

## INTRODUCTION

Suicide is a complex phenomenon influenced by various social, economic, cultural and psychological factors in India. Several reasons have been identified as contributing to the high rates of suicide from 2002 to 2012. It's crucial to approach this topic with sensitivity and care. Suicide is a complex issue influenced by various factors such as mental health, socio-economic conditions, and cultural norms.

In India, suicide rates have been a concern with factors like stress, depression, financial difficulties and social pressure contributing to the problem. Mental health awareness and accessible support services are essential in addressing this issue effectively.

Despite efforts to address it, suicide rates remain high highlighting the need for comprehensive interventions and increased mental health support services across the country reducing stigma, addressing socio-economic disparities promoting resilience and implementing preventive measure tailored to the specific needs of different demographic groups.

# suicides in India Visualizations Using Tableau.

## Project flow

- \* Users can create multiple analysis graphs / charts
- \* Using the analysed chart creation of Dash board is done.
- \* Saving and visualizing the final dashboard in the personal tableau public profile.

To accomplish this, we have to complete all the activities and tasks listed below.

- \* Working with the Data Set.
  - Understand the Data Set.
  - Loading the Data Set.
- \* Visualizations of Suicides in India (2001 - 2012) -
- \* Problem Statement 1 : why are suicides happening?
- \* Problem Statement 2 : Suicides per year (forecasting)
- \* Problem Statement 3 : Classification on basis of age group.
- \* Problem Statement 4 : State - wise suicides counts for different seasons.



## Overview:

- \* **Financial Stress** :- Economic instability, poverty, debt, and Unemployment are significant stressors leading to Suicide. In a country like India where a large population still lives below the poverty line, financial difficulties can become overwhelming.
- \* **Family Issues** :- Marital discord, domestic violence, conflicts with parents or in-laws, and strained relationships within the family can contribute to feelings of hopelessness and despair.
- \* **Mental health Disorder** :- Depression, anxiety, Schizophrenia, especially regarding education, career and lack of awareness and limited access to mental health services.
- \* **Social pressure** :- Pressure to conform to societal expectations, especially regarding education, career and marriage can lead to feelings of inadequacy and failure, particularly among youth.
- \* **Substance Abuse** :- Alcohol and drug abuse are common coping mechanism for dealing with stress and trauma, but they can exacerbate mental health problems and increase the risk of suicides.

## Purpose of Suicides :

Understanding the purpose behind suicides is complex and multifaceted, as it varies greatly among individuals and can be influenced by a combination of factors. However, here are some common purpose or motivations that researchers and psychologists have identified

\* **Escape from pain** : Many individuals contemplate suicide as a means to escape from intense emotional or physical pain. This pain could be due to various factors such as mental illness, trauma, chronic illness or overwhelming stressors in life.

\* **Desire to End Suffering** : Some people view suicide as a way to put an end to their suffering, believing that death is the only solution to their problems and that it will bring them relief from their pain.

Few more factors contributing to suicides in India during the period from 2001 to 2012 :

**Stigmatization of mental illness** : widespread stigma

Surrounding mental health issues prevents many individuals from seeking help or speaking openly about their



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Gender Inequality :- Gender-based discrimination, violence against women, and restricted access to resources and opportunities for ~~some~~ contribute to higher rates of suicide among female, especially in rural areas.

Lack of Social support : Social isolation, loneliness and a lack of support network exacerbate feelings of despair and hopelessness - particularly among vulnerable populations such as the elderly or LGBTQ+ individuals.

Trauma and Abuse : Experiences of trauma including childhood abuse, sexual assault or witnessing violence can have long-lasting psychological effects and increase the risk of suicide.

Health Issue : Chronic physical illness, disabilities and terminal illness can lead to emotional distress and feelings of being a burden on family members contributing to suicidal ideation.

Media Influence :- Sensationalized media coverage of suicide especially celebrity suicides, can lead to copy cat behaviour and increased suicide rates particularly among impressionable individuals.

## Data collection and Extraction from Database :

Data collection is the process of gathering data for use in business decision making.

1. Strategic planning research and other purpose data extraction is the process of obtaining raw data from a source and replicating that data somewhere else. Collect the dataset :

A dataset is a set of collection of data. This set is normally presented in a tabular pattern - Every column describes a particular variables. And each row corresponds to a given number of data set as per given question. This is a part of data management.

### Understand the data :

As its core, data can be defined as Units of information often numeric collected through observation or registration. These units can stand for real-world entities such as individuals also or objects. The name of file is india updated - suicides in india 2001 to 2012.



