

1. INTRODUCTION

1.1 Overview:

A population is a subgroup of individuals within the same species that are living and breeding within a geographic area. Population refers to the total number of being living in a particular area. The world's population is more than three times larger than it was in the mid-twentieth century. The global human population reached 8.0 billion in mid-November 2022 from an estimated 2.5 billion people in 1950, adding 1 billion people since 2010 and 2 billion since 1998. The world's population is expected to increase by nearly 2 billion persons in the next 30 years, for the current 8 billion to 9.7 billion in 2050 and could peak at nearly 10.4 billion in the mid-2080's.

This dramatic growth has been driven largely by increasing numbers of people surviving to reproductive age, the gradual increase in human lifespan, increasing urbanization, and acceleration migration. Major changes in fertility rate have accompanied this growth. These trends will have far-reaching implications for generations to come.

1.2 Purpose:

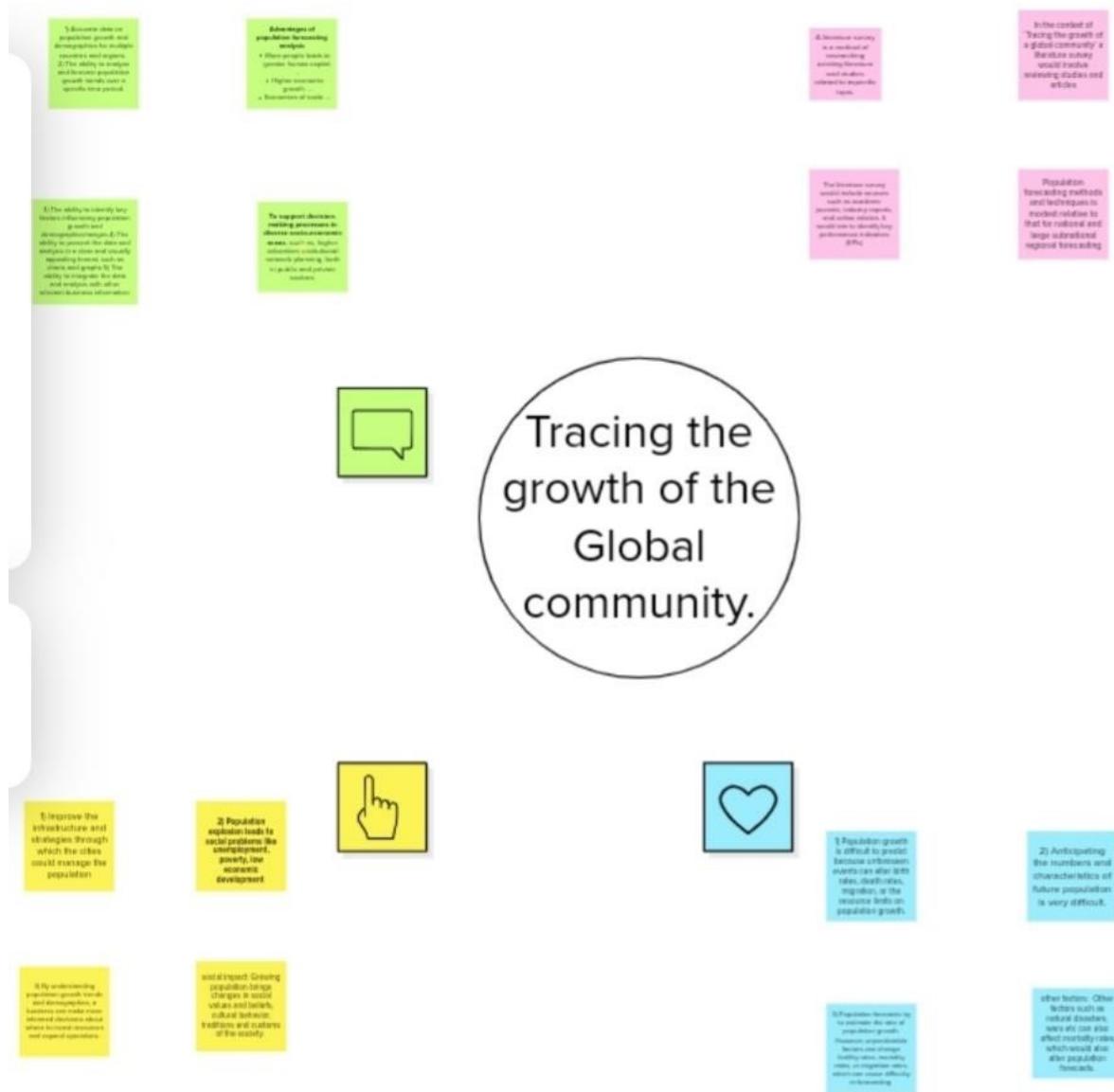
Population is the total number of people in a given area and population growth is the change in the measure of the living people in a nation.

Population growth is the increase in the number of humans on Earth. For Most of human history our population size was relatively stable. But with innovation and industrialization, energy, food, water, medical care became more available and reliable.

Consequently, global human population rapidly increased and continues to do so, with dramatic impacts on global climate and ecosystems. We will need technological and social innovation to help us. Support the world's population as we adapt to mitigate climate and environmental changes.

2. Problem Definition & Design Thinking

2.1 Empathy Map



2.2 Ideation and Brainstorming Map

1

Define your problem statement

What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.

⌚ 5 minutes

PROBLEM

How might we uncover the logistic curve of population growth with regard to fertility rate, relocation and urbanization?



Key rules of brainstorming

To run a smooth and productive session



Stay in topic.



Encourage wild ideas.



Defer judgment.



Listen to others.



Go for volume.



If possible, be visual.

2

Brainstorm

Write down any ideas that come to mind that address your problem statement.

