2001-2012

SILENT SUFFERING

A STUDY ON SUICIDES IN INDIA

BY MUSKAN SINGH

Table of Contents

S. No	CONTENTS	Page No.
1.	Project Description	3
2.	Problem Statement	3
3.	Background Study	3
4.	Data Source & Data Extraction	4
5.	Technology Used	5
6.	Data Exploration	5
7.	Research Methodology	5
8.	Insights	6-14
9.	Conclusion	14
10.	Future Scope	14

LINK TO TABLEAU PUBLIC PROFILE

https://public.tableau.com/app/profile/muskan.singh6054

PROJECT DESCRIPTION

The aim is to make an analysis of suicide rates and different reasons due to which people have committed suicide in India. It is very important to understand the reason to commit suicide and Data Science helps in this regard.

PROBLEM STATEMENT

- There is good reason to examine Indian suicide data, partly because of the importance of what the findings might mean when compared to data from other countries and cultures. What do the findings show in relation to the causation of suicide, and thus to preventative strategies.
- Ongoing attention to such data (including differences in rates and patterns between genders, across the age-range, between sub-populations and over time) may be of key importance in understanding suicidal intentions and planning interventions aimed at averting suicide.

BACKGROUND STUDY

- India is a vast country with a population of 1.38 billion.
- In Total, this population is equivalent to nearly 17.7% of total people alive today.
- According to the Indian government, Suicides are an important cause of death in India.
- India accounts for approximately 17% of worldwide suicides.
- The estimation of the number of suicides in India varies from source to source because of such a high volume of population.
- India is an ever-growing country and the quality of information about suicide in India is quite limited, but it is an important and growing public health concern.
- Compared to suicides in high-income developed countries, suicides in India are more prevalent and complicated to understand & analyze.

DATA SOURCE & DATA EXTRACTION

This data set was collected from Kaggle website, where it was published by Rajanand Ilangovan.

The dataset is featured and verified by Kaggle.

https://www.kaggle.com/rajanand/suicides-in-india

DATA SIZE
15.41 MB

CONTEXT
This data set contains yearly suicide detail of all the states/u.t of India by various parameters from 2001 to 2012.

CONTENT

Time Period: 2001 - 2012
Granularity: Yearly
Location: States and U.T's of India

Parameters:

a) Suicide causes
b) Education status
c) By means adopted
d) Professional profile
e) Social status

ACKNOWLEDGEMENTS

National Crime Records Bureau (NCRB), Govt of India has shared this dataset under Govt. Open Data License - India.
NCRB had also shared the historical data on their website (It might not be available now on their website)

Sources

https://data.gov.in/dataset-group-name/accidental-deaths-and-suicides

Collection methodology

Cleaned the dataset.

Date Coverage

Temporal coverage

2000-12-31 to 2012-12-30

Spatial coverage

India

TECHNOLOGY USED

- We used tableau software (tableau desktop) to extract useful information and effectively present our findings it in form of graphs and other techniques.
- Concepts used: hierarchy, groups, filters, graphs, story, dashboards, ranks, index, quick table calculations, dual axis, calculated fields
- Visualizations: bar graph, stacked bars, donut chart, butterfly chart, lollipop chart, tree map, crosstab heatmap, motion line, bump chart, maps, interactive dashboard, story presentation.

EXPLORING OUR DATA

- Suicide is the ultimate outcome of a complicated correlation of genetic, biological, physiological, sociological, and environmental factors.
- The number of suicides in the whole world is estimated at nearly 9000000 people, from which 170,000 are from India.
- This accounts for nearly 18% of suicide worldwide. There is a valuable reason to understand and study Indian suicide data.
- It is because of what outcomes and results we get as compared to data from other countries.
- These findings display the relationship for the causation of suicide and thus helps to find prevention strategies.
- Properly examining such data which includes differences in rates& patterns in gender, age group, population over some time may provide the key to understanding the suicidal purpose and therefore plan intervention aimed towards forestalling suicide.

RESEARCH METHODOLOGY

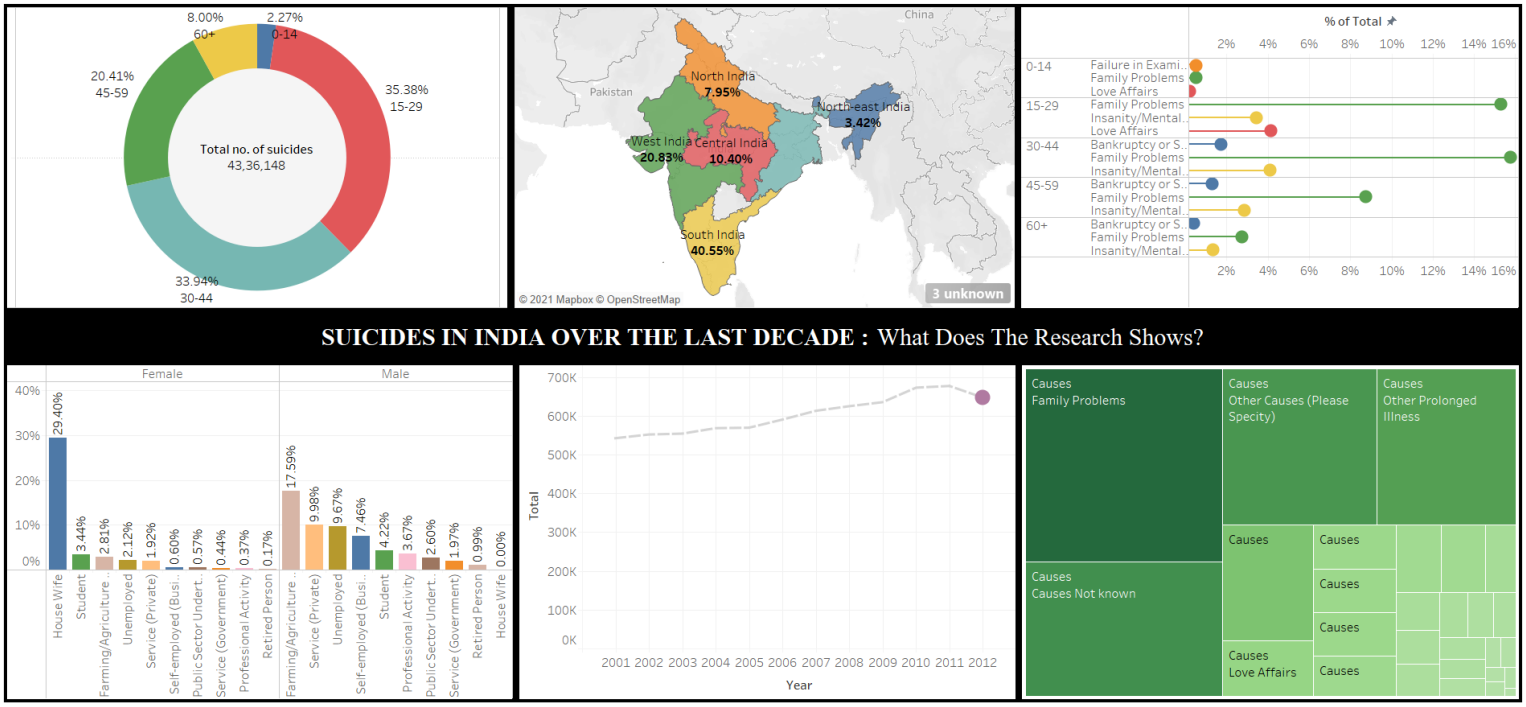
- In this analysis, we used secondary data from the world's largest data science community Kaggle. In which we took the data set of suicides happening in India in the past decade from 2001 to 2012.
- Analysis is performed by considering various parameters like States-wise suicides, considering the factor of Age and gender in increasing and decreasing the number of suicides in India.
- Further, we designed visual representations to properly understand, compare useful insights and trends. In the end, we complied and integrate all of these data representations, comparisons, and trends to gain the desired output.