## Preparation :

Combining. Data preparation is the process of gathering, structuring and organizing data so it can be used in business intelligence, analytics and data visualizations applications.

Data preparation is the process of cleaning and transforming raw data prior to processing and analysis. It is an important step prior to processing and often involves reformatting data, making corrections to data, combining datasets to enrich data.

Prepare the data for visualization:

Identify the data table.

The first row of the table should be "header". Add missing header.

Remove multiple headers and merge them into one column. Data types and detections.

Clean any annotations in the column values.

Blank cells and annotations.

All rows must have same amount of columns matching the column header.

## Data Visualization :-

Data visualization is the representation of data through use of common graphics such as charts, plots, infographics and even animations. These visual displays of information communicate complex data relationships and data-driven insights in a way that is easy and understand.

Data visualizations is the process of creating graphical representation of data in order to help people understand and explore the information. The goal of data visualization is to make complex data sets more accessible, intuitive and easier to interpret. By using visual elements such as charts, graphs and maps, data visualization can help people quickly identify patterns, trends and outliers in the data.

## Suicides per year (Forecasting)

Forecasting suicide rates involves complex statistical modeling and consideration of various factors that may influence trends over time which we can't provide.



**Technological Advances :** Advances in technology, including social media and online platform may influence suicides states particularly among younger populations. Monitoring technological trends can provide insights for forecasting.

**Data Quality and Reporting practices :** Ensuring the accuracy and reliability forecasts. Improvements in data collection methods and reporting practices can enhance the validity of forecasting models.

By incorporating these factors into forecasting models and regularly updating the analysis with new data, researchers and policy makers can generate more accurate predictions of future suicides states. However, it's important to note that forecasting suicide states is inherently challenging due to the multifaceted nature of the phenomenon and the influence of unpredictable events.

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Historical Data : Analyzing historical suicide data is crucial for identifying trends and patterns over time. Understanding how suicide rates have changed in the past can help in forecasting future trends.

Seasonality : Suicide rates may exhibit seasonal variation with certain times of the year experiencing higher rates than others. Accounting for seasonality can improve the accuracy of forecasts.

Economic indicators : Economic factors such as unemployment rates, GDP growth, and poverty levels can influence suicide rates. Incorporating economic indicators into forecasting models can help predict future trends.

Social and Demographic Factors : Changes in social dynamics, demographics and cultural factors may impact suicide rates. Factors such as population aging, urbanization and social inequality should be considered in forecasting model.





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Financial Stress : Economic instability, poverty debt and Unemployment are significant stressors leading to suicide. In a country like India, where a large population still lives below the poverty line, financial difficulties can become overwhelming.

Family issues :- Natural discord, domestic violence conflicts with parents or in-laws and strained relationships within the family can contribute to feeling of hopelessness and despair.

Mental health disorders : Depression anxiety, schizophrenia and other mental health issues often go undiagnosed and untreated due to stigma, lack of awareness and limited access to mental health services.

Social pressure :- Pressure to conform to societal expectations, especially regarding education, career and marriage can lead to feelings of inadequacy and failure.

Substance Abuse : Alcohol and drug abuse are common coping mechanisms for dealing with stress and trauma by they can exacerbate mental health problems.



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Farmers Distress : Agrarian crisis, including crop failure debt burden, lack of irrigation facilities and unpredictable weather patterns, have pushed many farmers to take their lives, especially in states like Maharashtra, Karnataka and Andhra Pradesh.

Caste Discrimination : Discrimination and social ostracization based on caste identity particularly among marginalized communities contribute to a sense of powerlessness and despair.

Educational pressure : High expectation and intense competition in the education system, including pressure to excel in exams and secure admission to prestigious institutions can lead to stress, anxiety and feeling of failure.

Legal issues : Legal troubles, such as criminal charges lawsuits or property disputes can lead to immense stress and hopelessness particularly if individuals perceive no way out of their predicament.

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Access to means : Easy access to lethal means such as pesticides in rural areas or easy availability of firearms increases the likelihood of impulsive suicides.



Addressing the issue of suicide in India requires a multifaceted approach that health services reducing stigma addressing.



## Age Calise Analysis of Suicides Data:

Analyzing suicide data by age group provides valuable insights into the demographics most affected by suicide and help identify trends and patterns that can inform targeted prevention efforts.

