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# Data Analytics and Visualization using Tableau for COVID-19(Coronavirus)

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**ABSTRACT:** COVID-19, a global pandemic caused by the novel coronavirus SARS-CoV-2, has profoundly impacted public health, economies, and societies worldwide. It has significantly impacted India and its states like Telangana, presenting a complex public health challenge. Since its emergence, India has faced waves of infections, imposing severe strain on healthcare systems and economies. Telangana, like other regions, navigated fluctuating infection rates, hospitalizations, and fatalities, necessitating stringent containment measures and vaccination drives. Challenges such as vaccine hesitancy, misinformation, and healthcare disparities exacerbated the situation. Government responses evolved to balance health concerns with economic stability, highlighting the need for robust pandemic preparedness and response strategies. This abstract provides a brief overview of the COVID-19 situation in India, focusing on the context of Telangana, and underscores ongoing efforts to mitigate its impact. Through a synthesis of current research and data analysis, this report aims to contribute to a deeper understanding of COVID-19 and inform ongoing efforts to combat its spread and impact.

## I. INTRODUCTION

The COVID-19 pandemic, caused by the novel coronavirus SARS-CoV-2, has triggered an unprecedented global crisis since its emergence in late 2019. Characterized by its rapid transmission and diverse clinical manifestations ranging from mild respiratory symptoms to severe pneumonia and acute respiratory distress syndrome (ARDS), COVID-19 has posed formidable challenges to healthcare systems, economies, and societies worldwide. This introduction provides an overview of the virus, its initial spread, global response efforts, and the ongoing struggle to contain and mitigate its impact on a global scale. It was first identified in December 2019 in Wuhan, China, and has since spread globally, leading to a pandemic as declared by the World Health Organization (WHO) in March 2020. Key features of COVID-19 include its ability to spread easily through respiratory droplets when an infected person coughs, sneezes, or talks. Symptoms can range from mild to severe and may include fever, cough, difficulty breathing, fatigue, loss of taste or smell, and more. Some individuals may remain asymptomatic but still capable of spreading the virus.