INSIGHTS FROM THE DATA

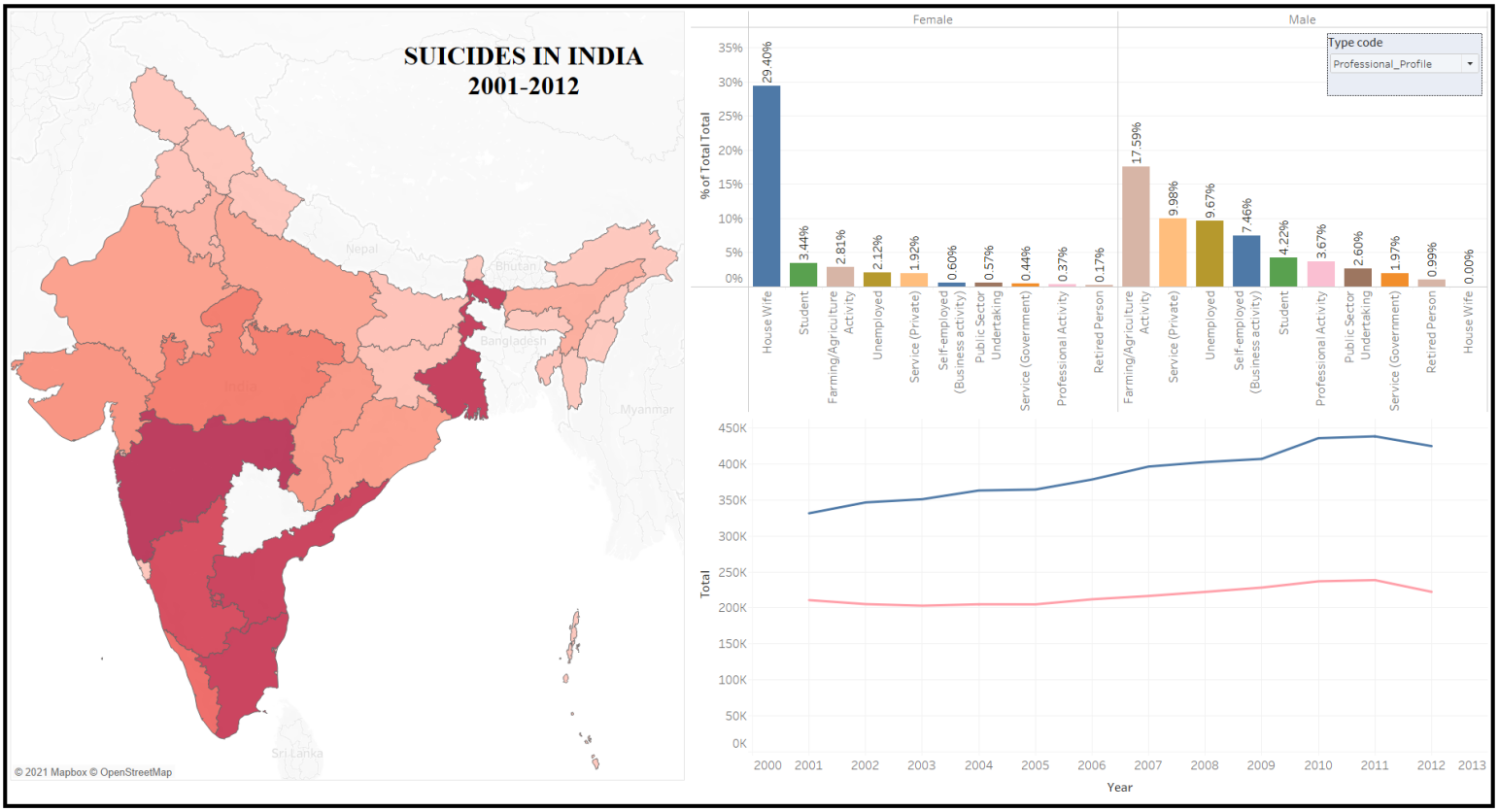
Here are some glimpses of our visual presentation in tableau software:

SUICIDES IN INDIA : What do they mean?

Suicides in India Analysis Report for the years 2001-2012 | INSIGHTS | Higher propensity to commit suicide in southern states? | Are Developed states contributing to higher suicide rates? | Have suicides rates t… Advancement over th…



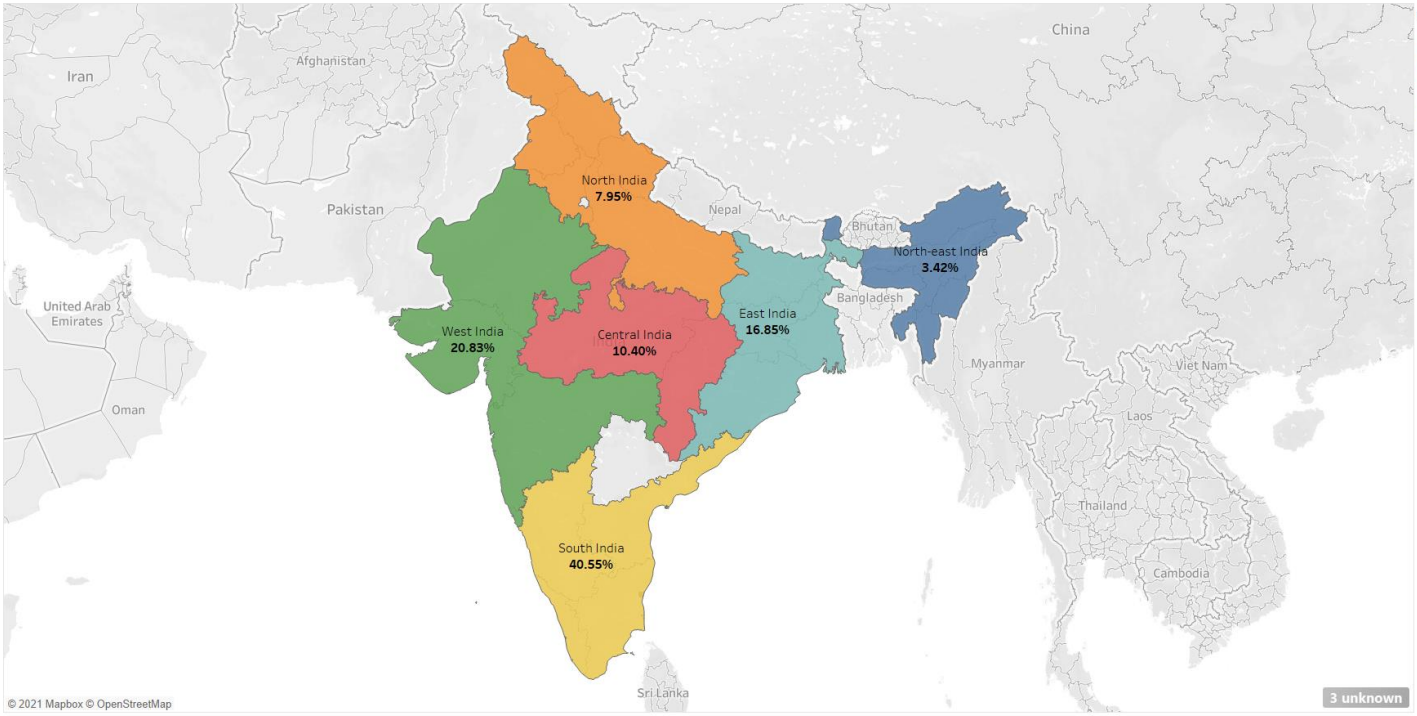
Bump Chart | Treemap | Area | Crosstab Heatmap | Bar(selection) | SimpleBar | StackedBar | profession | cover | conclusion | FINAL REPORT | statewise_typecode_gender | overview dashboard | Forecast | Trend Line | Gapminder



Bump Chart | Treemap | Area | Crosstab Heatmap | Bar(selection) | SimpleBar | StackedBar | profession | cover | conclusion | FINAL REPORT | statewise_typecode_gender | overview dashboard | Forecast | Trend Line | Gapminder

SUICIDES IN INDIA : What do they mean?