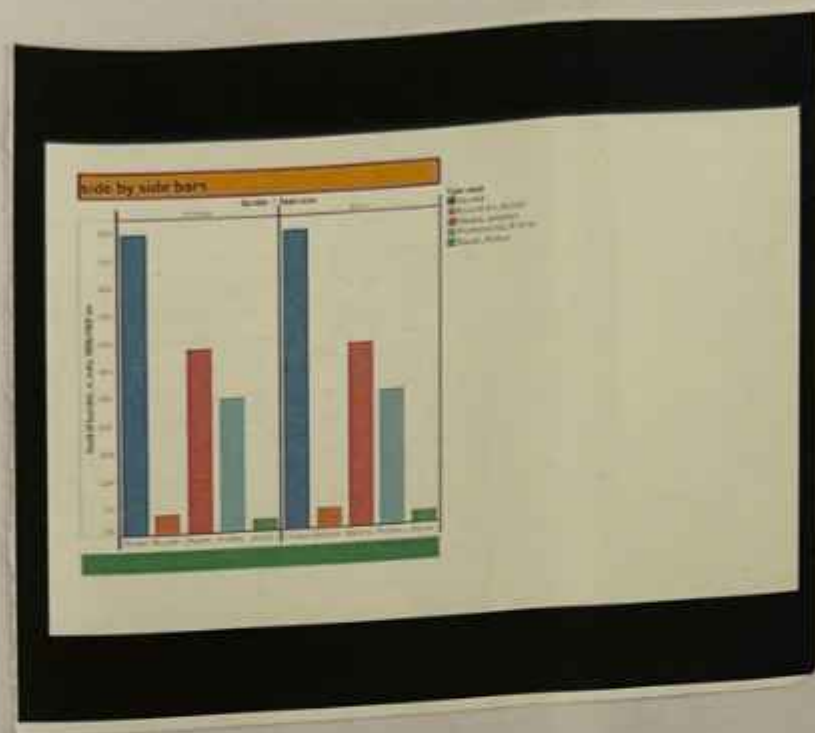
### Youth and adolescents (15-24 years):

- \* This age group often faces unique stressors such as academic pressure, relationships and identity formation.
- \* Factors like bullying, cyber bullying and social media influence can contribute to mental health issues and suicidal behaviour.
- \* Interventions targeting youth mental awareness, school based counselling programs and suicide prevention hotlines can be effective.

### Working - Age Adults (25-64 years):

- \* economic pressures, job insecurity, relationship issue and family responsibilities are common stressors in this age group.
- \* mental health disorders substances abuse and difficulties can increase risk of suicide.

- \* Workplace mental health initiatives access to affordable healthcare, and financial counselling services are essential for prevention.



- \* Social isolation, loneliness, physical health problems, loss of independence and are significant risk factors for suicides among the elderly.
- \* Chronic illness, cognitive decline and feelings can contribute to suicidal ideation.
- \* Community outreach programs, geriatric mental health services and support groups.

