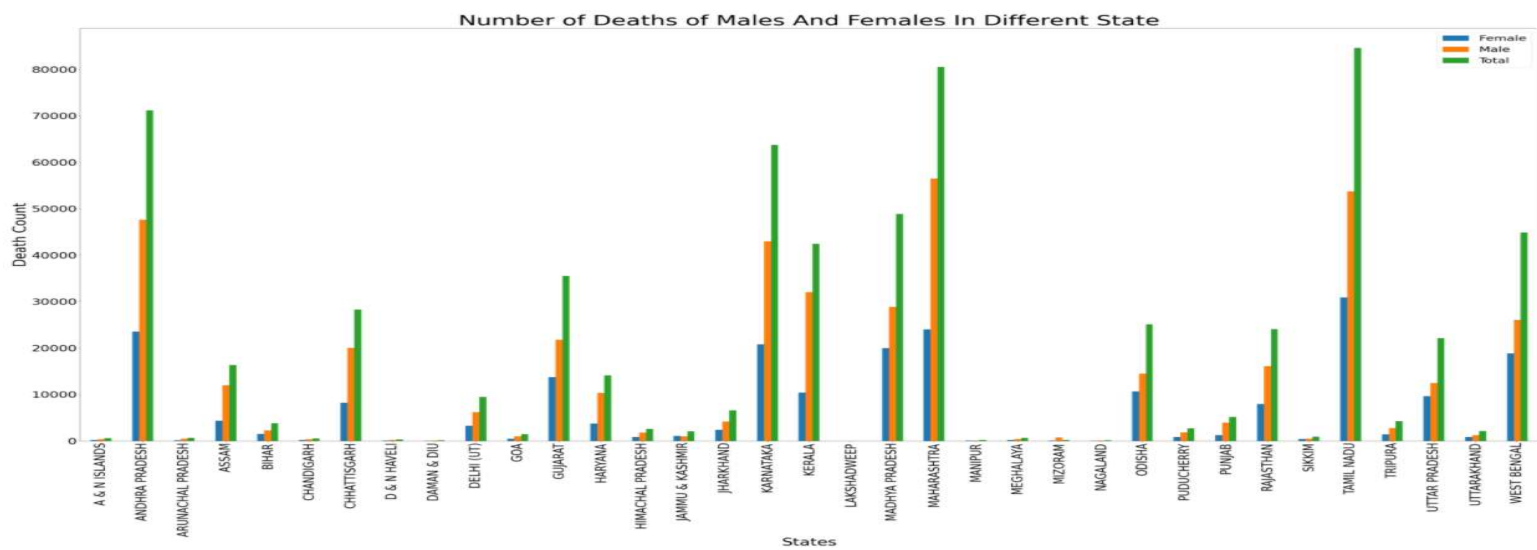
2010



2011



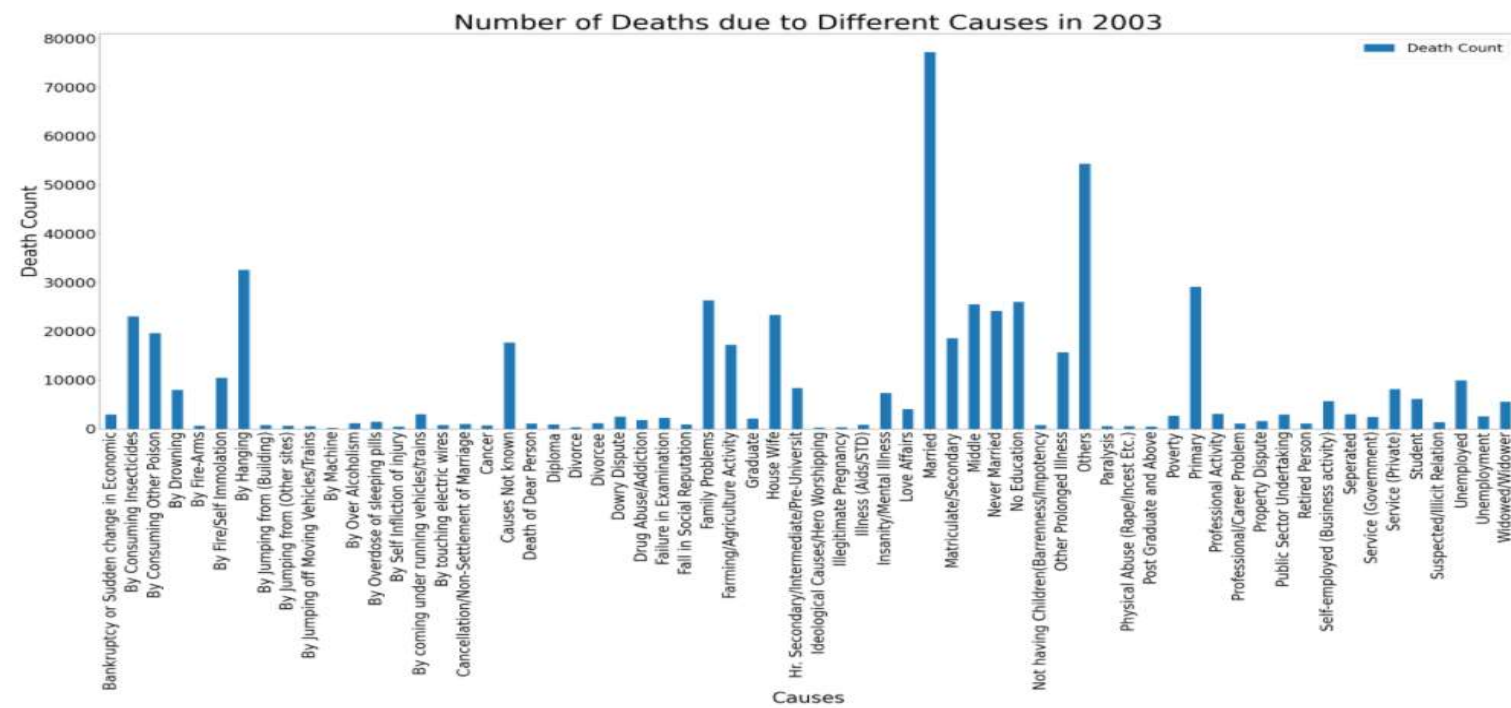
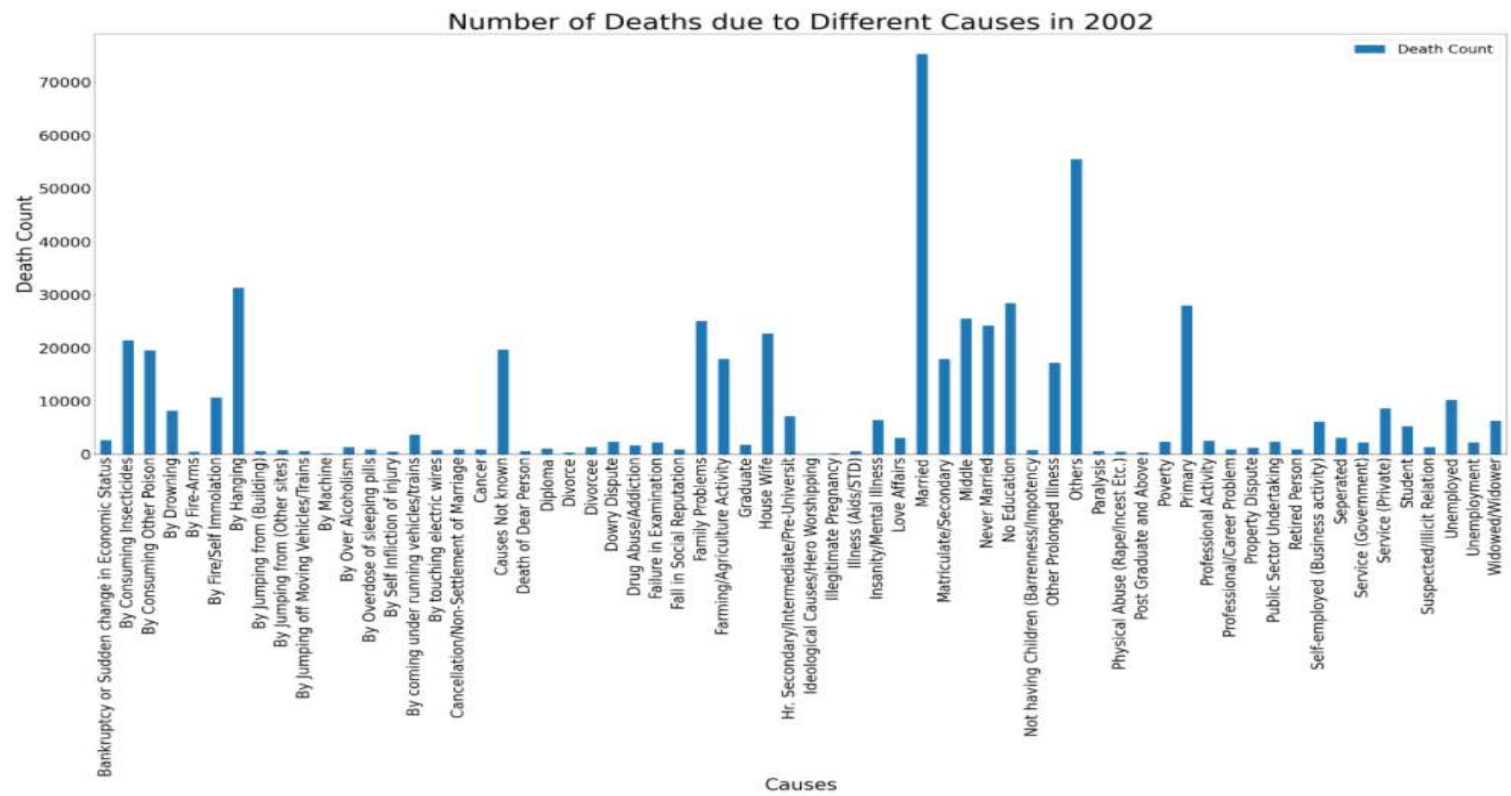
2012