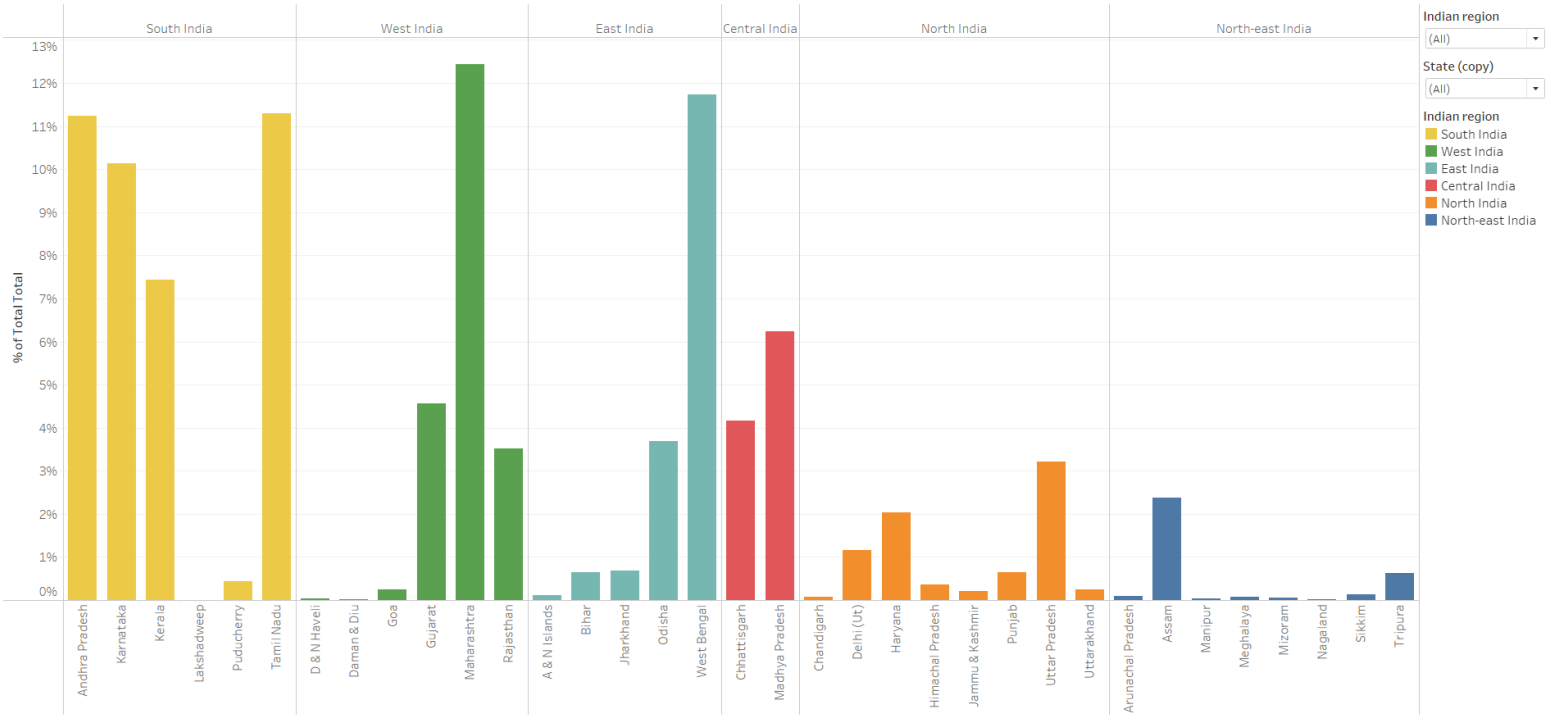
Suicides in India Analysis Report for the years 2001-2012 | INSIGHTS | Higher propensity to commit suicide in southern states? | Are Developed states contributing to higher suicide rates? | Have suicides rates b Advancement over th



Bump Chart | Treemap | Area | Crosstab Heatmap | Bar(selection) | SimpleBar | StackedBar | profession | cover | conclusion | FINAL REPORT | statewise_typecode_gender | overview dashboard | Forecast | Trend Line | Gapminder

SUICIDES IN INDIA : What do they mean?

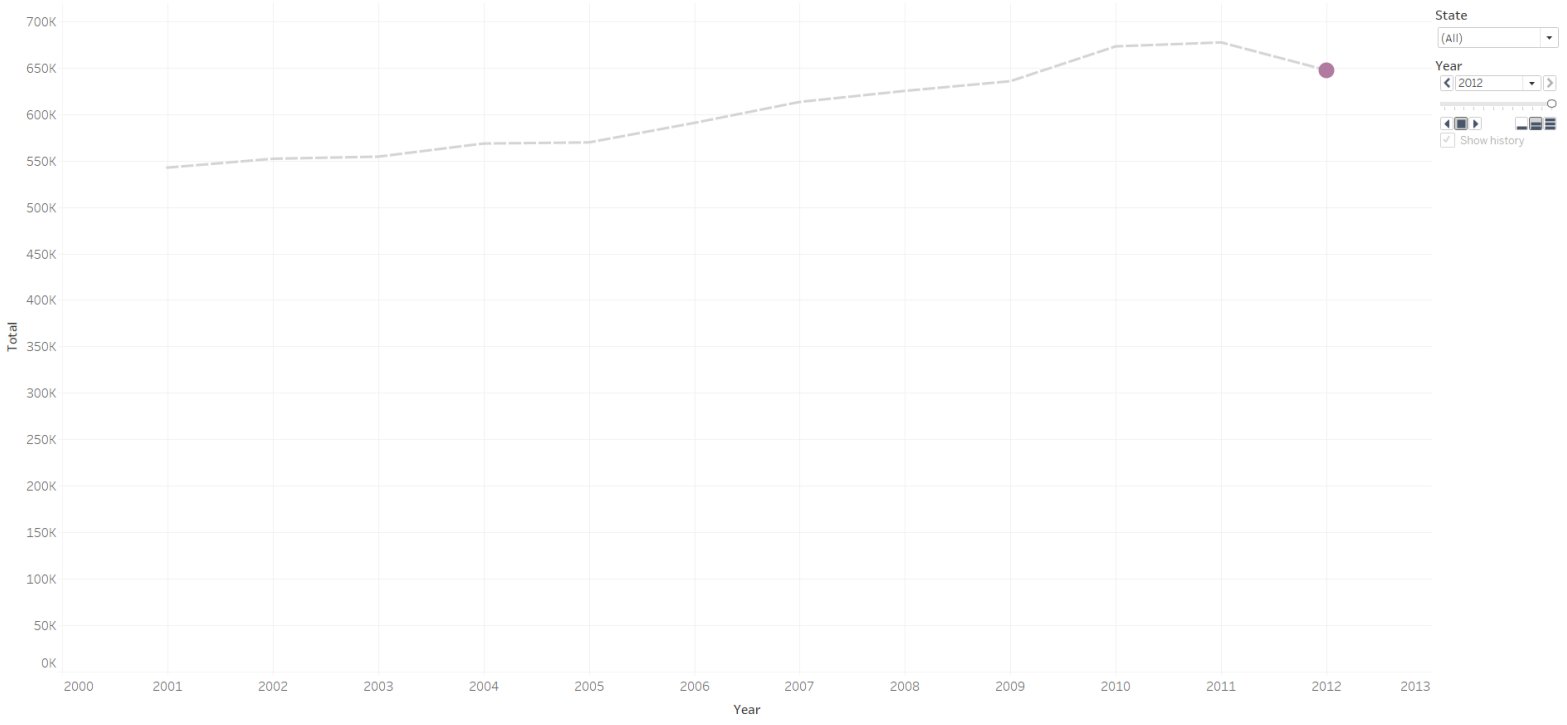
Higher propensity to commit suicide in southern states? | Are Developed states contributing to higher suicide rates? | Have suicides rates been on a rise with technological Advancement over the years? | Suicide peaks in young people in India.Age classificat of suicide victims.