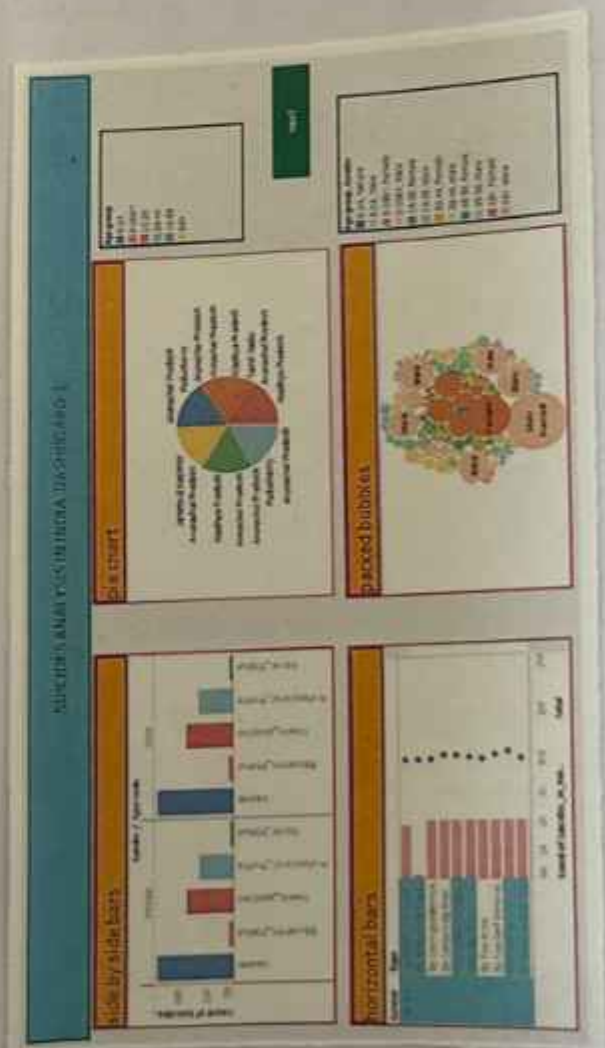
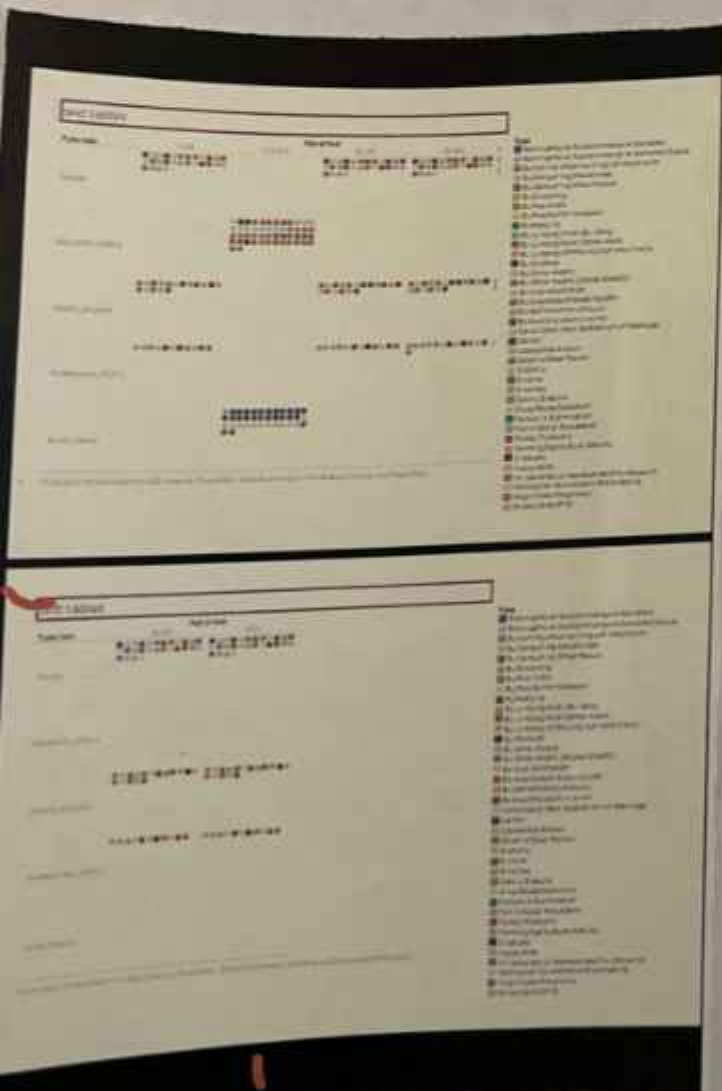
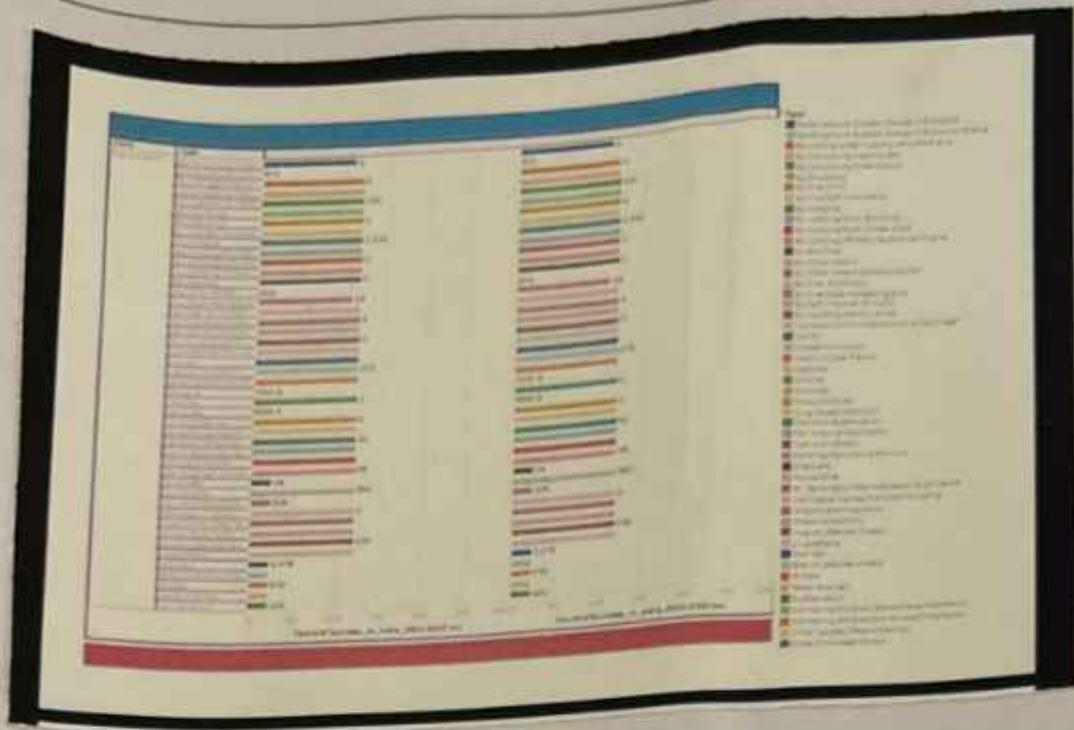