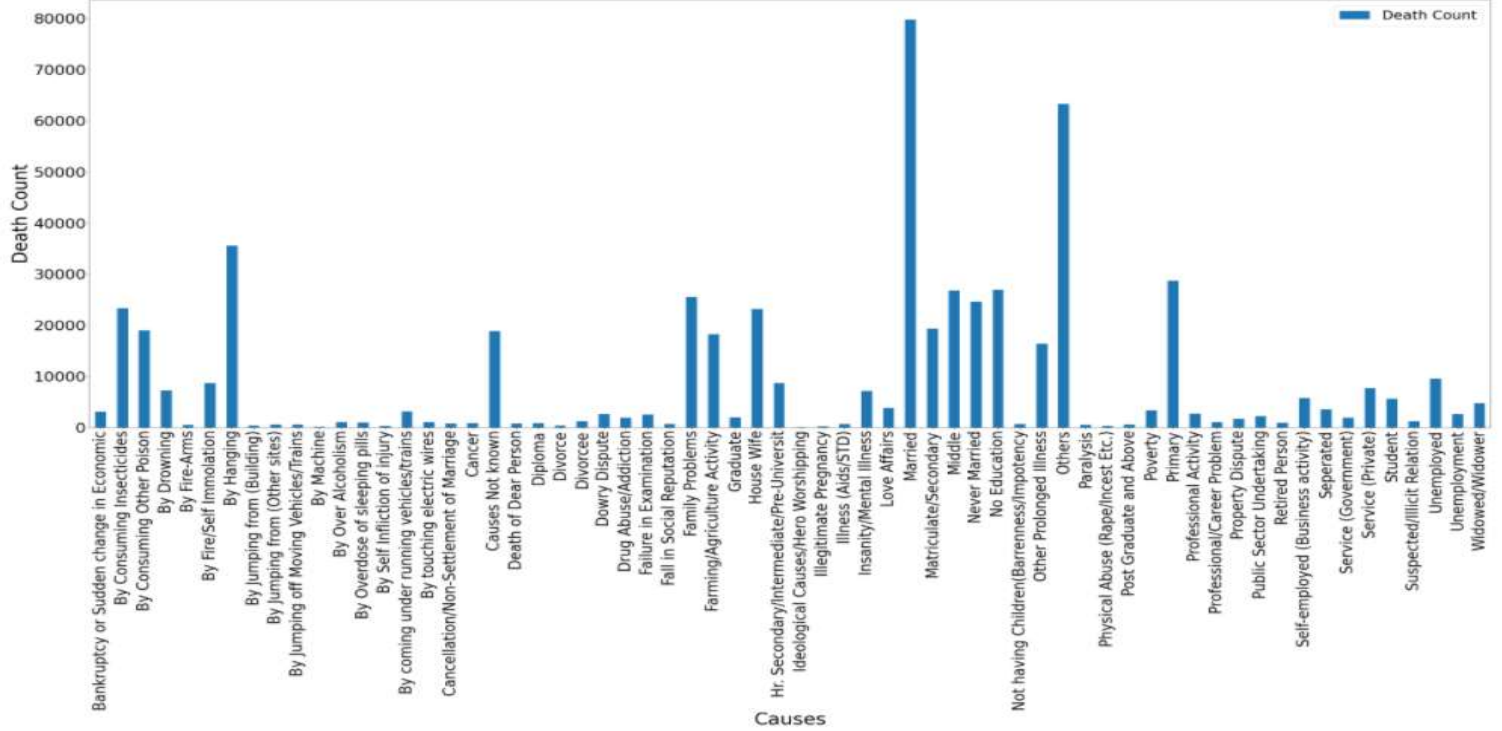
- From the above graph we notice that the highest death rate is in Maharashtra from the year 2002 to 2004 but then it was shifted to West Bengal in the year 2005 to 2006 where Maharashtra was the second highest. But again in 2007 Maharashtra has the highest death rate followed by Andhra Pradesh. In 2008 and 2009, most suicides were done in West Bengal followed by second highest being Tamil Nadu in 2008 and Andhra Pradesh in 2009. In year 2010 and 2012, the highest death rate was in Tamil Nadu. West Bengal was having maximum suicide rate in 2011 followed by Tamil Nadu.
- Lakshadweep has least suicide rate in all the years (2002-2012) followed by Daman & Diu (2002, 2004, 2006, 2007, 2008, 2009, 2011) being state with second least suicide rate in the respective years.
- In 2003, 2010 and 2012 Nagaland was the state with second least suicide rate. Manipur was the state with second least suicide rate in 2005.