Swetha.S



Devika.S

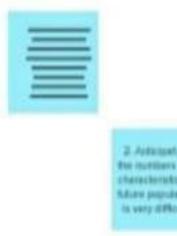


Kavya Neela.C



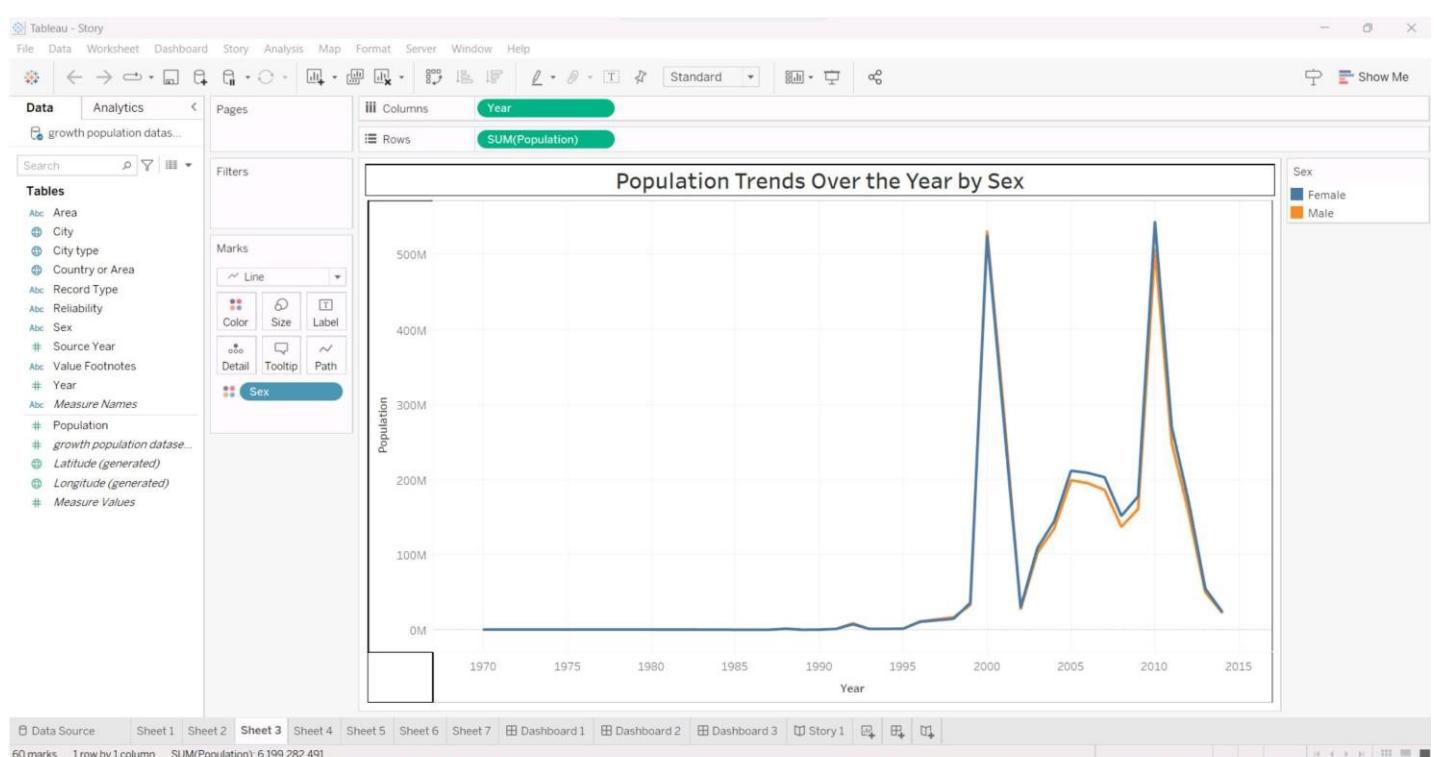
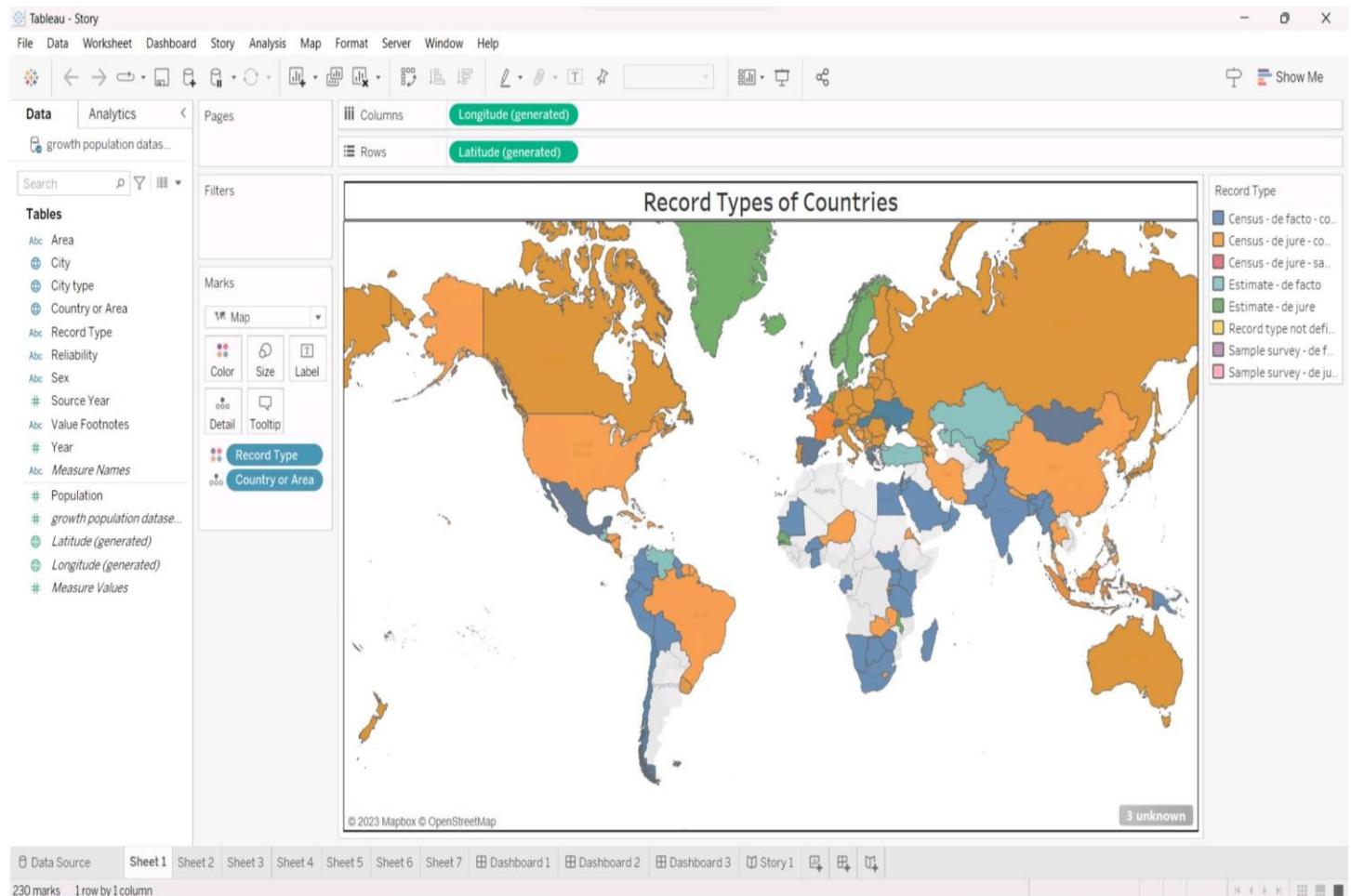
