

- **Introduction :**

West Bengal has ranked 8th in the total number of Covid19 cases among the states in India. In these two maps we have tried to showcase the demographic scenario of West Bengal and the current Covid19 scenario in the state.

- **Methodology :**

The administrative boundary map of West Bengal was collected from ISRO data through BHUVAN portal. The data for West Bengal population according to age group and Covid19 affected and dead population were collected from Census 2011.

All of the maps were prepared with the help of Qgis software. The census data was joined with the spatial data using “joins” feature from layer properties of West Bengal vector layer. The calculation of age distribution and rural urban population distribution has been done using MS Excel software.

In the first map, a choropleth has been shown with total positive cases of Covid19 and in the second map, total death due to covid has been shown through choropleth. Each classification is done with 3 classes using “Graduated” symbology from layer properties. Here Natural Breaks (Jenks) method has been used to classify the choropleth classes. In the first map, age wise category of population has been shown through bar graphs. The bar graph is added with the help of “diagrams” feature from layer properties. First, required 3 attributes were assigned for bar graph preparation. Then the size and placements of the bar graphs were managed. In the second map, rural and urban population distribution has been shown through pie diagrams. The radius of the pie was determined by the total population of each district. First, the required 2 attributes for pie were assigned. Then using scaled size of total population, the size of the pie diagrams was determined and positions were managed. The maps are also labelled of their district names using “label” function from layer properties of West Bengal vector layer. The size and position of the labels were selected according to need.

The final layouts of those maps were prepared with “Print Layout” option from Project. The maps were drawn using ‘add map’ and the scale and coordinates were selected as required. Then the scale and north arrow were added. Legend was edited and added in the map using ‘legend’ tool. Using ‘text box’ the source of the data was put in the map. The final map has been saved using ‘export as image’ from layout toolbar.

- **Map1- Description :**

In this map we have shown the total number of Covid19 cases in the districts of West Bengal with the help of choropleth. We also shown the age group wise population in all the districts. The total population of the districts has been divided in three age groups 0-9(child population), 10-59 and 60+ (old age population) to identify the total persons in the vulnerable age groups.

- **Map2- Description :**

This map represents the total number of Covid19 related deaths in each district of the using choropleth map. We also have used pie charts to the rural urban population distribution of each district.

- **Findings and Analysis :**

It has been obvious that Kolkata is the hotspot of Covid19 in West Bengal. The two-bordering district of Kolkata, North 24 Parganas and Howrah is the 2nd and third most affected districts in terms of both total number of Covid19 cases and deaths related to Covid19. Our study also found that only these three districts in the state has more people living in urban areas than the rural areas. Other than these three districts Nadia, East Mednapur, Bardhaman, Murshidabad, South 24 parganas is also very vulnerable to Covid19 as the old age and child population is very large in these districts.

- **Application and use of the map :**

In this map we aimed to identify the distribution of total Covid19 and Covid19 related deaths cases across the districts in West Bengal. We also presented the age group wise population distribution of each district to identify the most vulnerable age groups in the population which will be helpful to prioritize the distribution vaccine. According to findings of WHO and GOI guideline the 0-9 and 60+ population is the most vulnerable to Covid19. So, this map having will provide age structural data to the government and the policy makers. This data will give a clear graphical representation of statistical data that which district have how much population living in the vulnerable age groups. This will be beneficial for public awareness as well as vaccination and other policy implementation related to this pandemic. The rural urban population has also been presented to identify population distribution of the district in both the setup which will be very beneficial in the distribution of vaccine.

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