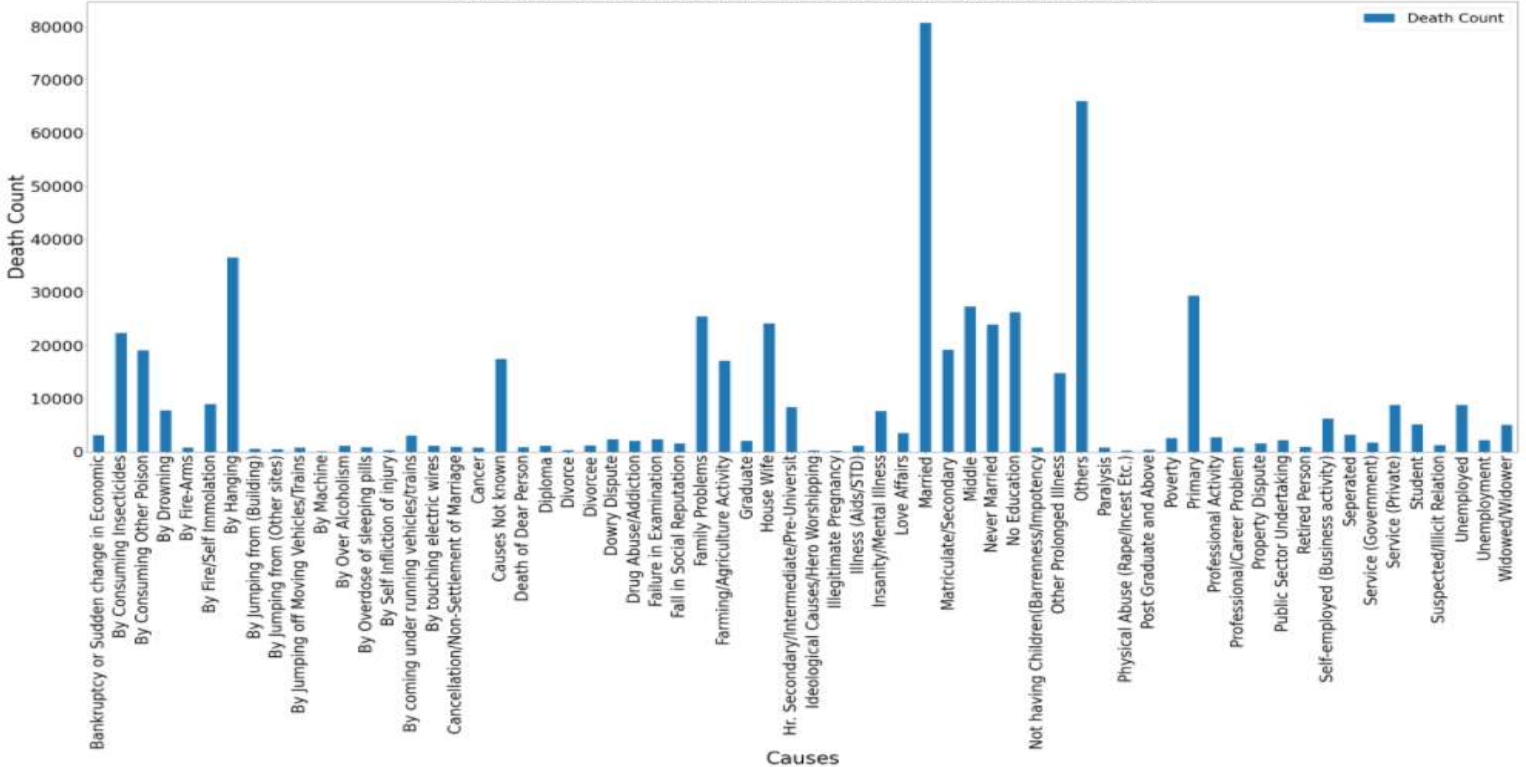
Number of Deaths due to Different Causes V/S Death State



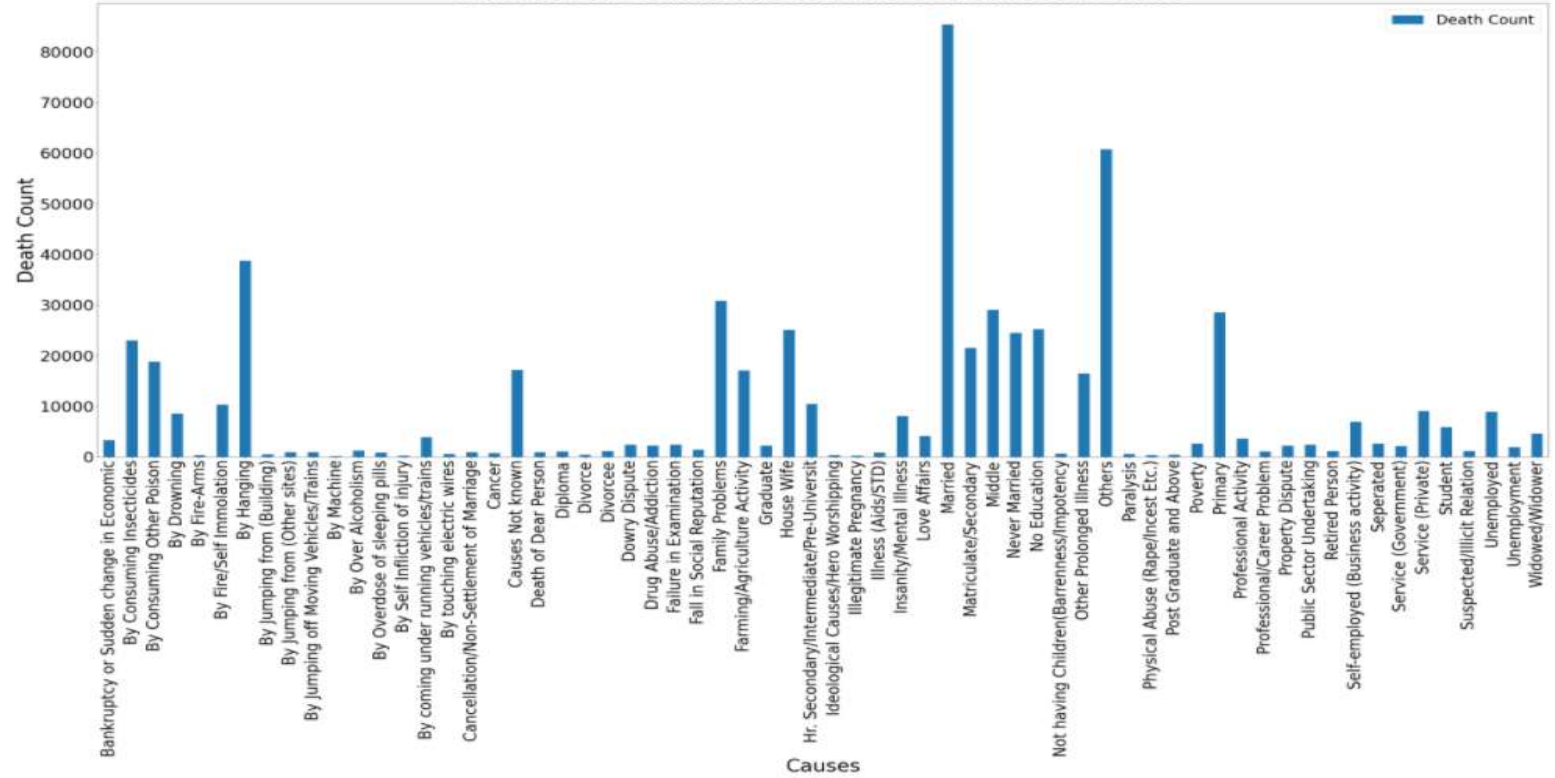
Number of Deaths due to Different Causes in 2004