Bump Chart | Treemap | Area | Crosstab Heatmap | Bar(selection) | SimpleBar | StackedBar | profession | cover | conclusion | FINAL REPORT | statewise_typecode_gender | overview dashboard | Forecast | Trend Line | Gapminder

SUICIDES IN INDIA : What do they mean?

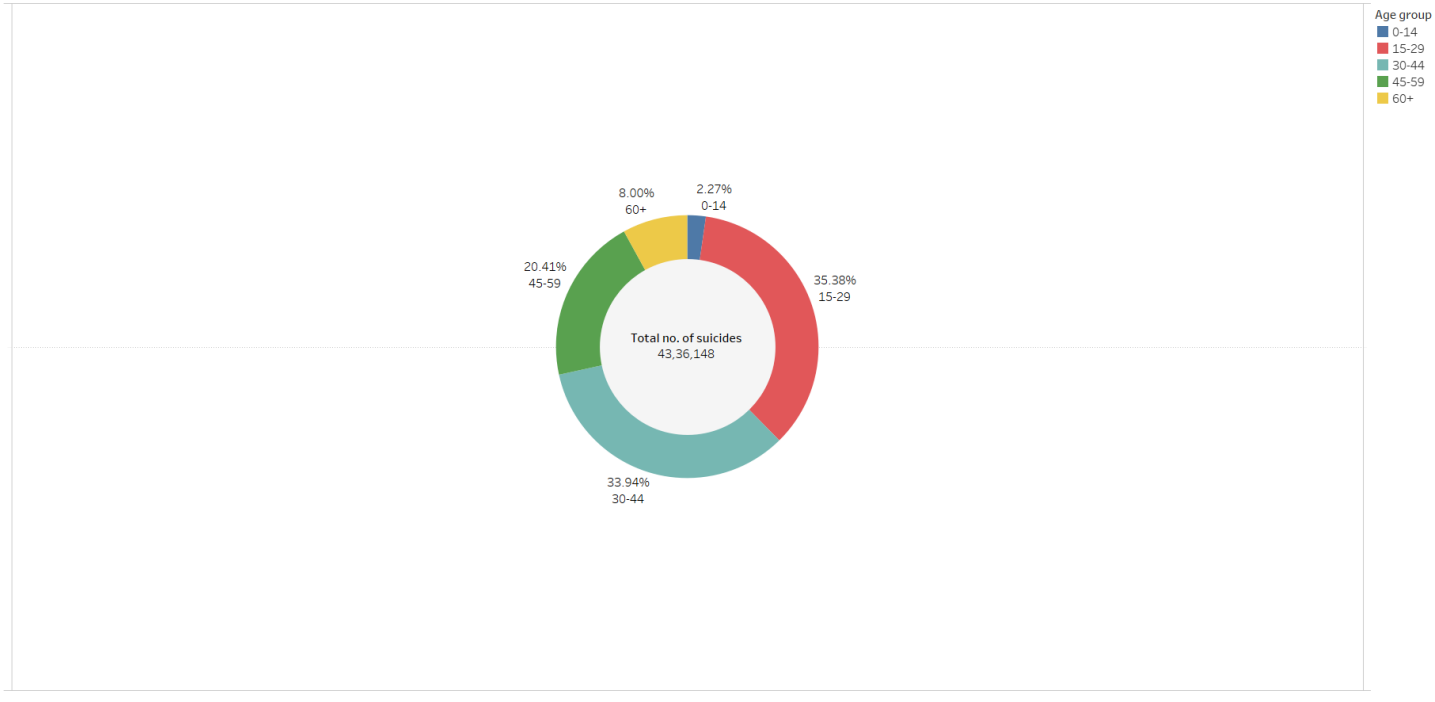
t suicide in southern states? | Are Developed states contributing to higher suicide rates? | **Have suicides rates been on a rise with technological Advancement over the years?** | Suicide peaks in young people in India.Age classification of suicide victims. | Are family problems causing self harm to every age group?



Bump Chart | Treemap | Area | Crosstab Heatmap | Bar(selection) | SimpleBar | StackedBar | profession | cover | conclusion | **FINAL REPORT** | statewise_typecode_gender | overview dashboard | Forecast | Trend Line | Gapminder

SUICIDES IN INDIA : What do they mean?

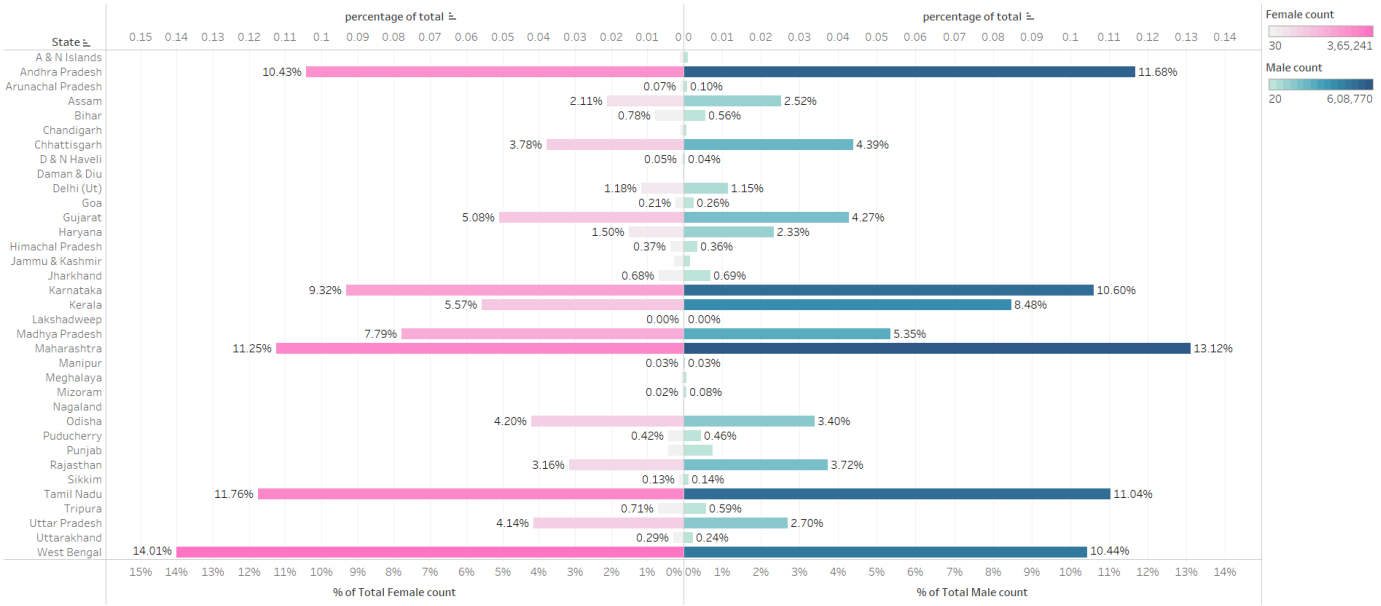
uting to higher suicide | Have suicides rates been on a rise with technological Advancement over the years? | **Suicide peaks in young people in India.Age classification of suicide victims.** | Are family problems causing self harm to every age group? | Factors Affecting Suicide