Children (under 15 years):

- \* While suicide rates among children are relatively low compared to other age groups, they are not immune to suicidal behaviour.
- \* Bullying, abuse, family dysfunction, and exposure to trauma can increase the risk of suicide among children.
- \* Early intervention programs school-based mental health services and parental education or recognizing warning signs are crucial for prevention.

Analysing suicide data by age group

allows for targeted interventions that address the unique risk factors and needs of each demographic. Prevention efforts should focus on improving access to mental health services reducing stigma. Promoting resilience and fostering supportive environments across all the age groups.





## State vs No. of Suicides Based on Reason:

Analyzing suicide data by state and the reason behind them provides insights into regional variations and specific challenges that may contribute to suicidal behaviour.

### Maharashtra :

- \* Farmer distress due to agrarian crisis of crop failure.
- \* Urban areas may see suicides related to financial stress, job loss, and relationship issue.

### Tamil Nadu :

- \* Economic pressure including debt burden and unemployment.
- \* Relationship problems, family disputes and substance abuse issue.

### Karnataka :

- \* Farmer suicides due to agricultural issues such as droughts and debt.
- \* Urban suicides related to financial difficulties and marital discord.

### West Bengal :

- \* Economic hardships and poverty - related stressors
- \* Political violence and social unrest may contribute to suicides in certain regions.

### Andhra Pradesh and Telangana :

- \* Farmer suicides due to crop failure, debt.
- \* High rates of suicides among youth due to academic pressure and family expectations.

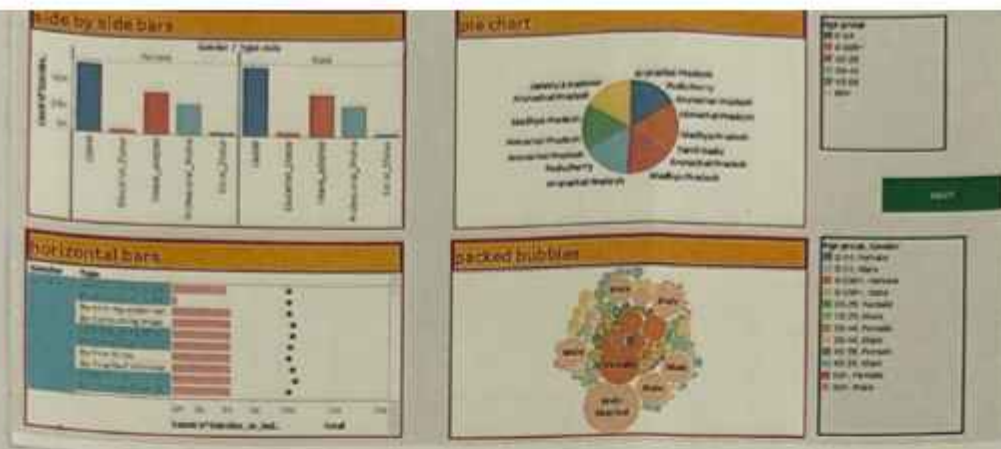
### Kerala :

- \* High prevalence of mental health issues leading to suicides.
- \* Substance abuse, alcoholism and domestic violence are contributing factors.

### Uttar Pradesh :

- \* economic hardships, poverty, and lack of opportunities.
- \* Social issues such as caste discrimination, dowry-related problems, and family conflicts.