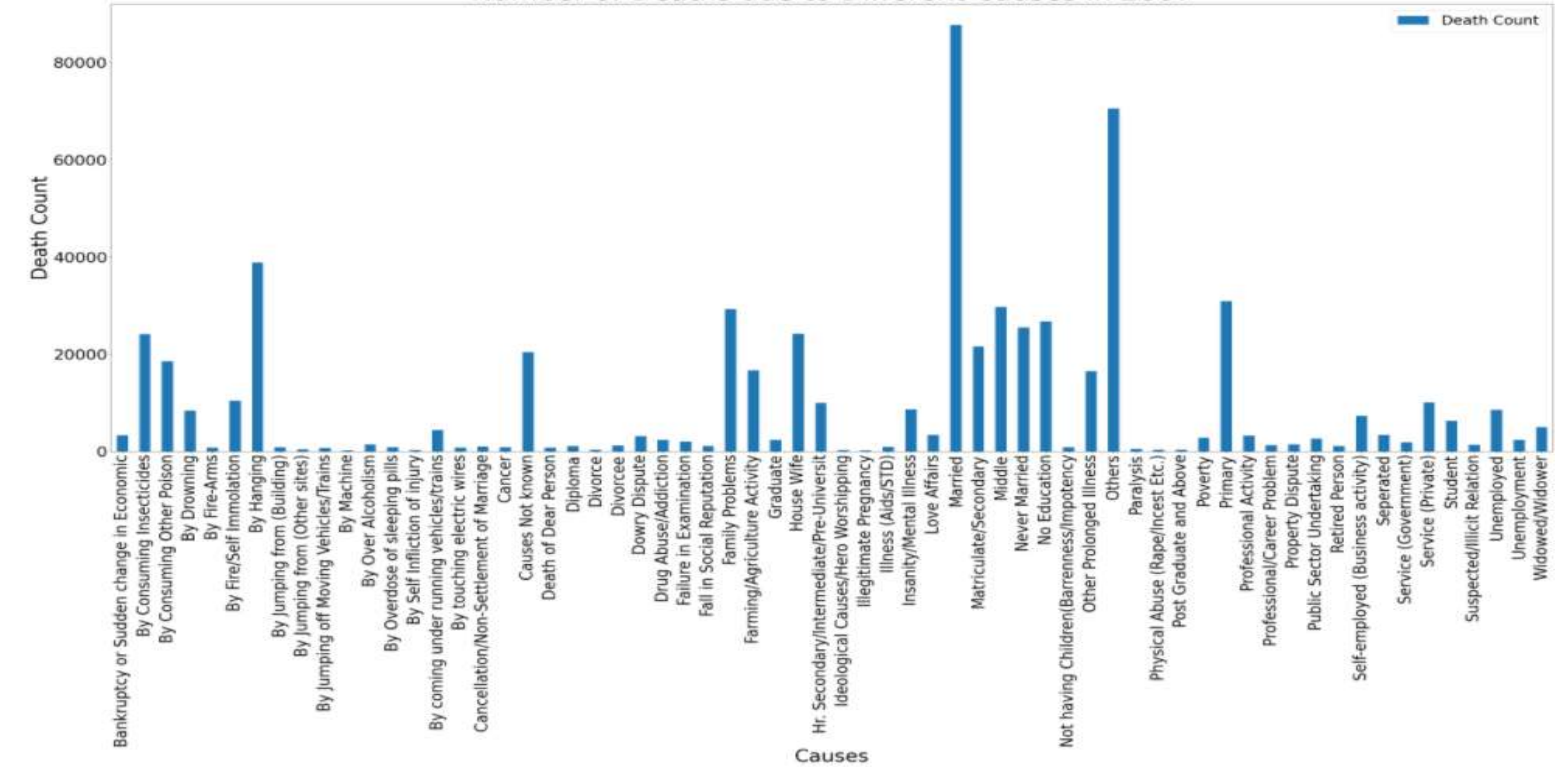
Number of Deaths due to Different Causes in 2005