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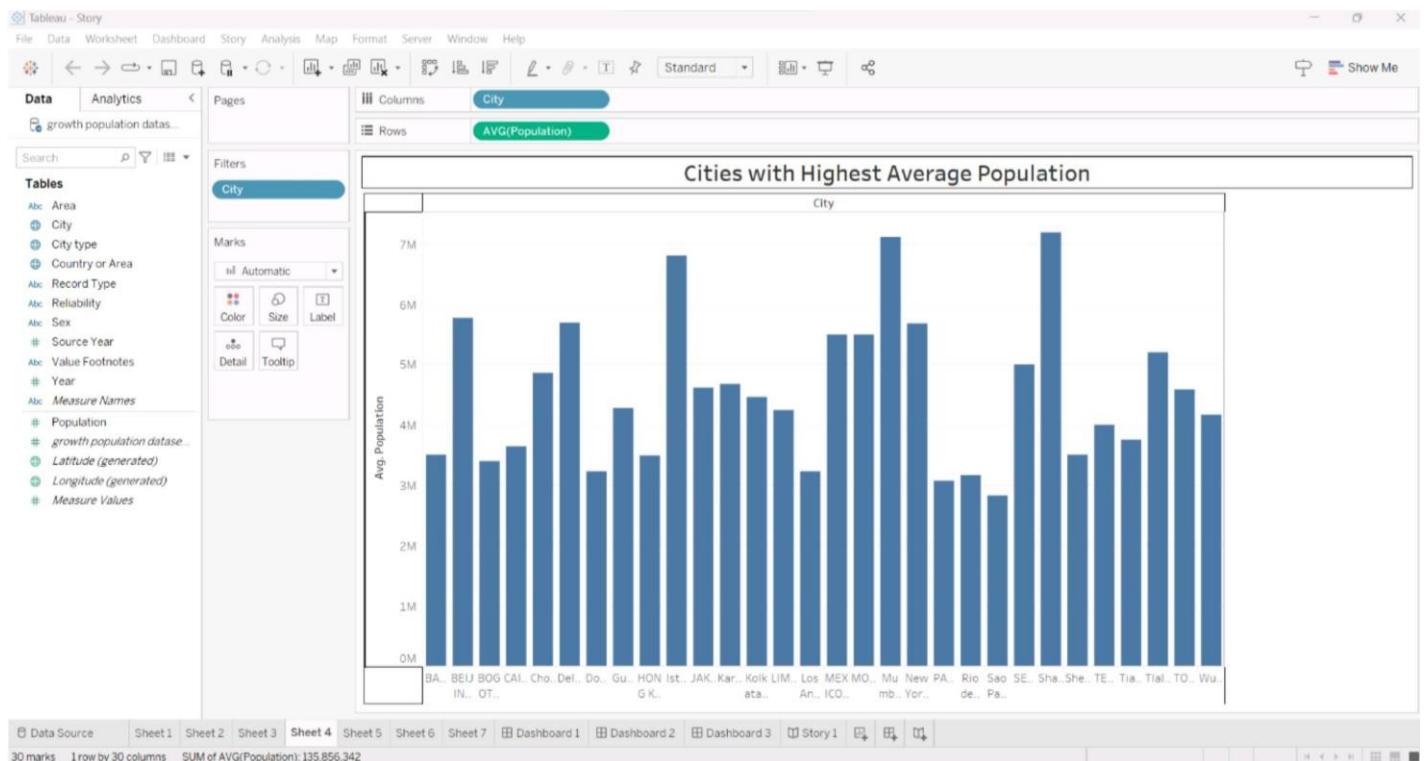
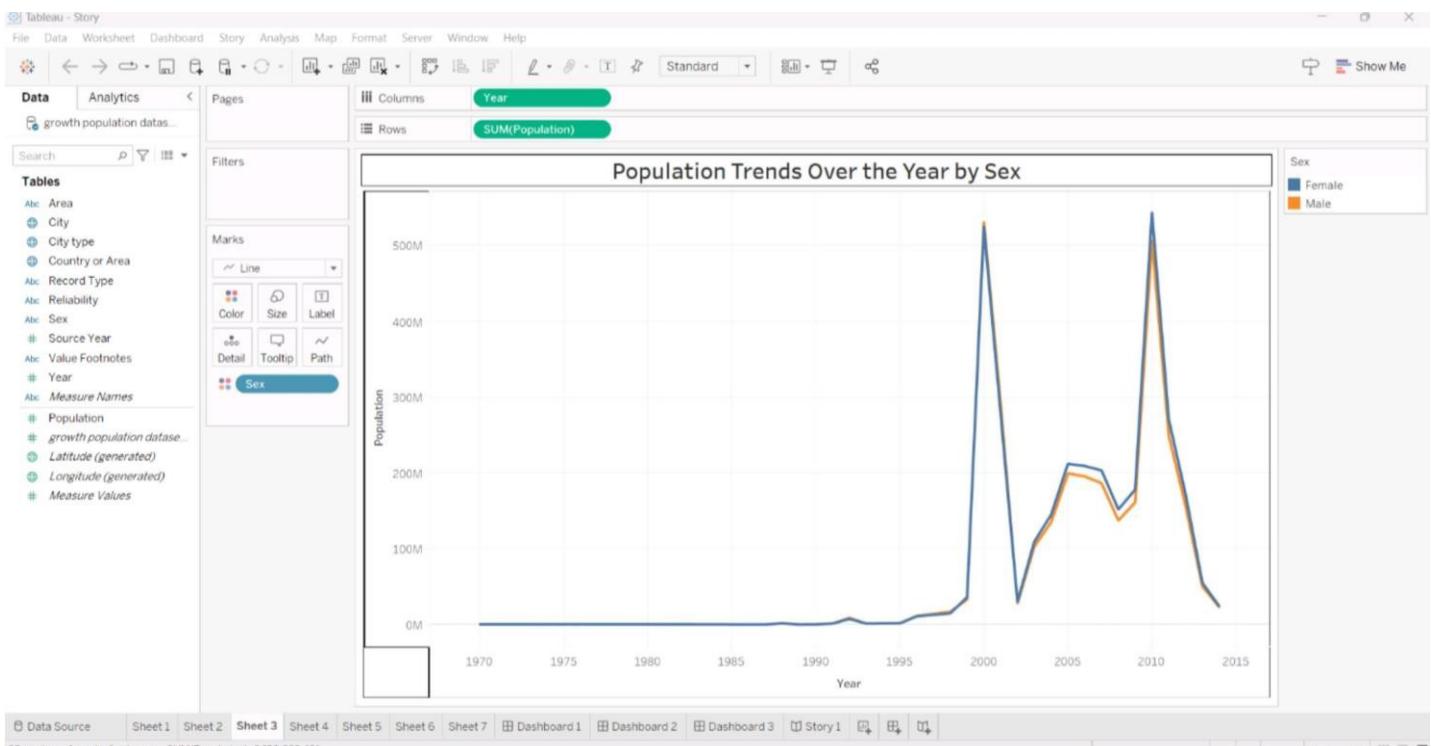