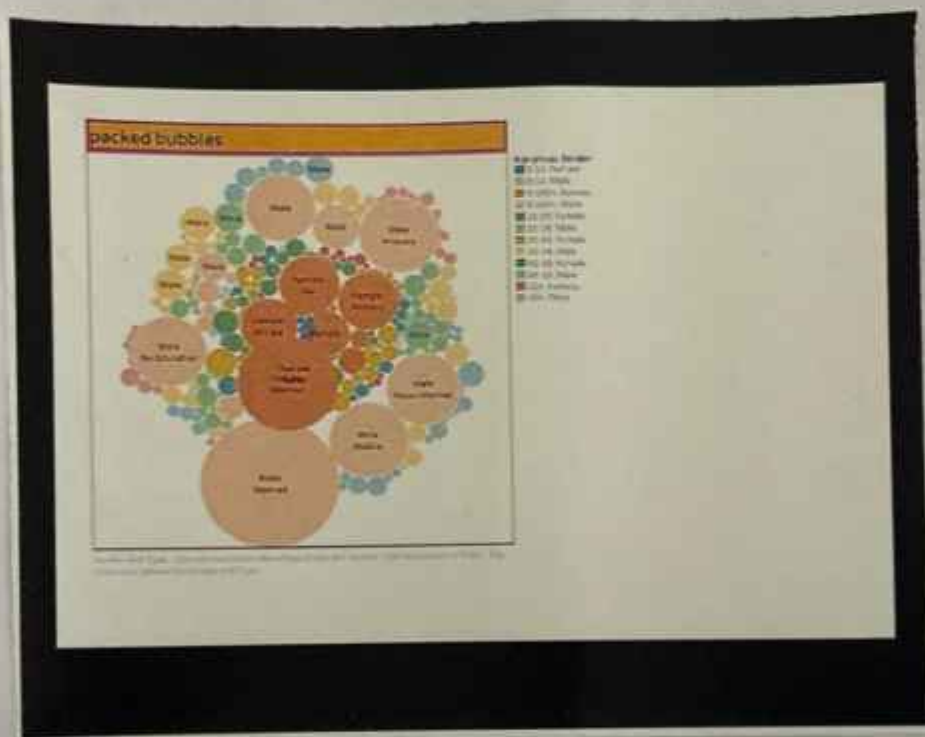
'Madhya pradesh :

- \* Farmer suicides due to agricultural distress and debt
- \* High rates of suicides among women due to domestic violence and social stigma.

Analysing Suicides data by state and season can help policymakers develop targeted interventions allocate resources effectively and address the specific need of each region . Prevention efforts should focus on addressing underlying socioeconomic issues .

Existing the problems on Suicide in india :

It is estimated that one in 60 persons in our country are affected by suicide. It includes both those who have attempted suicide and those whose have been affected by the suicide of a close family or friend. Thus suicide is a major public and mental health problem, which demand urgent action.



The suicide rate in india is 10.3 in the last three decades the suicide rate has increased by 43%. but the male female ratio have been stable at 1:4:1 majority (71%) of suicides in India.



## Dashboard

Creating a dashboard in tableau on suicides in india involves several steps, including data preparation, visualization creation and dashboard design.

### Data preparation :

Obtain a dataset on suicides in India .

Ensure that the data set includes relevant information such as age, gender, method of suicide, location and year .

\* Import the dataset into tableau .

### Visualization Creation :

Start by creating individual visualization for key metrics related in India .

\* Bar charts showing the no. of suicides over the years .

\* pie charts or tree maps showing the distribution of suicides by age group or gender .

\* Line charts depicting trends in suicide rates over time .

\* Maps showing the geographical distribution of suicides across different regions of india .

## Dashboard Design :

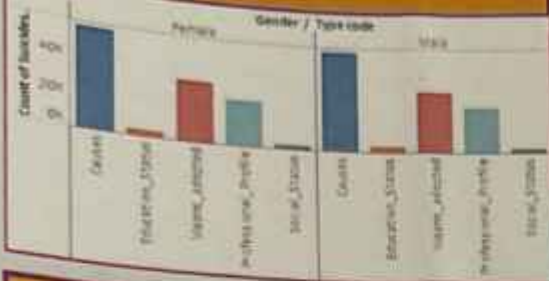
- \* Starting by adding a new dashboard from the dashboard table in tableau.
- \* Drag the visualization you create earlier onto the dashboard canvas.
- \* Arrange the visualization in a logical and intuitive manner. Consider factors such as hierarchy flow and emphasis on key metrics.
- \* Add text boxes, titles and annotation to provide context and insights.
- \* Publish it to tableau serve or tableau public to share it with others.
- \* Share the dashboard URL or embed it in websites or presentation as needed.

By these steps we can create an information & visually appealing dashboards in tableau on suicides in India. providing valuable insights into this.