Bump Chart | Treemap | Area | Crosstab Heatmap | Bar(selection) | SimpleBar | StackedBar | profession | cover | conclusion | **FINAL REPORT** | statewise_typecode_gender | overview dashboard | Forecast | Trend Line | Gapminder

SUICIDES IN INDIA : What do they mean?

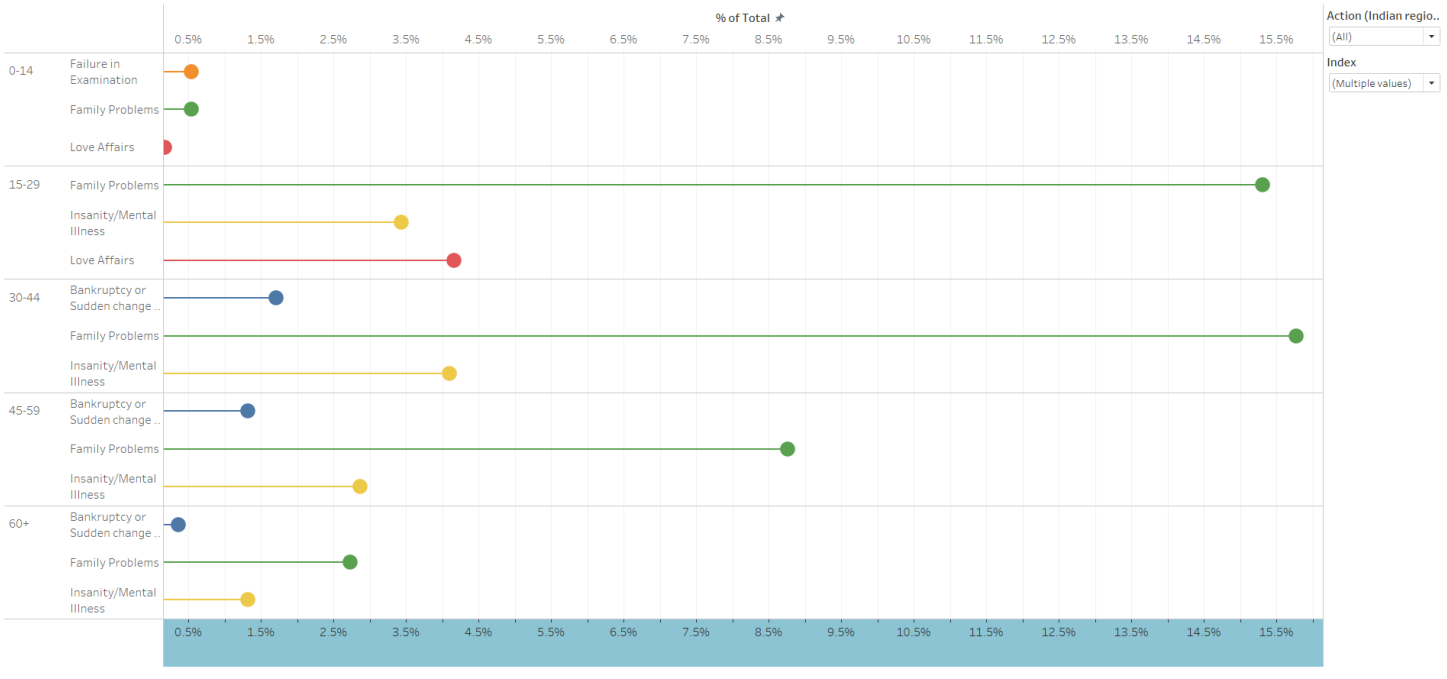
causing self harm to every age | Factors Affecting Suicide | **Bifurcation of suicides according to gender in each state using fixed LOD** | Forecasting data from 2001 to 2012 to get an estimate from 2013 to 2018. | Trend Line Formation of all the years.



Bump Chart | Treemap | Area | Crosstab Heatmap | Bar(selection) | SimpleBar | StackedBar | profession | cover | conclusion | **FINAL REPORT** | statewise_typecode_gender | overview dashboard | Forecast | Trend Line | Gapminder

SUICIDES IN INDIA : What do they mean?

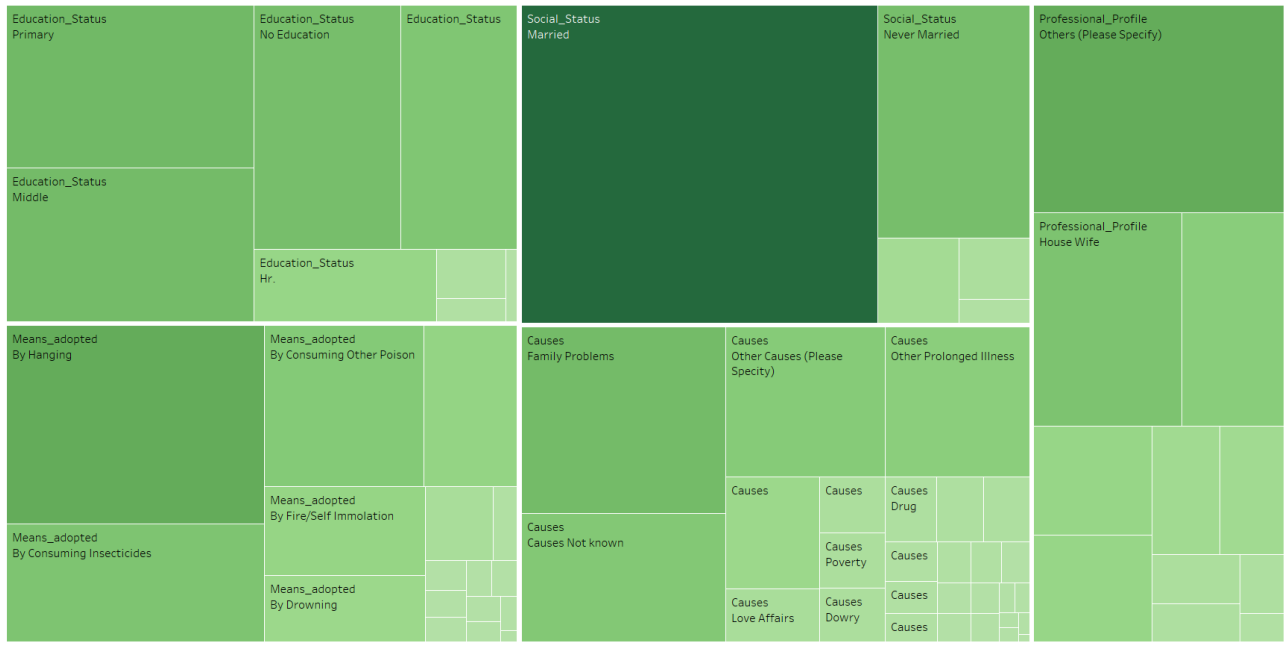
rise with technological | Suicide peaks in young people in India.Age classification of suicide victims. | **Are family problems causing self harm to every age group?** | Factors Affecting Suicide | Bifurcation of suicides according to gender in each using fixed LOD



Bump Chart | Treemap | Area | Crosstab Heatmap | Bar(selection) | SimpleBar | StackedBar | profession | cover | conclusion | **FINAL REPORT** | statewise_typecode_gender | overview dashboard | Forecast | Trend Line | Gapminder

SUICIDES IN INDIA : What do they mean?