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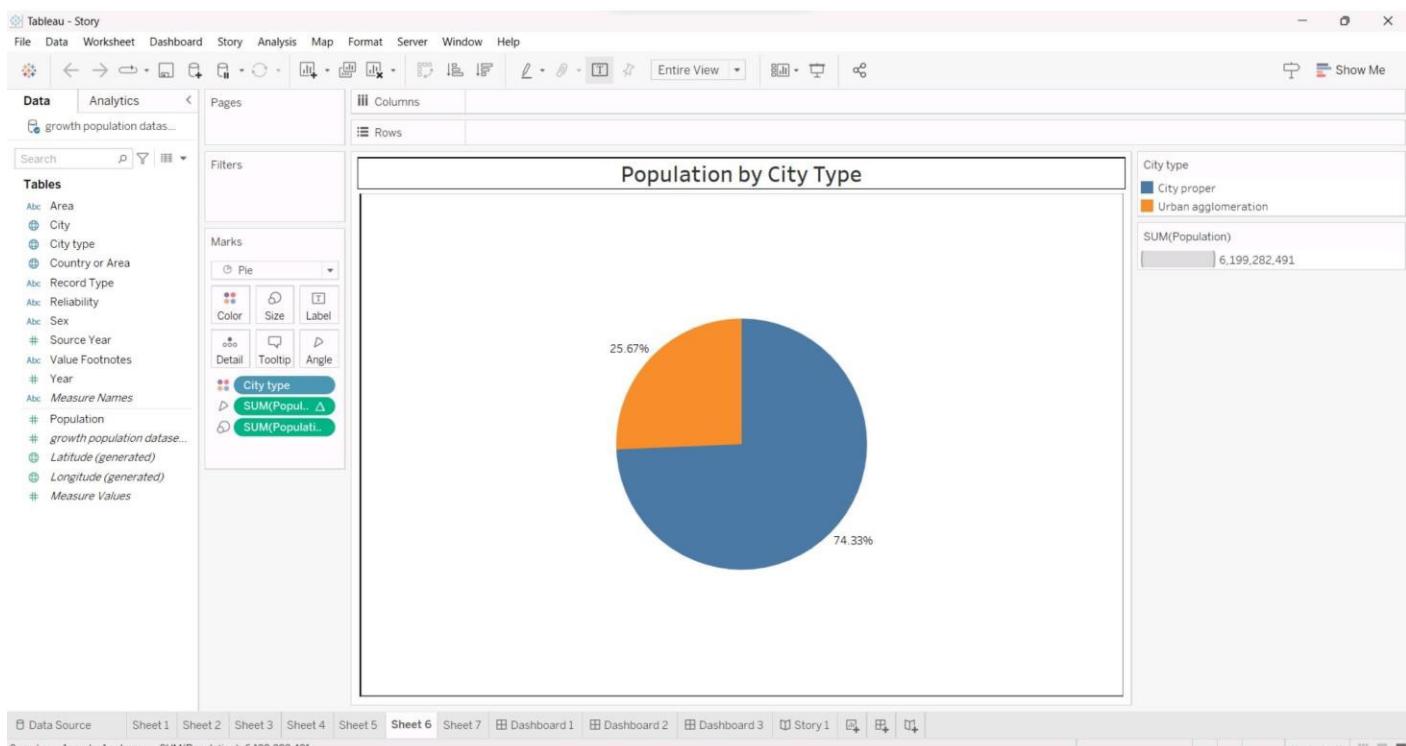
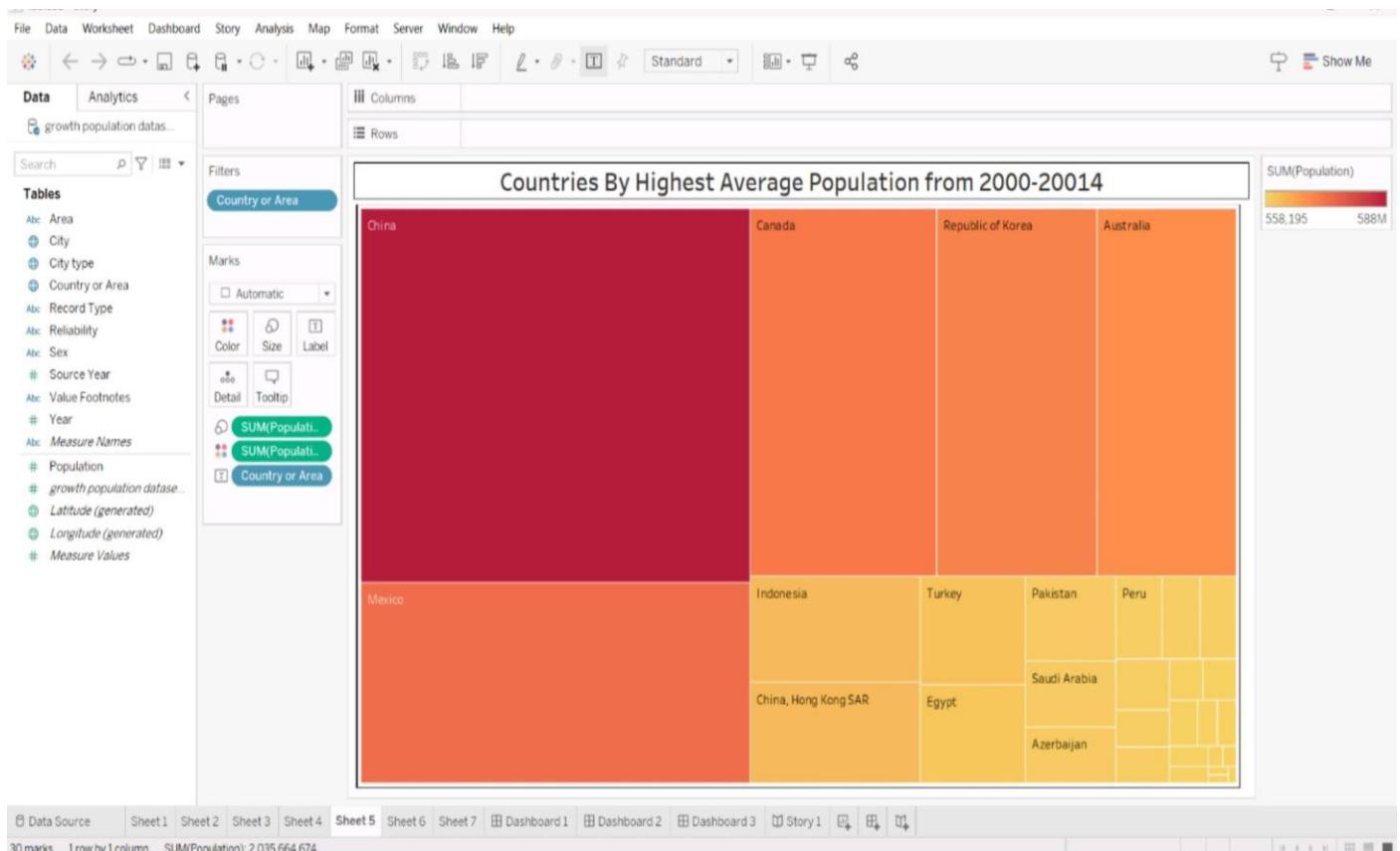