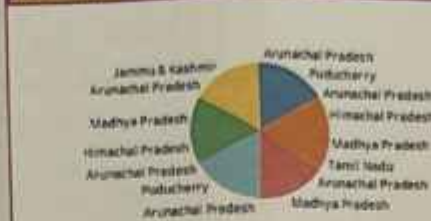


## SUICIDES ANALYSIS IN INDIA DASHBOARD-1

### Side by side bars



### Pie chart

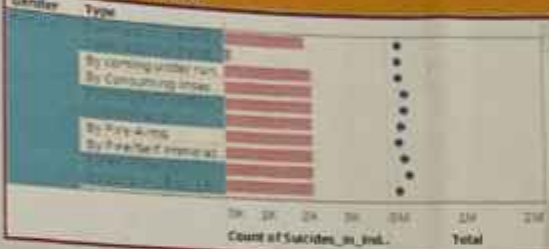


Age group

- 0-14
- 15-24
- 25-34
- 35-44
- 45-54
- 55+

next

### Horizontal bars



### Packed bubbles

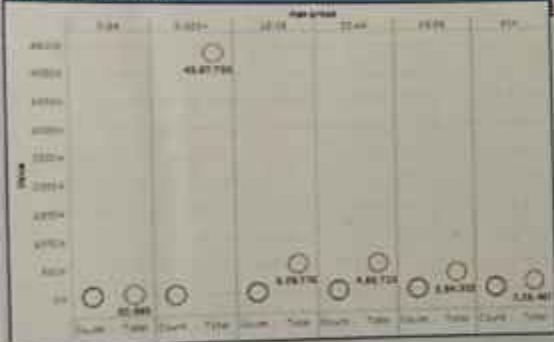


Age group, Gender

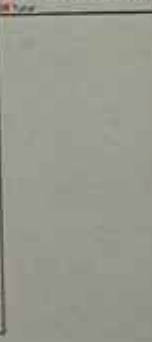
- 0-14, Female
- 0-14, Male
- 15-24, Female
- 15-24, Male
- 25-34, Female
- 25-34, Male
- 35-44, Female
- 35-44, Male
- 45-54, Female
- 45-54, Male
- 55+, Female
- 55+, Male

## SUICIDES ANALYSIS IN INDIA DASHBOARD-2

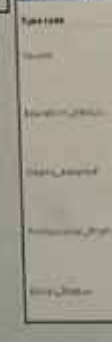
### Side by side circles



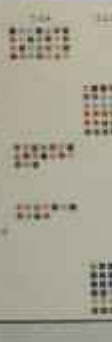
### Test tables



### Box and whisker plots



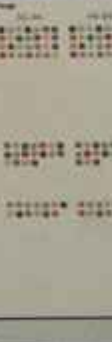
### Box and whisker plots



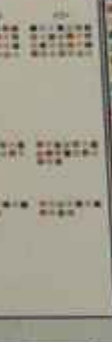
### Box and whisker plots



### Box and whisker plots



### Box and whisker plots



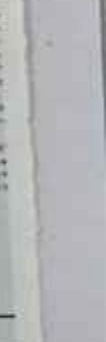
### Box and whisker plots



### Box and whisker plots



### Box and whisker plots



### Bullet graphs



### Bullet graphs



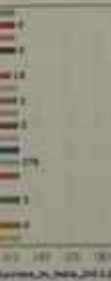
### Bullet graphs



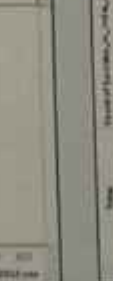
### Bullet graphs



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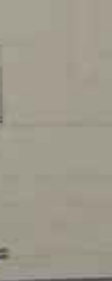
### Bullet graphs



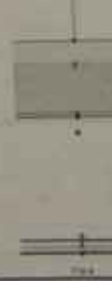
### Bullet graphs



### Bullet graphs



### Bullet graphs



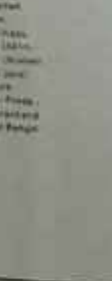
### Bullet graphs



### Bullet graphs



### Bullet graphs



### Bullet graphs



## Story

Creating a story in tableau on suicides in india involves crafting a narrative using a series of related visualizations to convey insights and trends effectively.