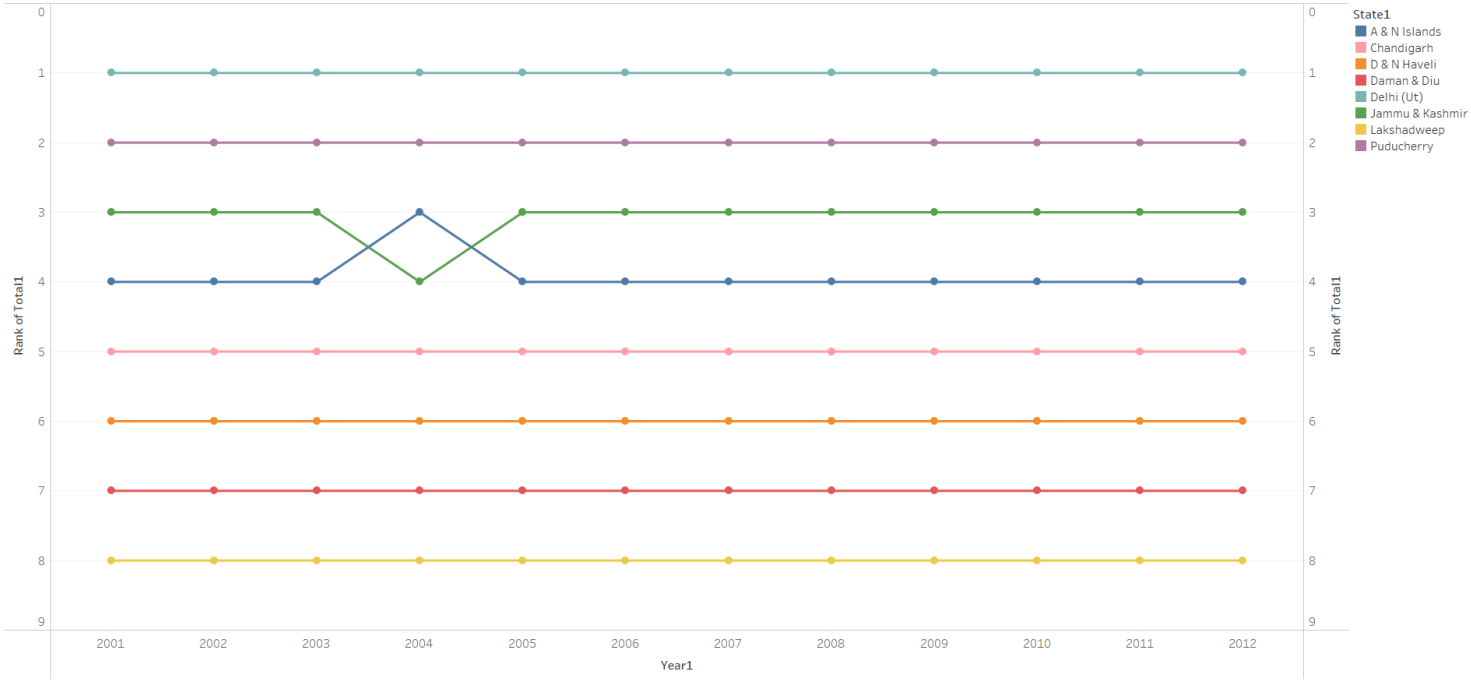
oung people in India.Age classification | Are family problems causing self harm to every age group? | **Factors Affecting Suicide** | Bifurcation of suicides according to gender in each state using fixed LOD | Forecasting data from 2001 to 2012 to g from 2013 to 2018.



Bump Chart | Treemap | Area | Crosstab Heatmap | Bar(selection) | SimpleBar | StackedBar | profession | cover | conclusion | **FINAL REPORT** | statewise_typecode_gender | overview dashboard | Forecast | Trend Line | Gapminder

SUICIDES IN INDIA : What do they mean?

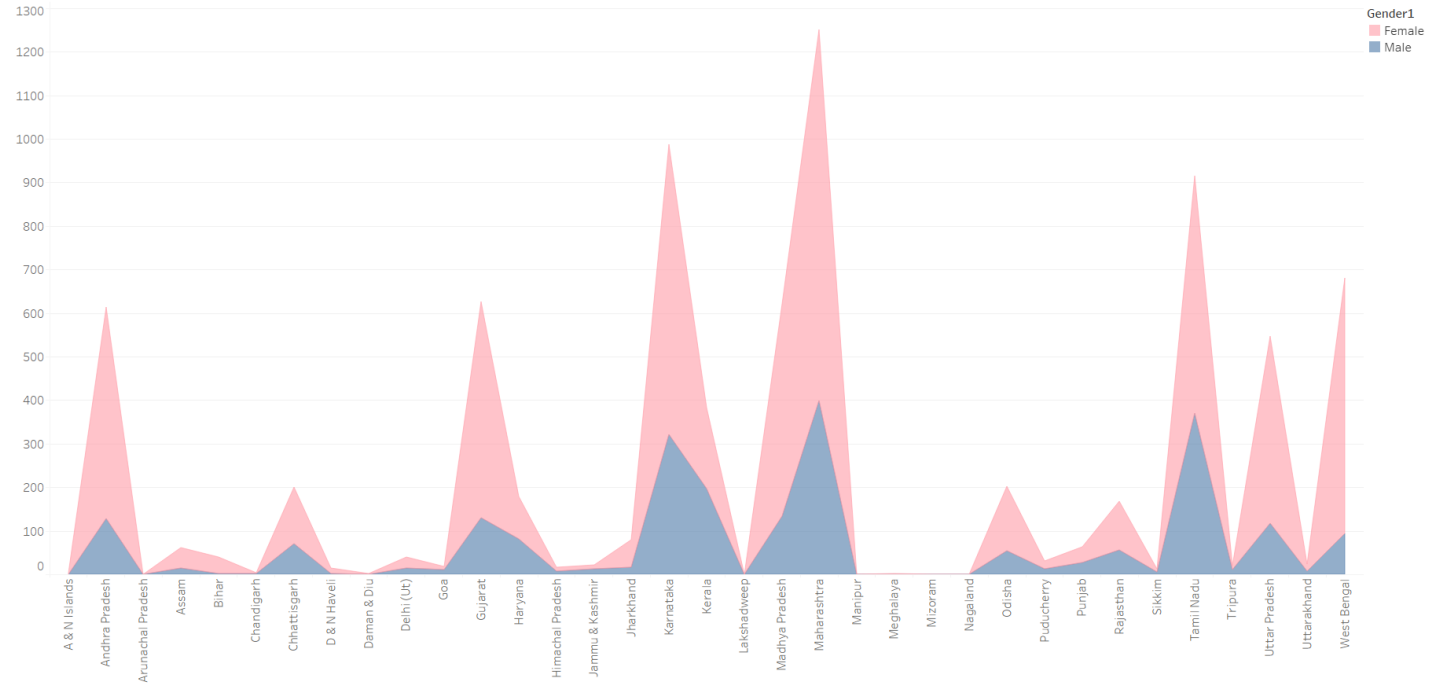
her suicide | Have suicides rates been on a rise with technological Advancement over the years? | **Union Territories rankings based on the number of suicides per year** | Suicide peaks in young people in India.Age classification of suicide victims. | Are family problems causing self harm to every age group? | Ha



Line(MaleFemale) | Motion Chart | Bump Chart | Treemap | Area | Crosstab Heatmap | Bar(selection) | SimpleBar | StackedBar | profession | cover | conclusion | **FINAL REPORT** | statewise_typecode_gender | overview dashboard

SUICIDES IN INDIA : What do they mean?