### Dataset Description

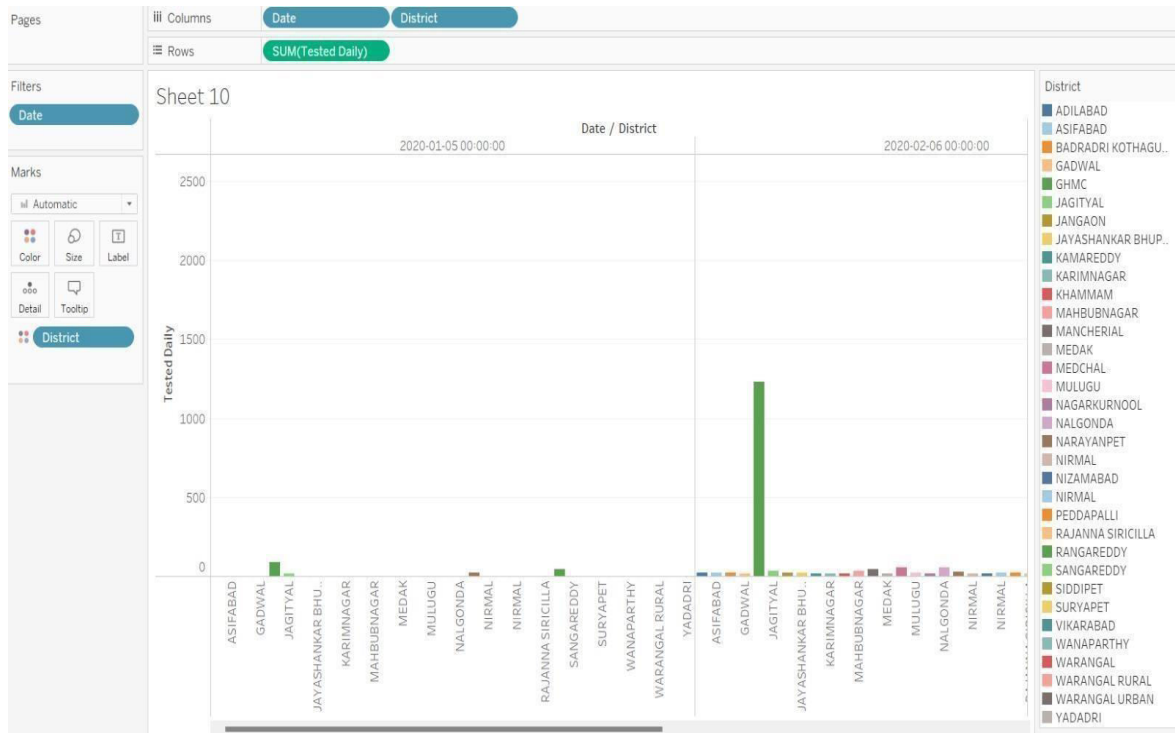
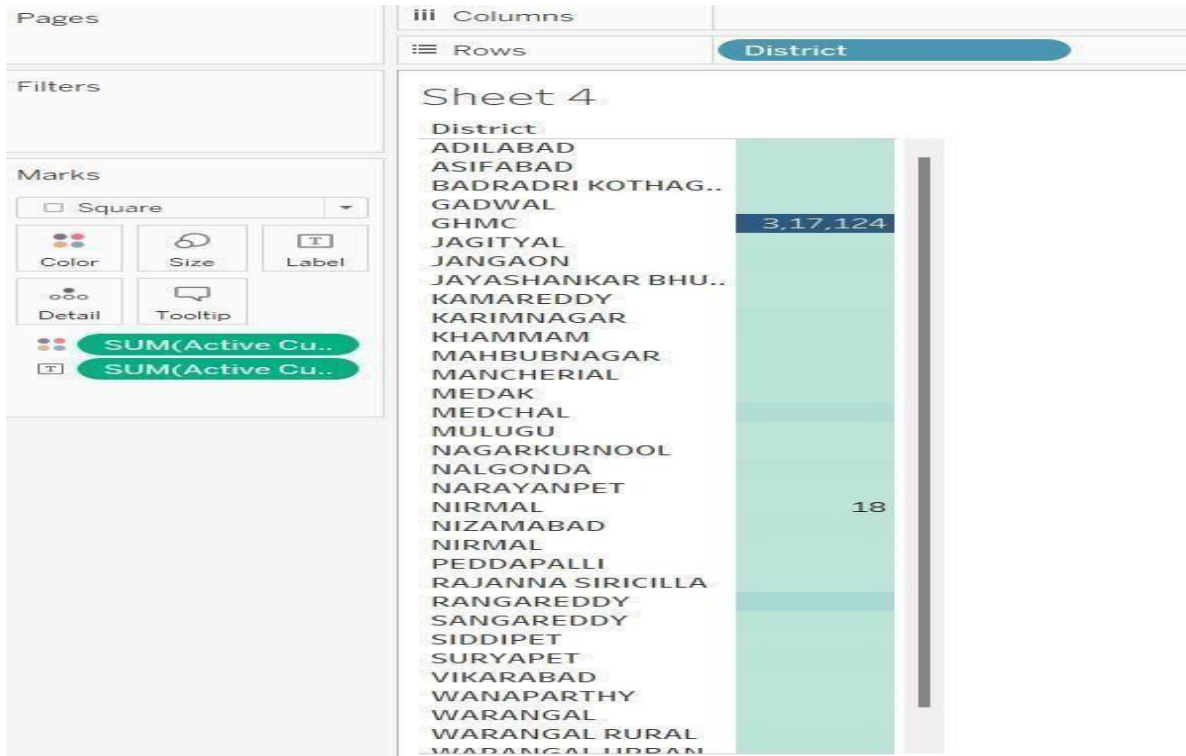
This dataset compiles critical metrics and epidemiological information related to the COVID-19 pandemic. It includes daily updates on confirmed cases, deaths, and recoveries across various districts of Telangana state. Additionally, the dataset provides insights into testing efforts with details on total tests conducted and positivity rates. Health-related metrics such as hospitalizations, ICU admissions, and ventilator usage are also documented to assess healthcare system impacts. Demographic breakdowns by age and gender offer further insights into infection patterns. Epidemiological data categorizes cases by transmission type and identifies sources of infection, aiding in understanding disease spread dynamics. The dataset also tracks governmental responses and health interventions implemented during the pandemic. Regularly updated from reputable health sources, this dataset serves as a vital resource for researchers, policymakers, and healthcare professionals aiming to analyse and mitigate the impacts of COVID-19.