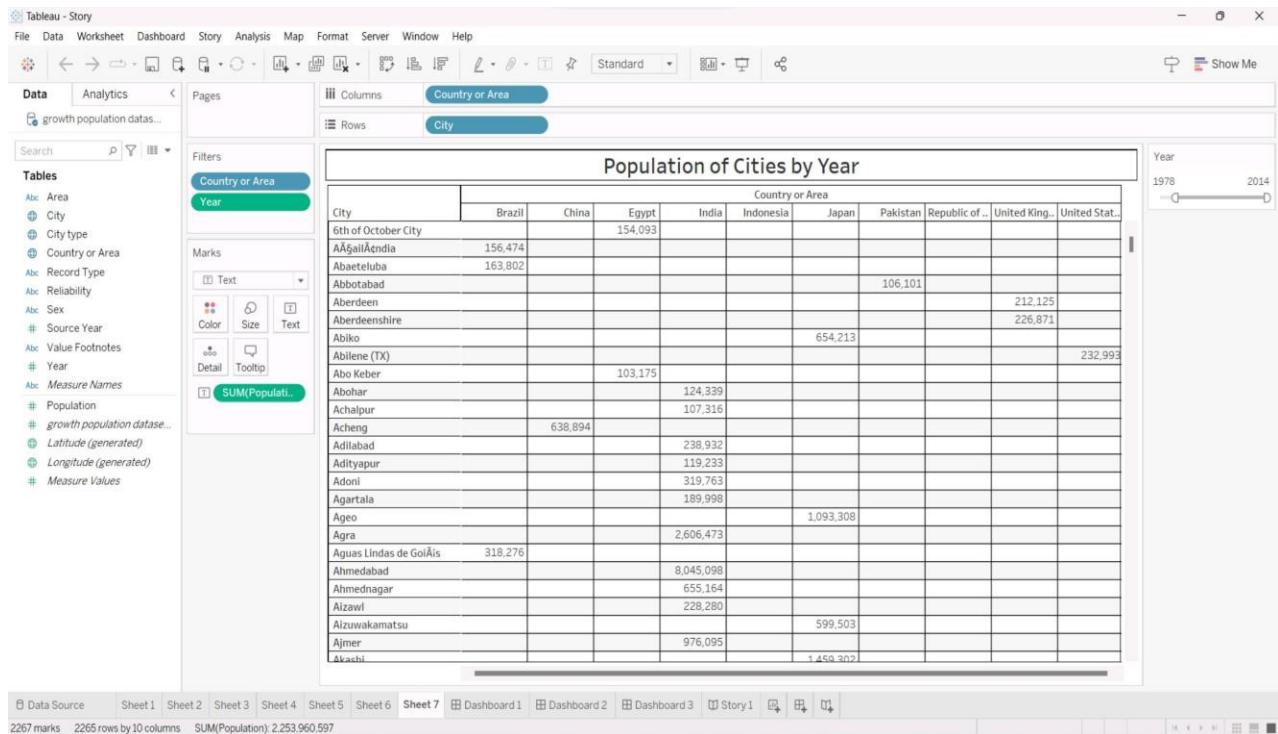
3.Result

Visualization





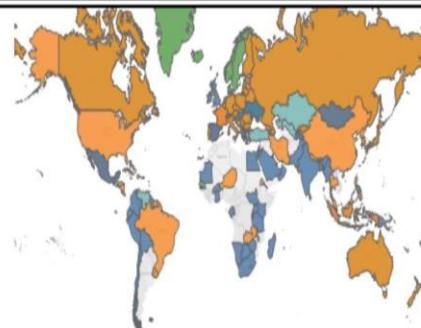




Dashboards

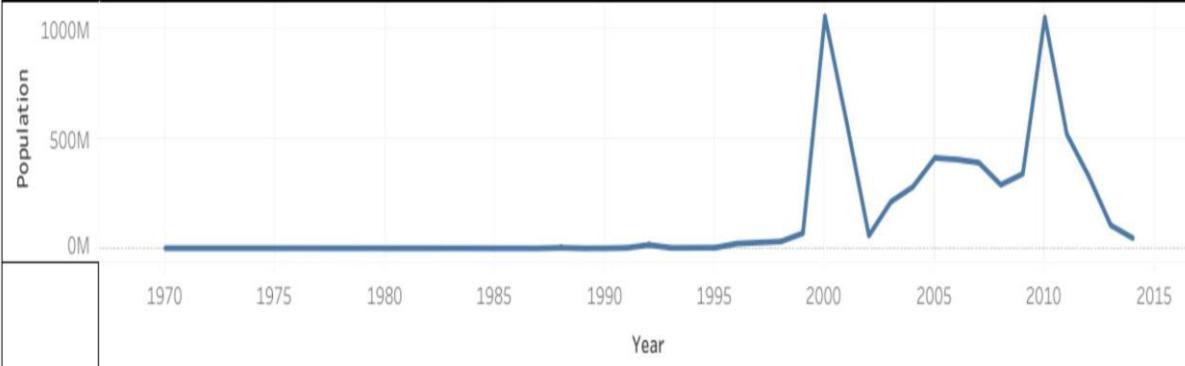
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Record Types of Countries

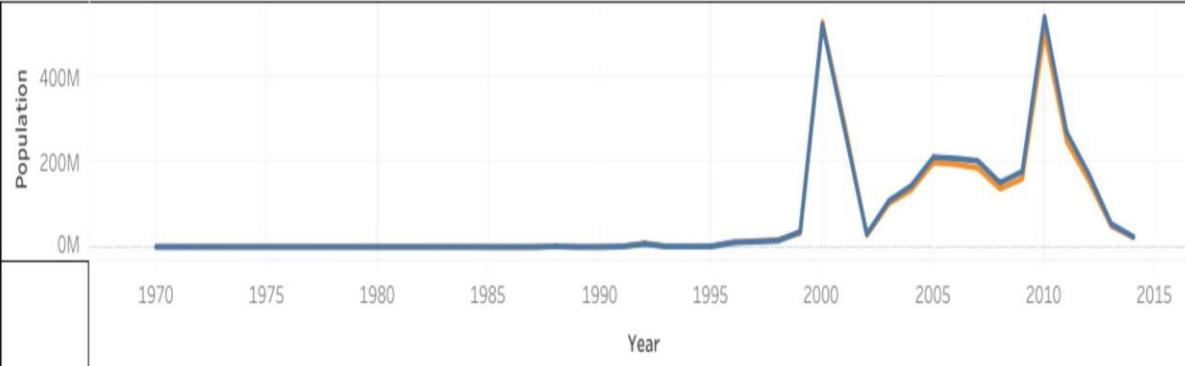


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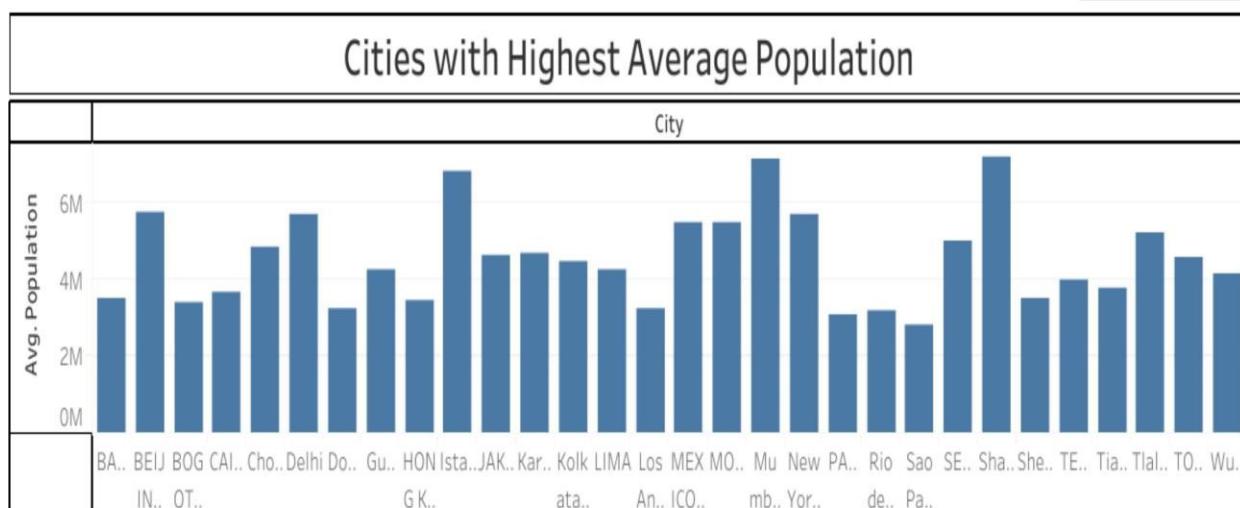
Population Trends over the Years