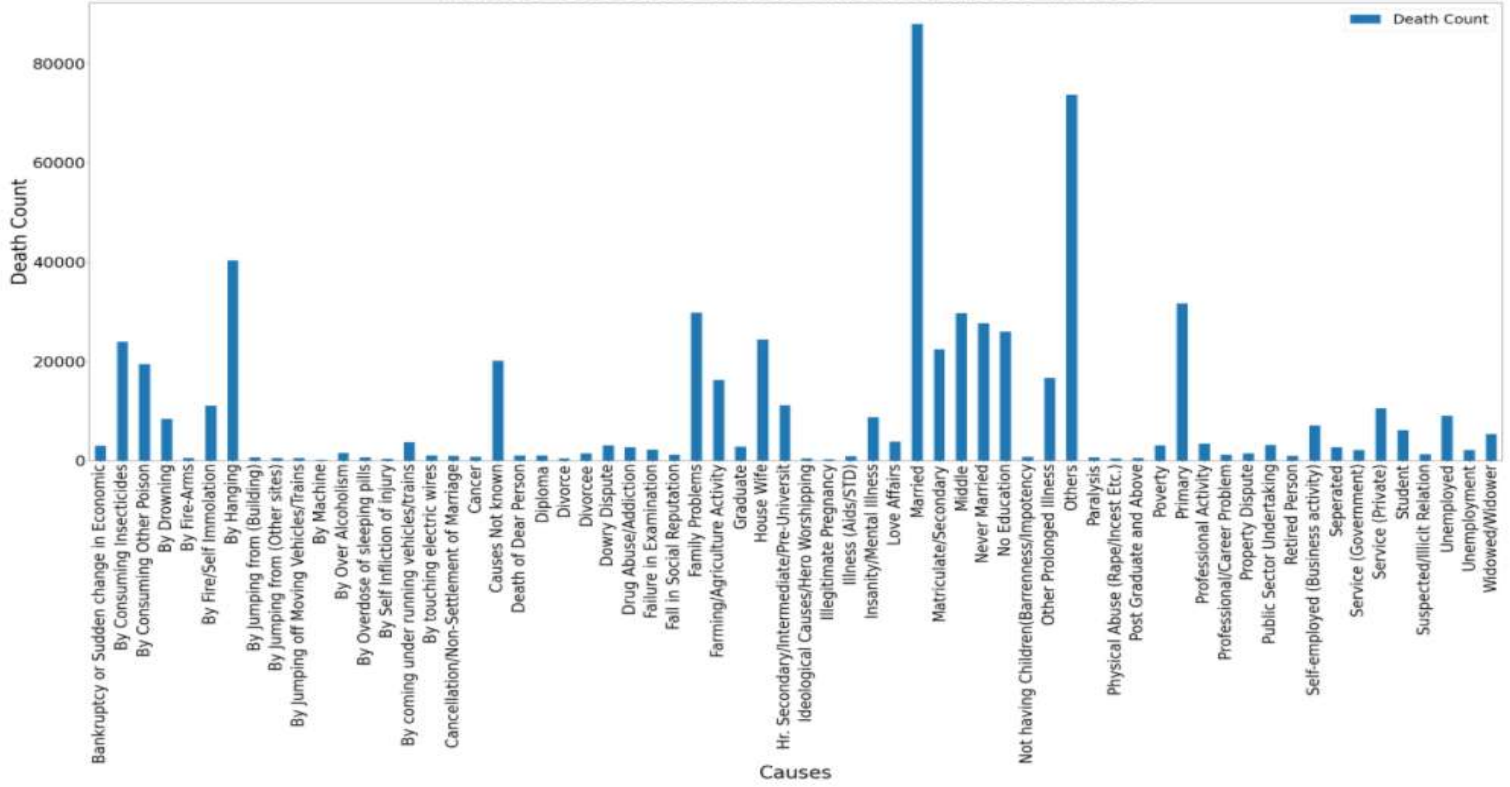
Number of Deaths due to Different Causes in 2006



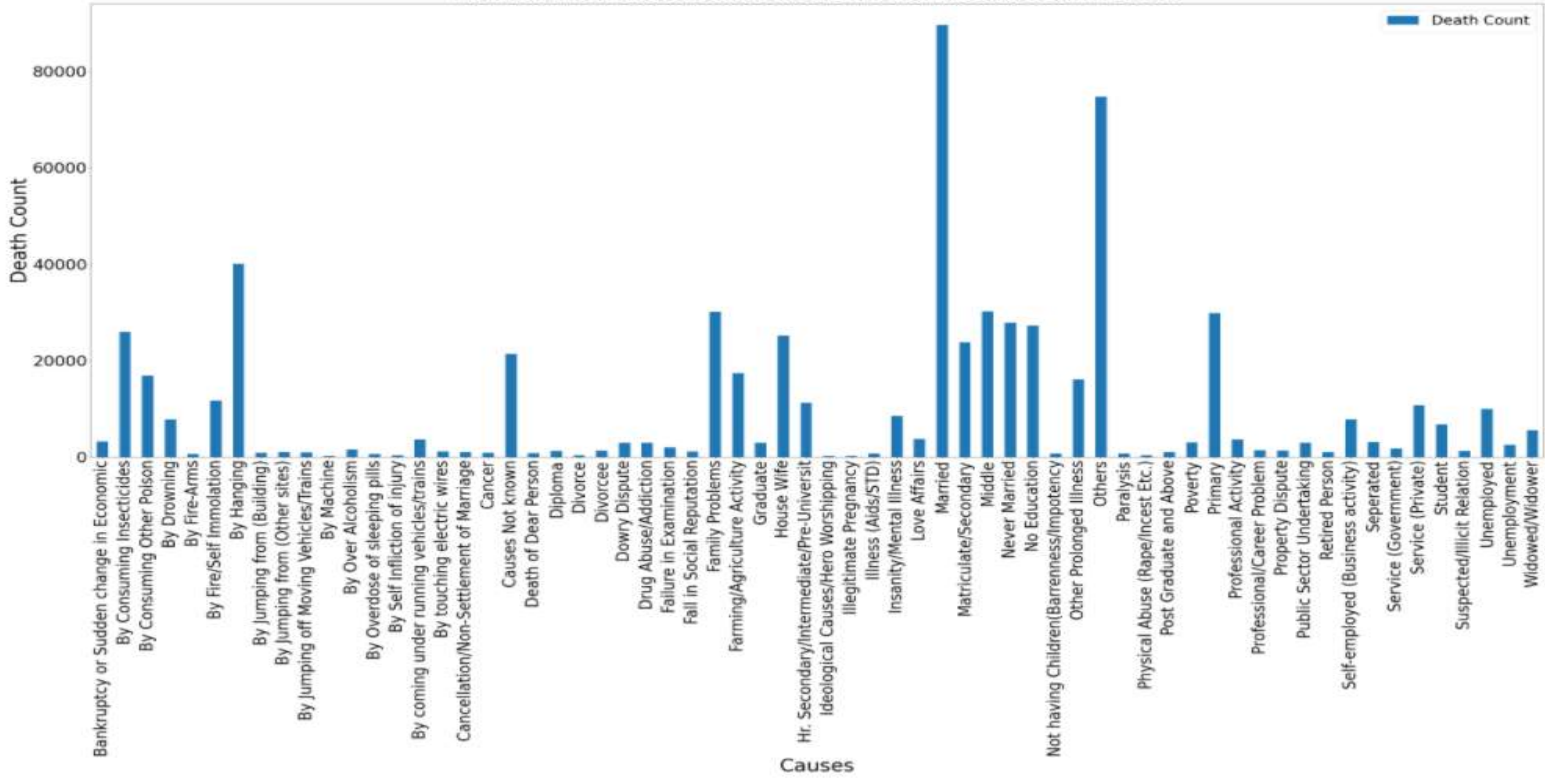
Number of Deaths due to Different Causes in 2007