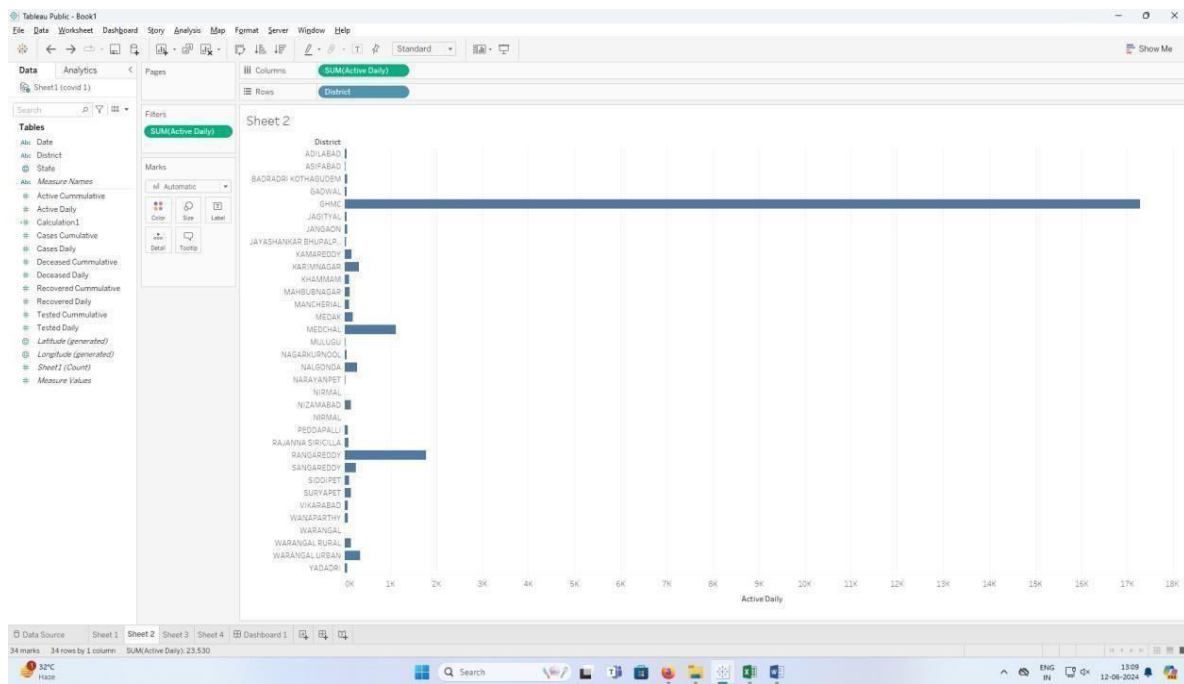
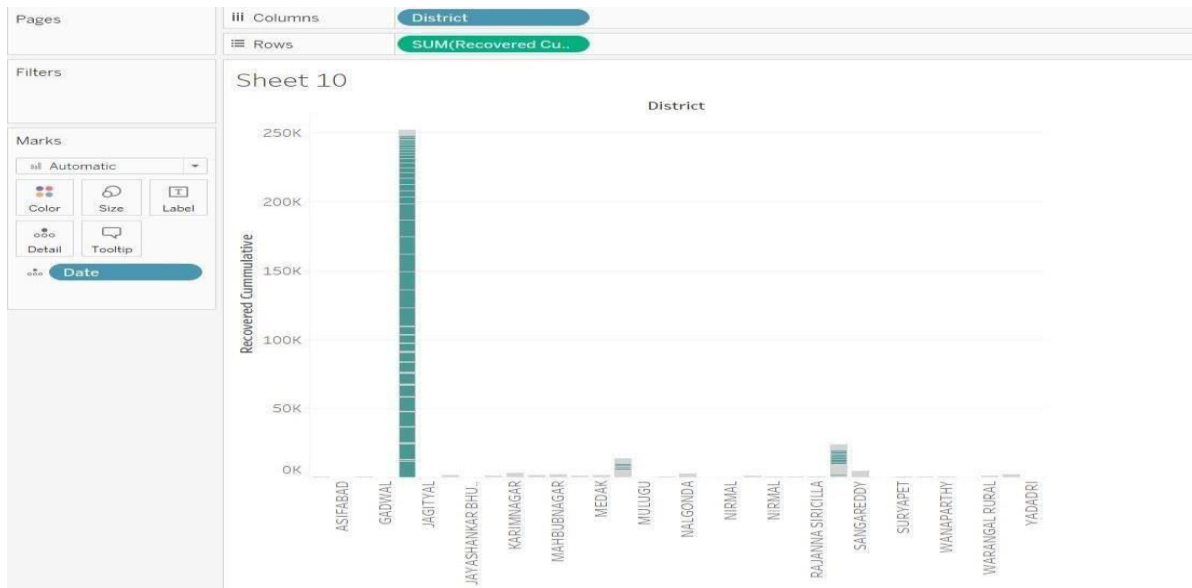
### Introduction To Tableau