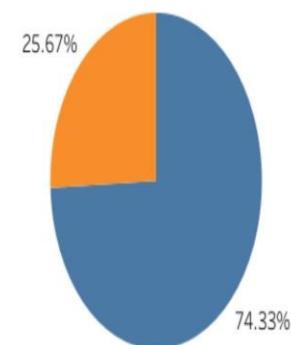
Population Trends Over the Year by Sex



Next



Population by City Type



Story

Story 1

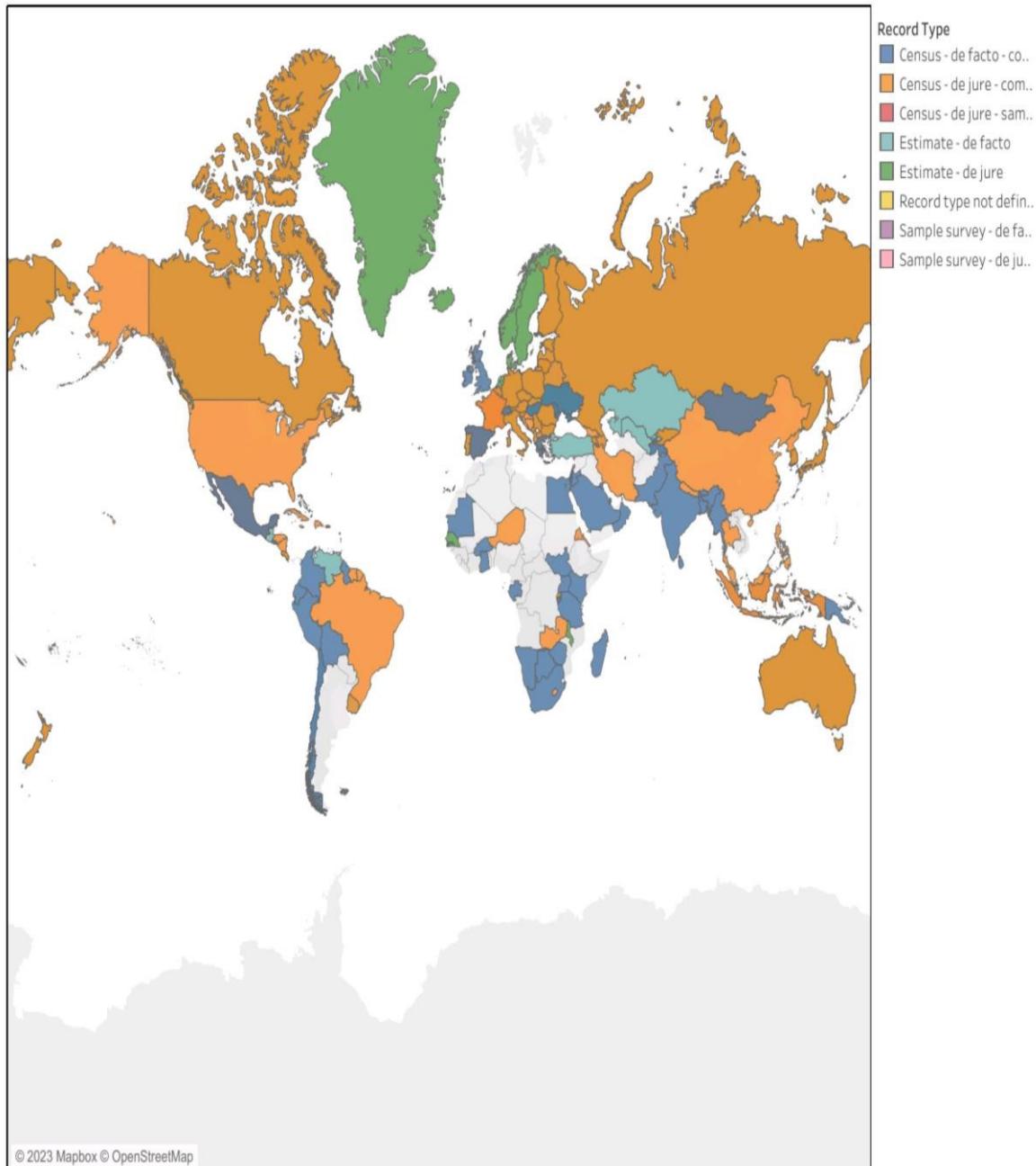
This map shows the population record of the countries

This line graph shows the population trends over the ye..

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This bar chart shows the cities with highest average populati..

This tree map shows the countries with highest averag..