ırcation of suicides according to gender in each state | Which profession has the highest self-slaughter percent? | Which gender was most affected due to the inability of bearing children (impotency)? | Is education the key to suicide free India? | Conclusion



Line(MaleFemale) | Motion Chart | Bump Chart | Treemap | Area | Crosstab Heatmap | Bar(selection) | SimpleBar | StackedBar | profession | cover | conclusion | **FINAL REPORT** | statewise_typecode_gender | overview dashboard

SUICIDES IN INDIA : What do they mean?

jender in each state | Which profession has the highest self-slaughter percent? | Which gender was most affected due to the inability of bearing children (impotency)? | Is education the key to suicide free India? | Conclusion

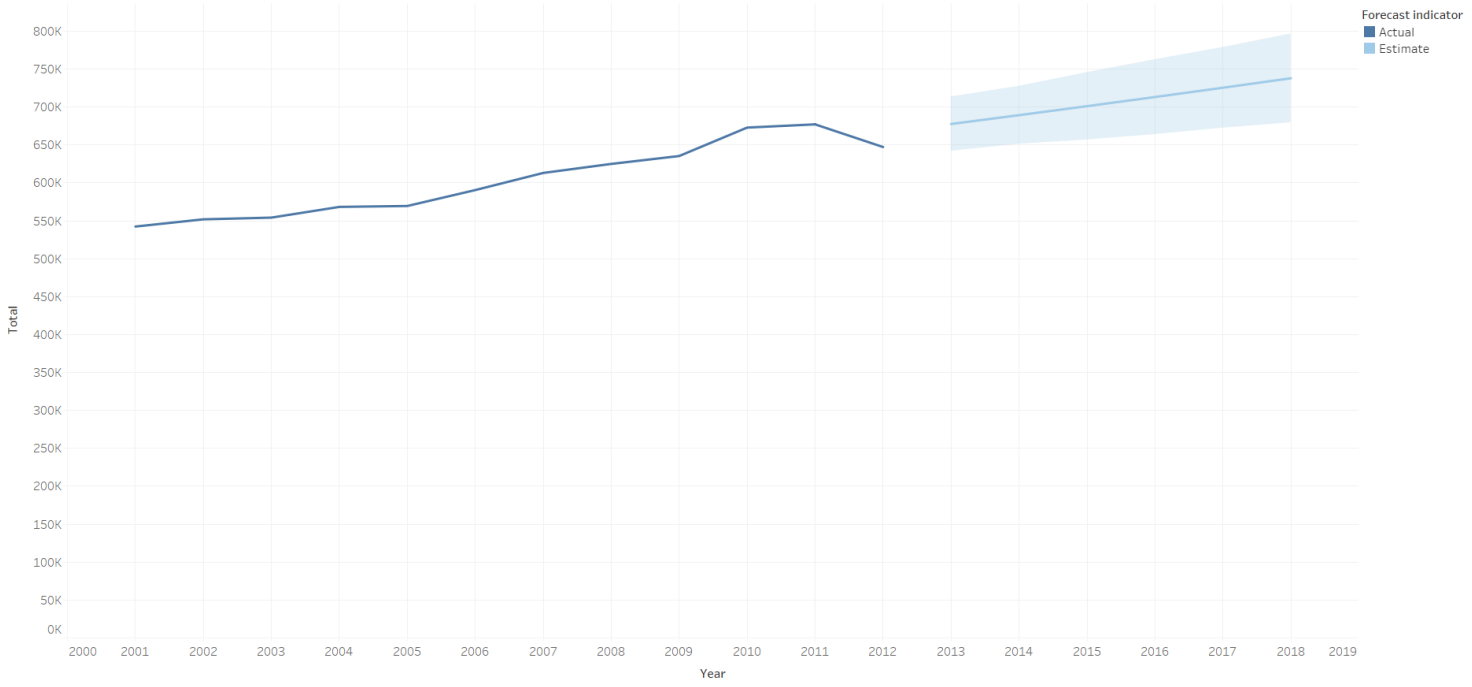
Total
128 1,41,915

	Post Graduate and Above	Diploma	Graduate	Hr. Secondary/Intermedia..	Matriculate/Secondary	No Education	Primary	Middle
North-east India	128	341	505	3,470	8,562	9,180	11,727	15,690
North India	1,401	1,773	3,372	13,099	26,585	25,046	20,845	23,146
Central India	763	992	1,811	12,113	23,239	38,996	37,943	34,945
East India	1,067	2,048	7,655	22,537	39,126	49,384	70,695	57,741
West India	866	2,055	4,204	19,206	61,356	57,236	86,237	70,873
South India	3,250	6,944	13,727	48,483	97,698	1,41,915	1,35,380	1,40,576

Line(MaleFemale) | Motion Chart | Bump Chart | Treemap | Area | Crosstab Heatmap | Bar(selection) | SimpleBar | StackedBar | profession | cover | conclusion | **FINAL REPORT** | statewise_typecode_gender | overview dashboard

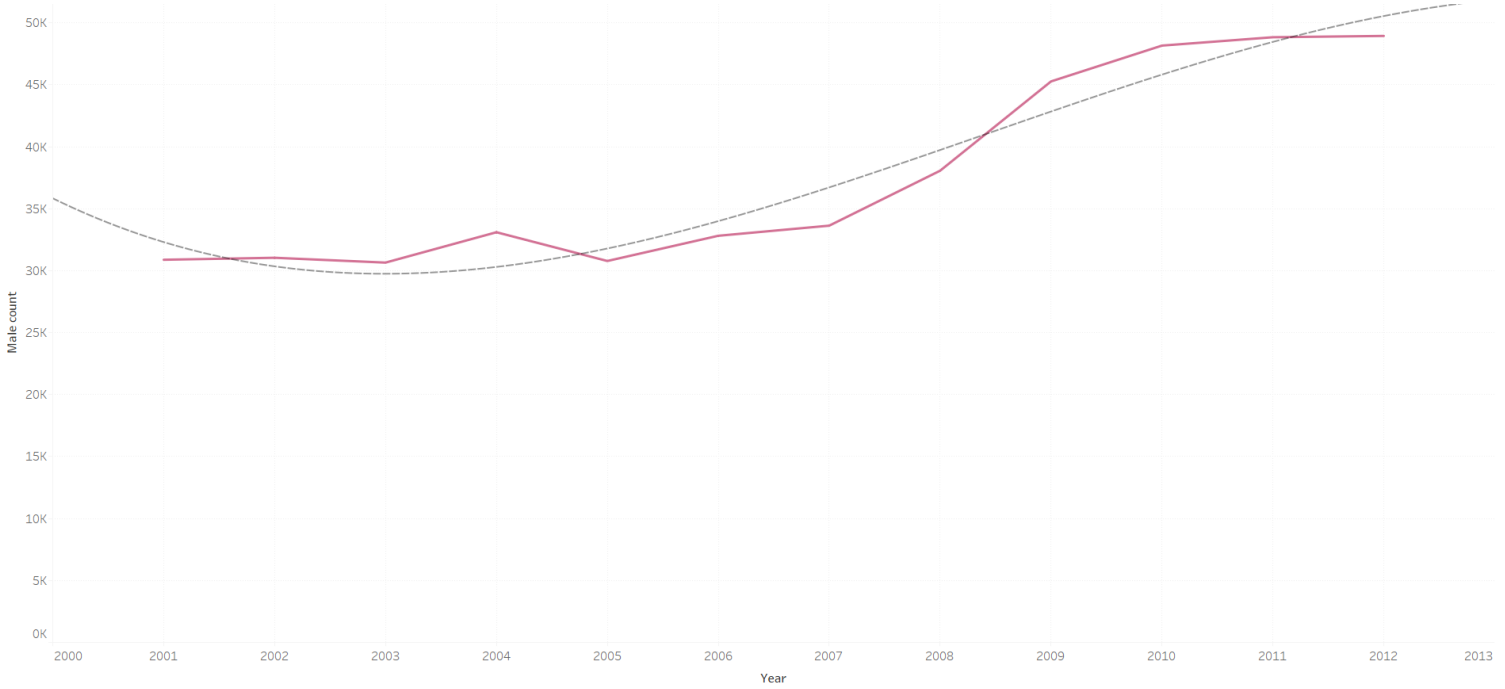
SUICIDES IN INDIA : What do they mean?