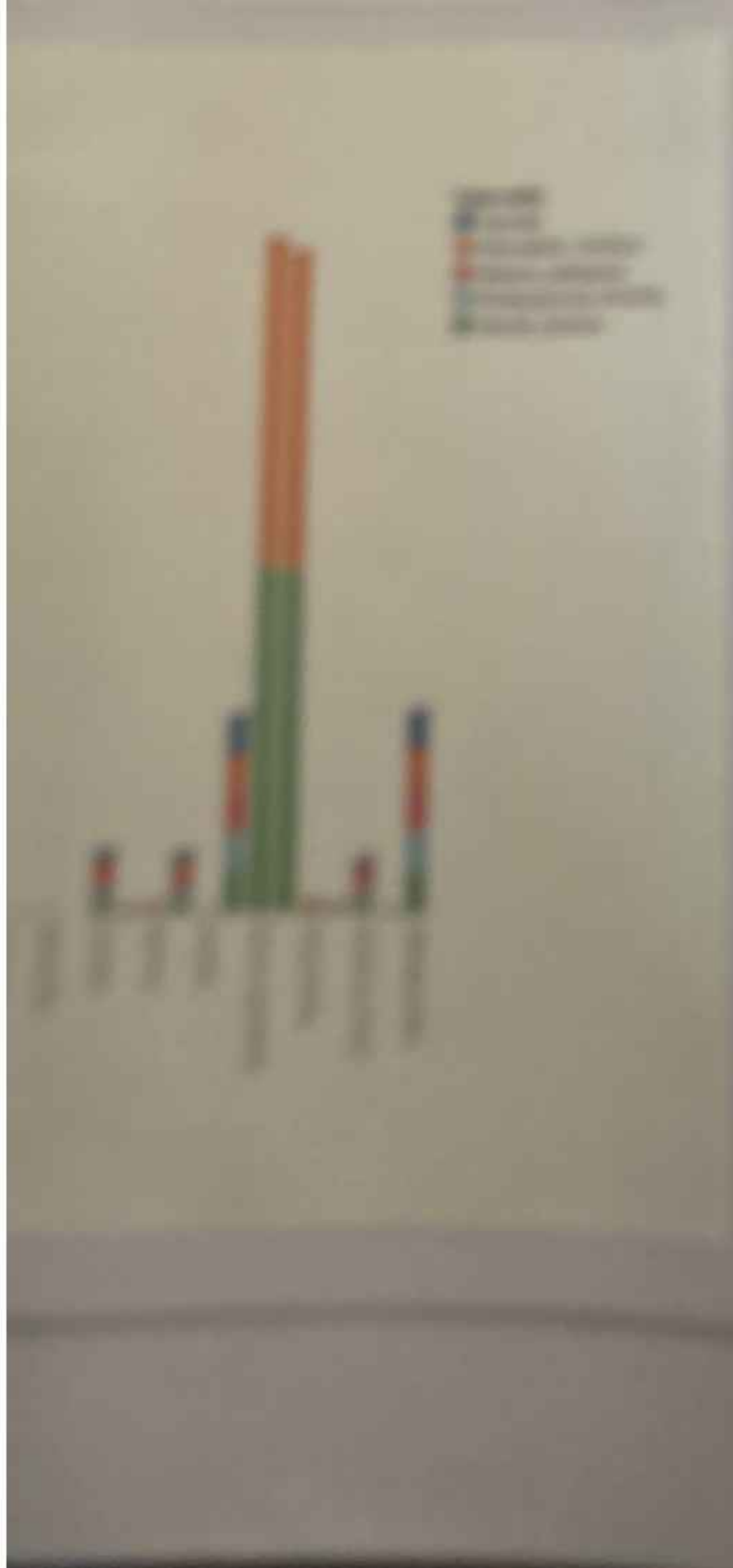
### Data preparation:

- \* Obtain dataset on suicides in india, ensuring it includes relevant information such as age gender method of suicide location and year.
- \* Import the dataset into tableau.

### Create the story :

- \* Go to the story tab in tableau and click on "New story" to create a new story.
- \* Add a title and description to introduce the topic of the story.
- \* Add "Dashboard" objects to the story selecting the relevant dashboard or individual visualization created earlier.
- \* use storytelling techniques such as highlighting.





Share the story URL or embed it in presentation reports or websites to reach a wider audience.

By these steps we can create a compelling story in Tableau on suicides in India.

Web integration:

To integrate tableau visualizations, such as dashboards and stories into a website it involves embedding the visualizations using HTML and Javascript and flaskcode of python.

Creating website:

Develop the website using HTML, CSS and Javascript and python then we use a text editor or web development framework like Bootstrap.

Paste the embed code copied from tableau into HTML code of website at the desired location.

Ensure that the embed code is placed within an HTML container such as div element with a specific

By these steps, we can integrate tableau visualizations into website.