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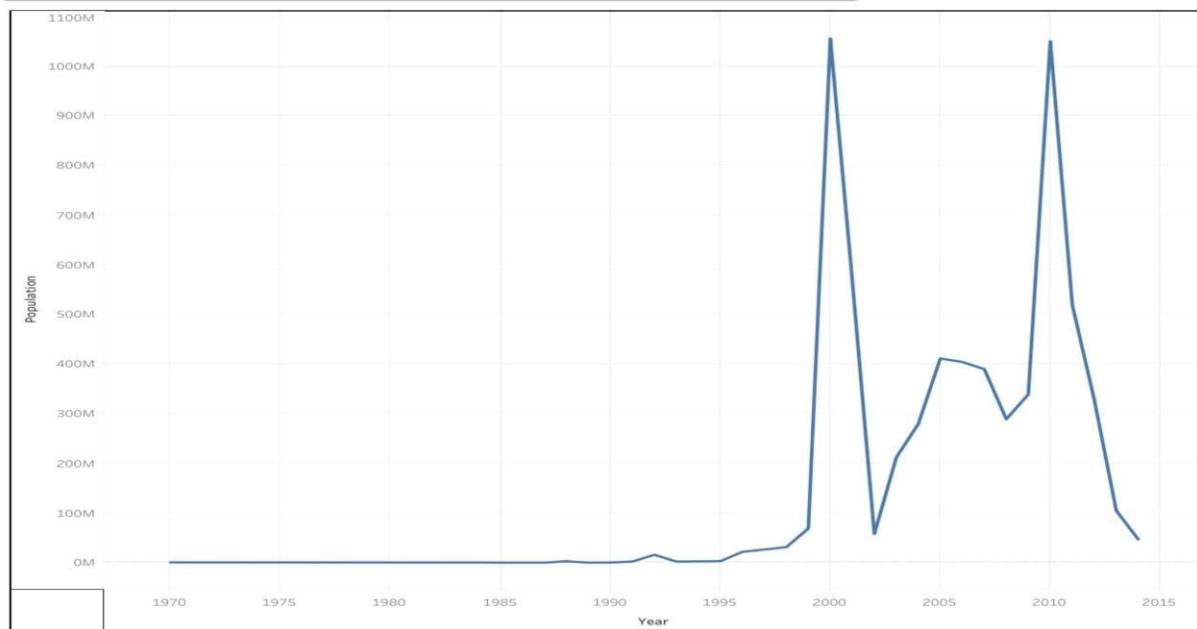
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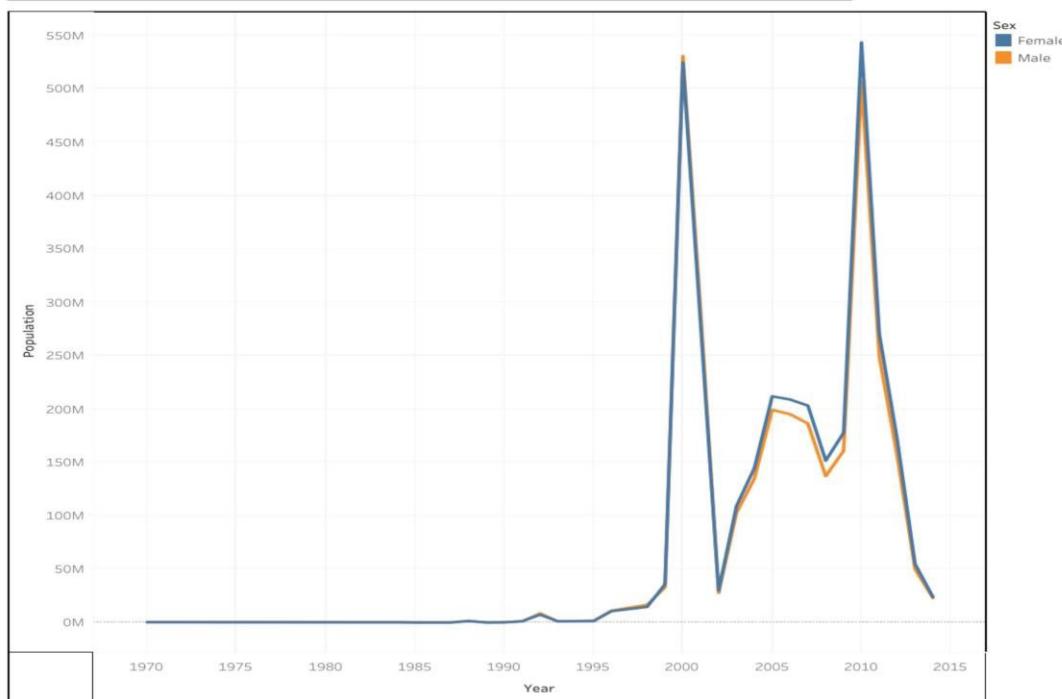
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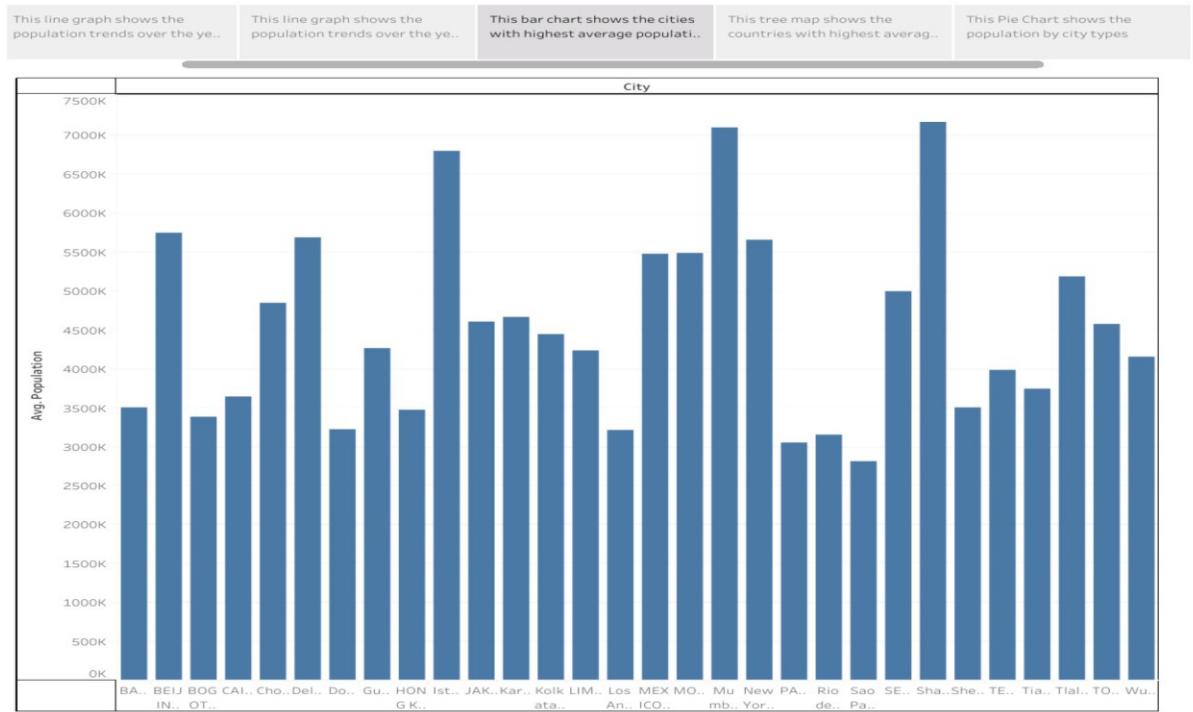
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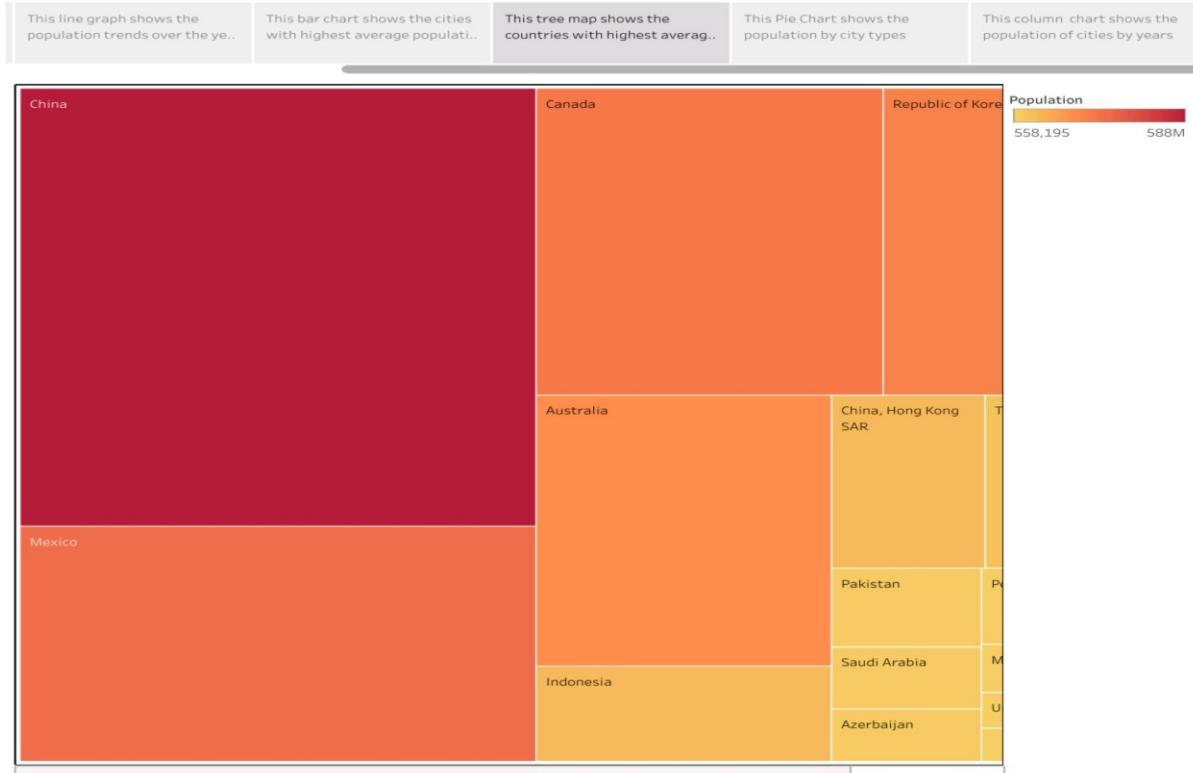
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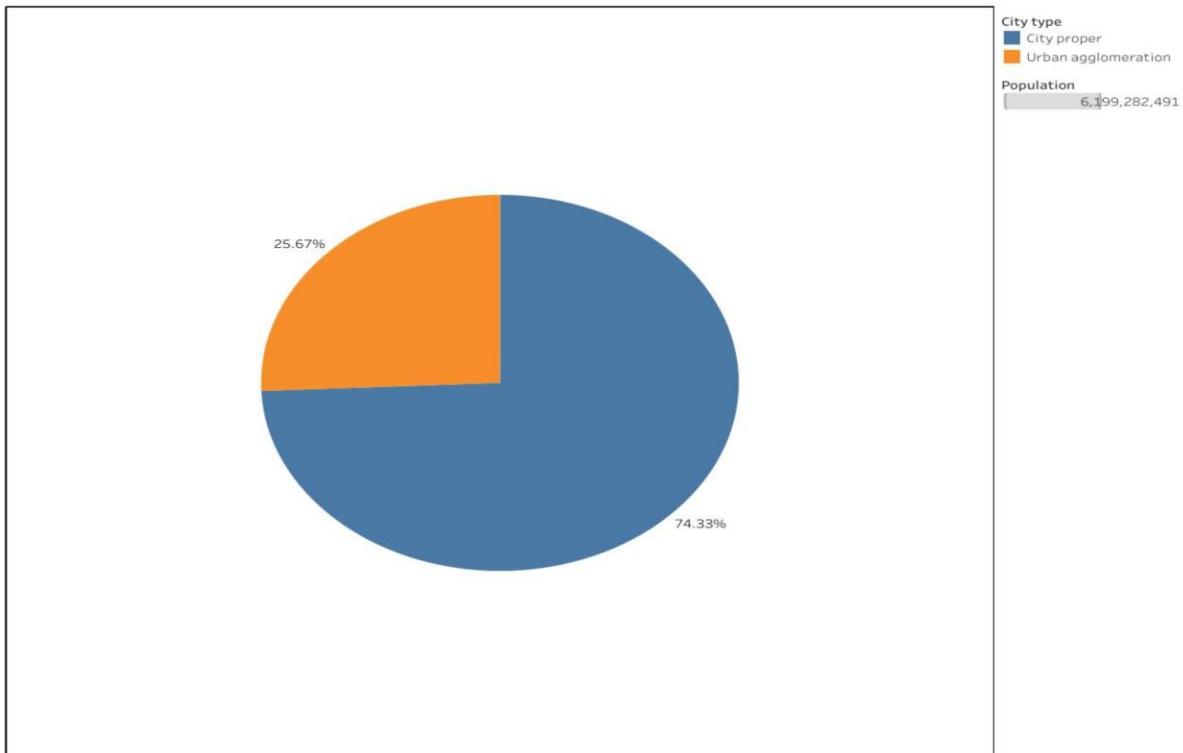
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This column chart shows the population of cities by years