de | Bifurcation of suicides according to gender in each state using fixed LOD | Forecasting data from 2001 to 2012 to get an estimate from 2013 to 2018. | Trend Line Formation of all the years. | Gapminder - Male and Female Count in Differe



SUICIDES IN INDIA : What do they mean?

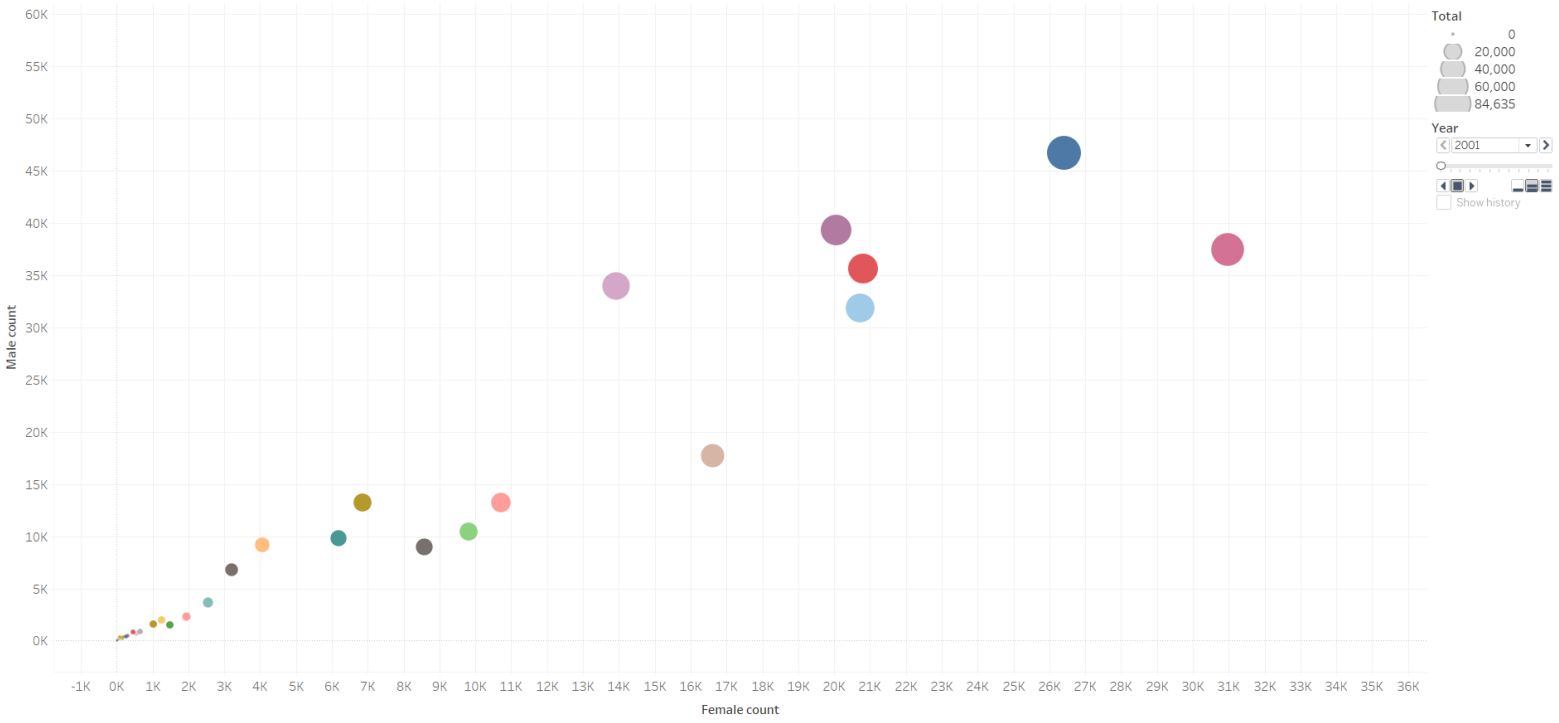
according to gender in each state | Forecasting data from 2001 to 2012 to get an estimate from 2013 to 2018. | Trend Line Formation of all the years. | Gapminder - Male and Female Count in Different States. | Conclusion



Bump Chart | Treemap | Area | Crosstab Heatmap | Bar(selection) | SimpleBar | StackedBar | profession | cover | conclusion | **FINAL REPORT** | statewise_typecode_gender | overview dashboard | Forecast | Trend Line | Gapminder

SUICIDES IN INDIA : What do they mean?

)ender in each state | Forecasting data from 2001 to 2012 to get an estimate from 2013 to 2018. | Trend Line Formation of all the years. | Gapminder - Male and Female Count in Different States. | Conclusion



Bump Chart | Treemap | Area | Crosstab Heatmap | Bar(selection) | SimpleBar | StackedBar | profession | cover | conclusion | **FINAL REPORT** | statewise_typecode_gender | overview dashboard | Forecast | Trend Line | Gapminder

CONCLUSION

- India accounts for 17% of worldwide suicides.
- The rate at which suicides in India is increasing is alarming as it shows considerable growth from the year 2001 to 2012.
- The South Indian Region alone comprises of a total of 40% suicides across the country.
- The highest proportion of suicides were attempted in developed states like Maharashtra, West Bengal, Tamil Nadu and Andhra Pradesh.
- The major reasons for suicide are family issues, bankruptcy, depression, illness, marriage related issues, unemployment, etc.
- The highest suicide rates among the Youth i.e., age of 15 and 29.
- Less educated people are more likely to commit suicides as compared to others.
- Maximum Deaths by Suicide Among farmers and housewives.
- Hanging is the most common way to commit suicide followed by consuming poison or insecticides.
- There could be an increase in the rate of suicides in the coming years.

FUTURE SCOPE

- It is appropriate to mention here that we cannot prevent all the suicide deaths but we can devise some strategies that will reduce suicidal risks. A multi-sectoral prevention approach may help in the direction.
- Our interactive visualization aims to raise awareness, promote evidence-based discussions, and foster informed decision-making for a collective effort towards suicide prevention and mental health support in India.
- Thus, this research will be helpful for the policymakers, program implementers, social advocacy groups to put their efforts to reduce the suicide rate among the population at risk.