Number of Deaths due to Different Causes in 2008

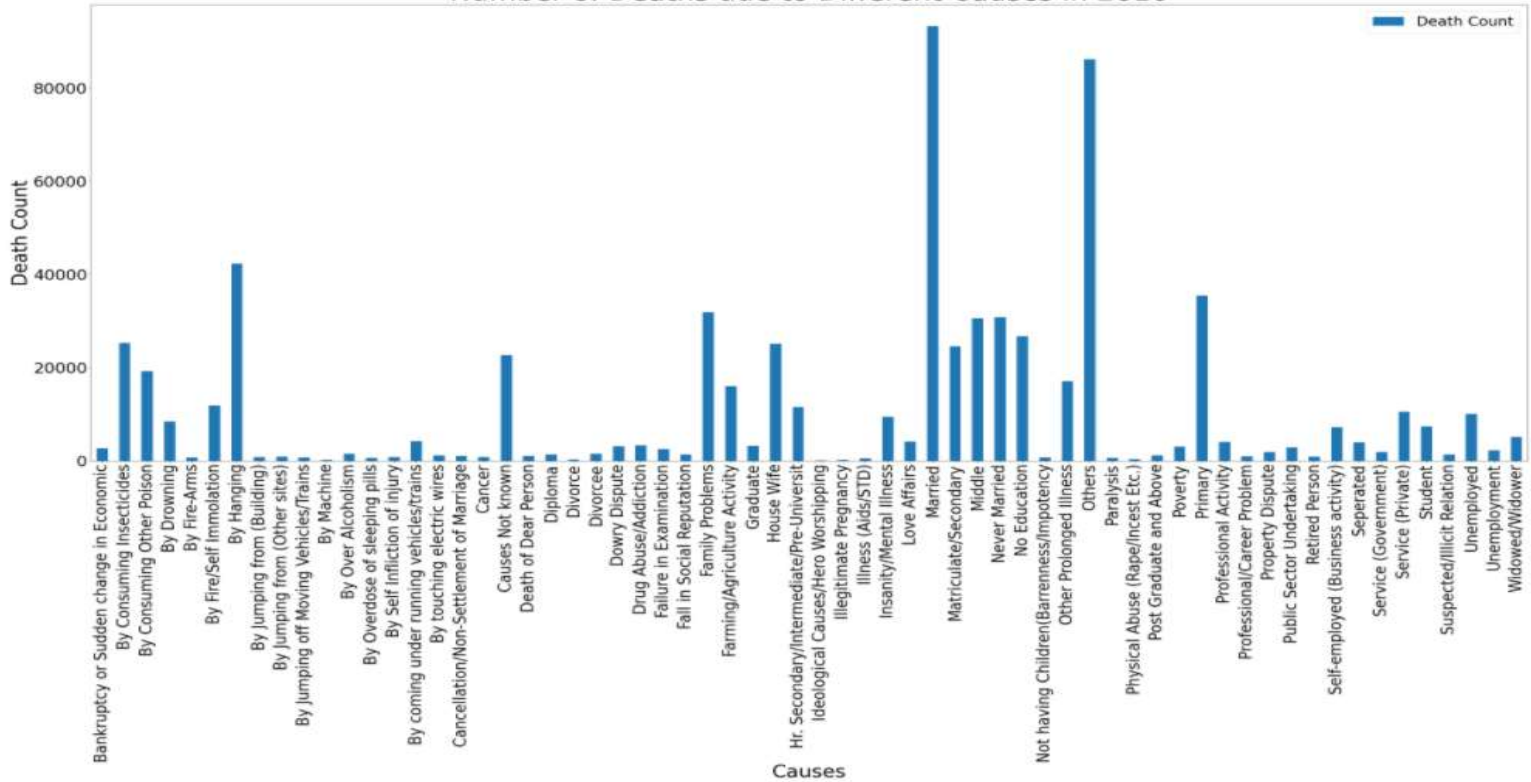


Number of Deaths due to Different Causes in 2009

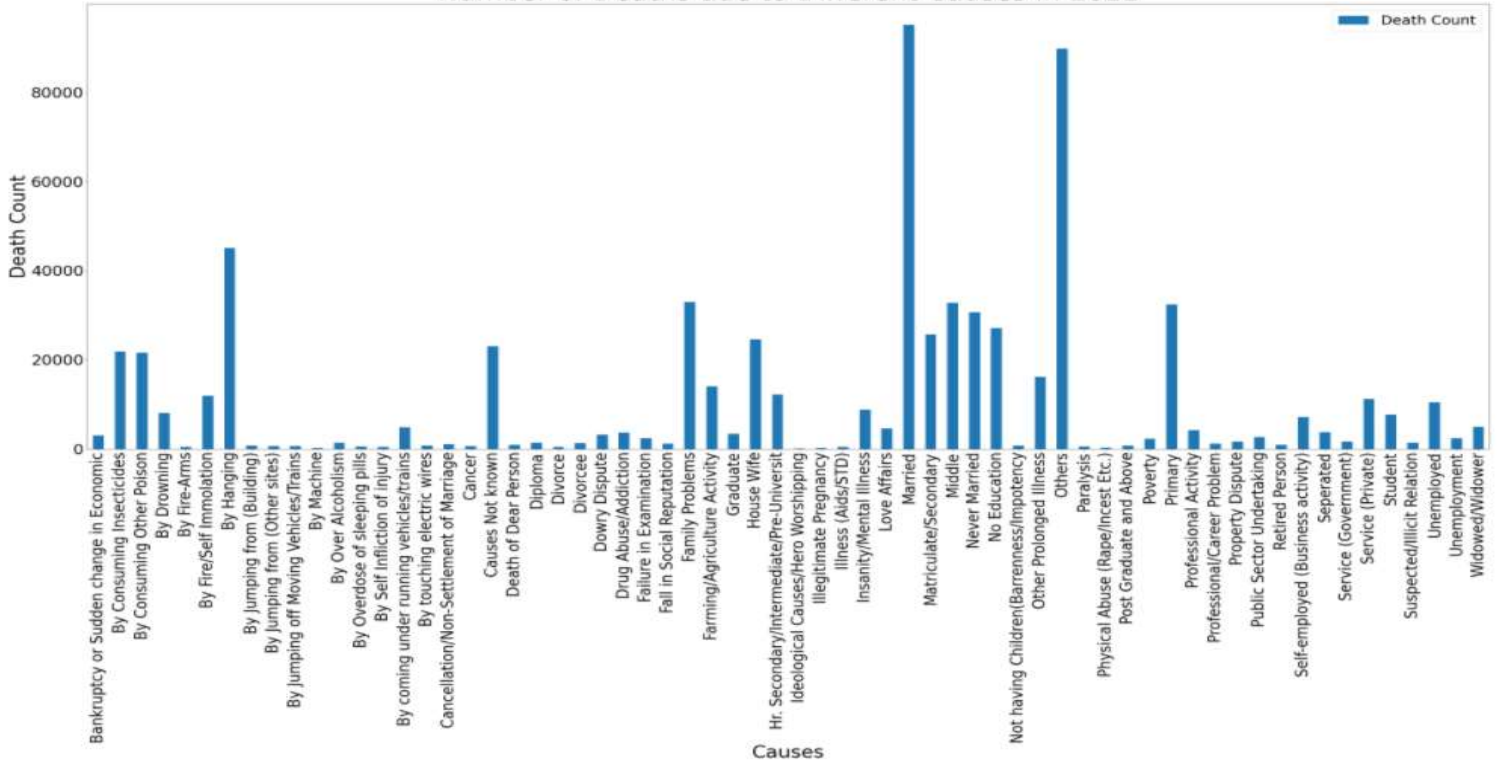