Tableau is a visual analytics platform transforming the way we use data to solve problem—empowering people and organizations to make the most of their data. Tableau was founded in 2003 as a result of a computer science project at Stanford that aimed to improve the flow of analysis and make data more accessible to people through visualization. Co-founders Chris Stolte, Pat Hanrahan, and Christian Chabot developed and patented Tableau's foundational technology, VizQL—which visually expresses data by translating drag- and-drop actions into data queries through an intuitive interface. Since the foundation continuously invested in research and development at an unrivaled pace, developing

solutions to help anyone working with data to get to answers faster and uncover unanticipated insights. This includes making machine learning, statistics, natural language, and smart data prep more useful to augment human creativity in analysis. Tableau is a visual analytics platform transforming the way we use data to solve problem—empowering people and organizations to make the most of their data.







II. RESULTS

The first case of the COVID-19 pandemic in India was reported on 30 January 2020, originating from China. Slowly, the pandemic spread to various states and union territories including the state of Telangana. The first case was recorded in this region on 2 March from a man who had travel history with the UAE . As of April 30, Telangana has 1,012 confirmed cases of COVID-19 (9th highest in the country). Of these, 367 have been cured, and 26 have died. In this blog, we summarise some of the key decisions taken by the Government of Telangana for containing the spread of COVID-19 in the state and relief measures taken during the lockdown. The overall positivity rate comes to 18.44%(applicable for up to June 30). The daily positivity rate for number of tests conducted by Telangana state on June 30 comes to 27.33%. On 30 June, the Telangana state conducted 3457 tests, out of which the positive cases were 945. The highest number of cases were recorded in Hyderabad district and the lowest were from Komaram Bheem district.

### **III. CONCLUSION**

In conclusion, this report has highlighted the evolving impact of COVID-19 in Telangana, emphasizing both challenges and achievements in combating the pandemic. Despite initial setbacks, the state's proactive measures in testing, vaccination, and public health awareness have played pivotal roles in managing the crisis. However, ongoing vigilance and adherence to safety protocols remain crucial as the situation continues to evolve. Moving forward, concerted efforts in healthcare infrastructure, vaccination drives, and community engagement will be essential to mitigate the effects of COVID-19.

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