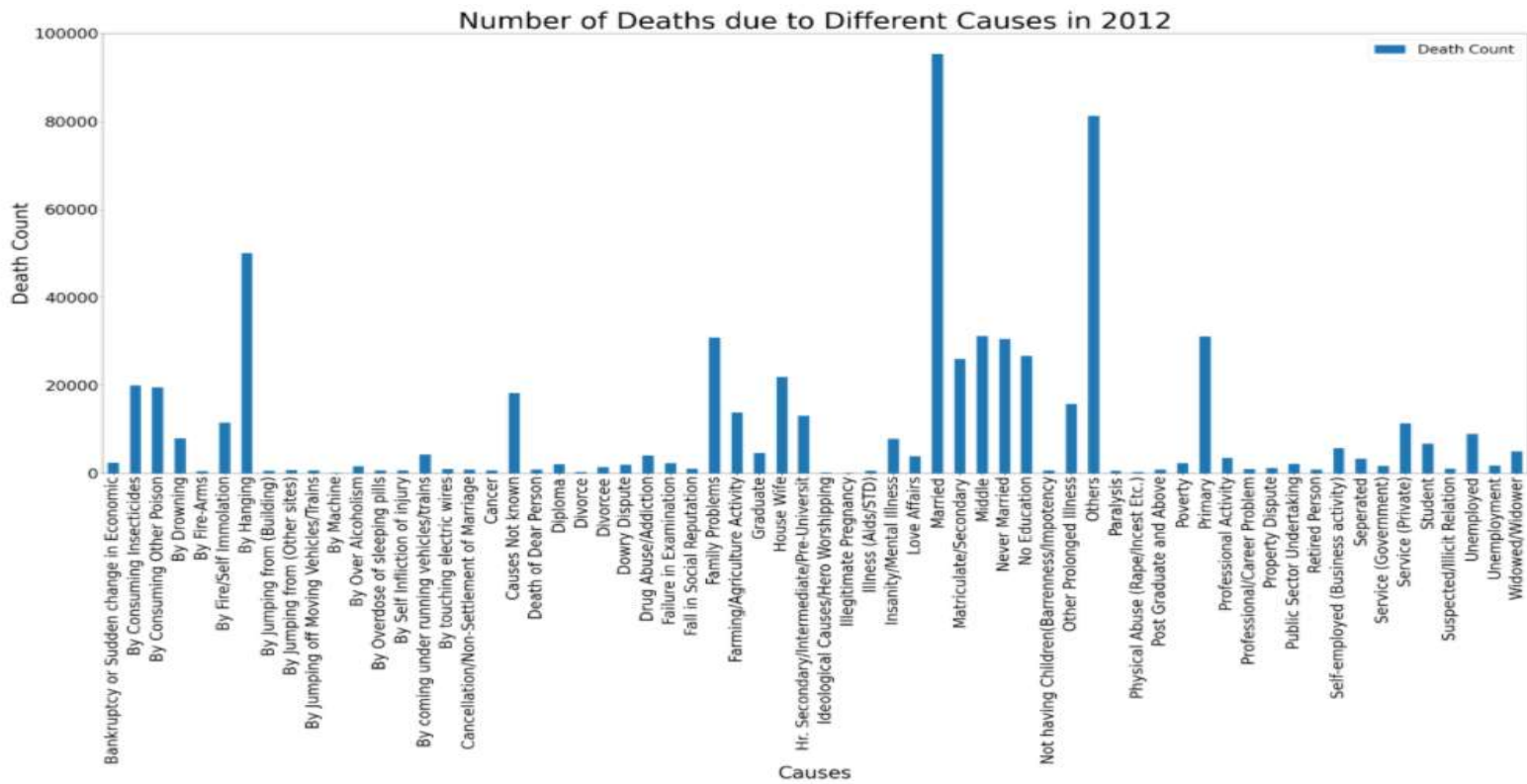


Number of Deaths due to Different Causes in 2010



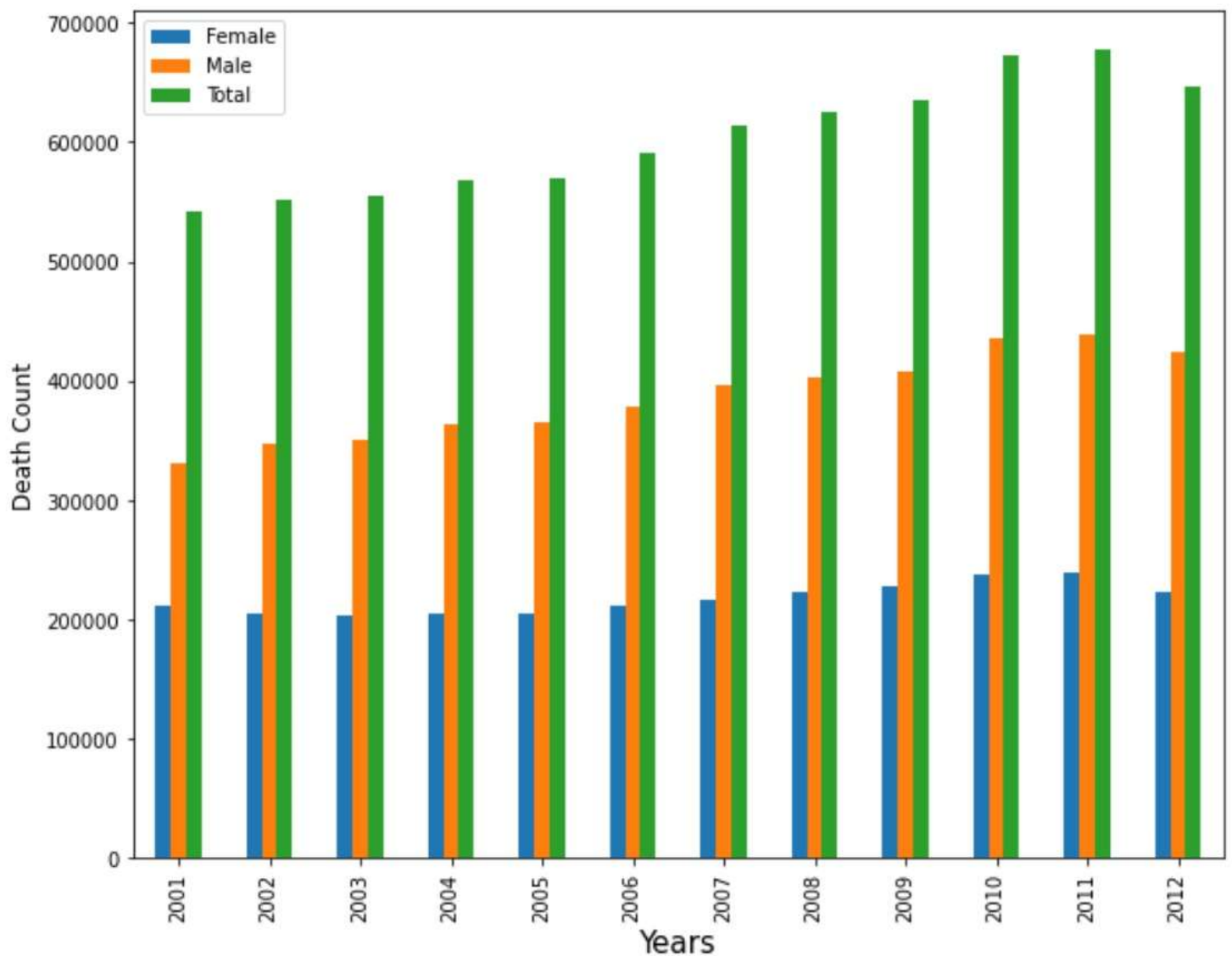
Number of Deaths due to Different Causes in 2011





- The above graphs depict that the cause with maximum suicide rate is “Married” in all the years (2002-2012).
- Ideological Causes/Hero Worshipping is the cause that has the least suicide rate in all the years (2002-2012).

**Graph Plotting -Total Death Count Year-Wise**

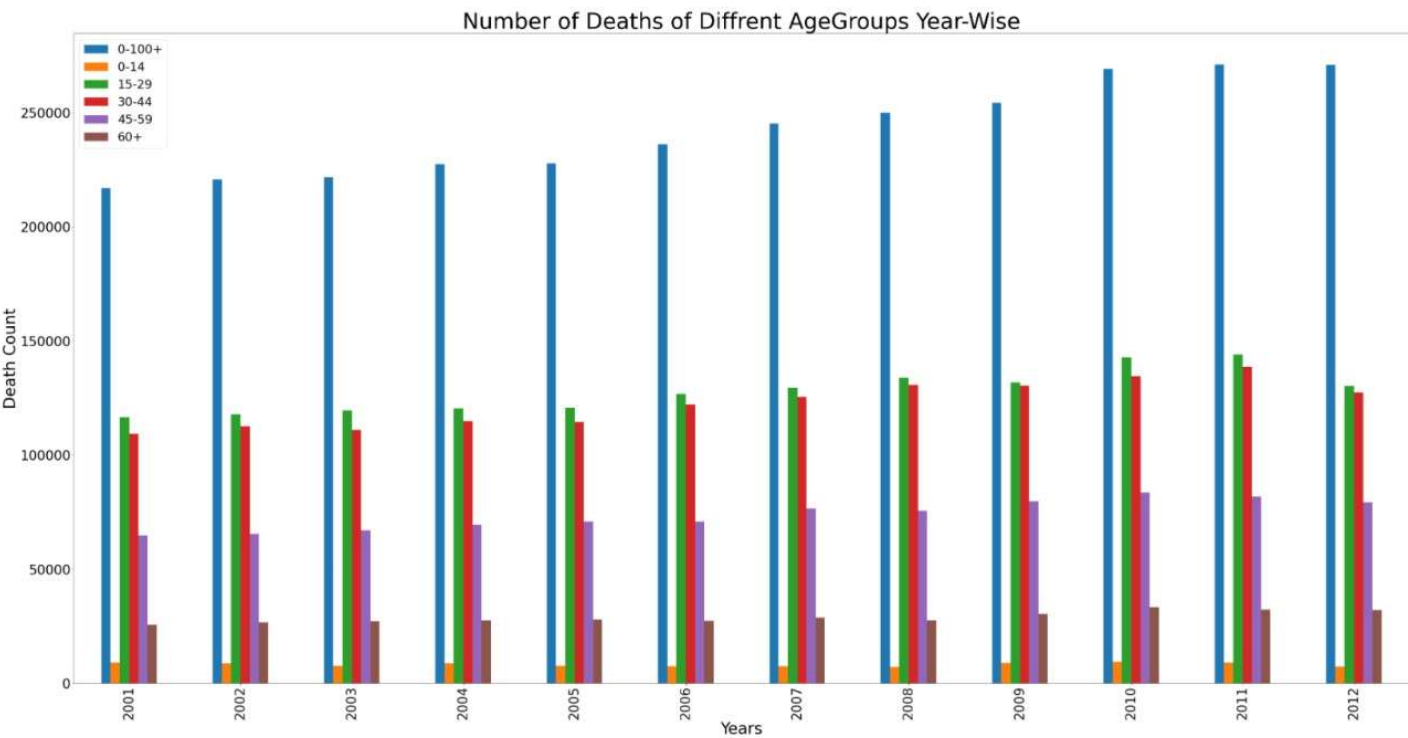


2011 is the year with maximum suicide rate for male, female and total followed by 2010 being the year with the second highest suicide rate.

2001 is the year with minimum suicide rate for male and total followed by 2002 being the year with the second least suicide rate. 2003 is the year with minimum suicide rate for female followed by 2005 being the year with the second least suicide rate.



**Graph Plotting – Number of Deaths Of Different Age Groups Year-Wise**



People with age group 15-29 are having the maximum suicide rate among all the years (2002-2012) followed by 30-44 age group having the second highest suicide rate.

0-14 age group has the least suicide rate (2002-2012) followed by age group 60+ being the second least.

## **SUMMARY**

The Analysis of the Indian Suicide Statistics (2001-2012) depicts that among the various causes of suicides, "MARRIED" is the major cause which accounts for average of 14.08% suicides per year between 2001-2012. States like Maharashtra, West Bengal, Andhra Pradesh and Tamil Nadu have majority of suicides. Among all the age groups, people of age 15-29 have highest suicide rate from 2001-2012. Males have higher suicide rate than Females in years 2001-2012. Year 2011 has the maximum number of suicides.

The quality of the information about suicide in India is quite limited, but the picture drawn from the eclectic mix of studies identified in this review indicates that it is an important and growing public health problem that is not being given sufficient attention by the government or the society at large.

## REFERENCES

- [www.kaggle.com](http://www.kaggle.com)
- [www.ncbi.nlm.nih.gov](http://www.ncbi.nlm.nih.gov)
- <https://www.wikipedia.org/>