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City	Brazil	China	Egypt	India	Indonesia	Japan	Pakistan	Republic of ...	United King..	Country or Area
6th of Octo..			154,093							
AÄ§ailÄnd..	156,474									
Abaeteluba	163,802									
Abbotabad							106,101			
Aberdeen									212,125	
Aberdeensh..									226,871	
Abiko						654,213				
Abilene (TX)										
Abo Keber		103,175								
Abohar			124,339							
Achalpur				107,316						
Acheng	638,894									
Adilabad			238,932							
Adityapur				119,233						
Adoni				319,763						
Agartala			189,998							
Ageo					1,093,308					
Agra				2,606,473						
Aguas Lind..	318,276									
Ahmedabad			8,045,098							
Ahmednagar				655,164						
Aizawl			228,280							
Aizuwakam..					599,503					
Ajmer			976,095							
Akashi					1,459,302					
Akeshu	561,822									
Akhmim			101,509							
Akishima					548,294					
Akita						1,610,514				
Akola			400,520							
Akron (OH)										
Al Orizah		100,482								
Alagoinhas	246,366									
Alandur			146,287							
Alappuzha				459,704						
Albuquerque..										
Aldershot							243,344			

Year
1978 to 2014

4. Advantages & Disadvantages

Advantages

Higher economic growth:

Population growth will lead to economic growth with more people able to produce more goods. It will lead to higher tax revenues which can be spent on public goods, such as health care and environmental.

Economies of scale:

Farming and industry have been able to benefit from economies of scale, which means as the population grows, food output and manufacturing output have been able to grow even faster than population growth.

The efficiency of higher population density:

When people live in densely populated areas, they are more likely to use public transport, live in apartment buildings which are easier to heat. Therefore, population growth which leads to growth in city conurbations is not as environmentally damaging as we may think.

Human resources will increase:

One obvious advantage that a large population might offer is a larger supply of human resources. In locations where unemployment is a serious problem, this will likely not lead to more jobs, but it will boost the number of individuals willing to work for less pay.

Increased productivity through specialization:

The demand for products and services will rise as the population grows, encouraging specialization. This indicates that some people concentrate on creating a single product or service. However, each person's efforts may merge into something amazing depending on their distinct abilities and talents.

Disadvantage

Increasing Resources Demand:

Demand for resources rises as the population grows. Resources,

however, are in infinite quantity, thus, this is an issue because if a large number of people utilize them. They'll run out and become scarce, resulting in poverty. Natural resources will be depleted more quickly due to increased non-renewable resource usage brought on by an increase in population.

Shortage of food due to population expansion:

More people mean more people to feed, which strains food availability. As a result. Food shortages are common in developing countries with quickly growing populations. They cannot feed their expanding population despite their efforts to raise agricultural output.

Generating Non-biodegradable waste:

We are now battling to process the non-biodegradable waste that we are producing. It usually ends up in a landfill, contributing to harmful issues like methane emissions. Increase Pollution: More people will produce more air, water, and land pollution. Numerous health problems, including asthma and cancer, are linked to higher pollution levels. The pollutants also harm animals and vegetation.

Water Shortage:

The pressure that a growing population will place on limited water resources contributes to many small and large wars as nations struggle to solve the water crisis.

Low Quality of Life:

According to Human Development Report, low quality of life is demonstrated by a lack of knowledge due to illiteracy, a lack of economic security due to the number of people without access to health care and clean water, and a high proportion of children under the age of five who are severely underweight.

5. Application:

The growth of the world's population is an issue that has been debated for decades. While some view it as a sign of progress and prosperity, others

see it as a major cause for concern, with potential negative consequences on the environment, social and economic systems. However, with careful planning and intervention, there are several areas where solutions can be applied to address the challenges posed by the growth of the population.

One area where solutions can be applied is in family planning and reproductive health. Educating people about family planning and reproductive health can help them make informed decisions about the number of children they want to have and the spacing between them. This can lead to a reduction in unplanned pregnancies and population growth. Providing access to contraception and reproductive healthcare services can also help to address this issue, as well as improve maternal and child health outcomes.

Another area where solutions can be applied is in sustainable development. This involves balancing economic, social, and environmental concerns to promote long-term growth that meets the needs of the present generation without compromising the ability of future generations to meet their own needs. By encouraging sustainable practices, such as renewable energy, green infrastructure, and sustainable agriculture, we can reduce our impact on the environment and create a more sustainable future for ourselves and future generations.

Education is another area where solutions can be applied to address population growth. Education empowers people to make informed decisions about their lives, including family planning, health, and career choices. By improving access to education, especially for girls and women, we can promote social and economic development, as well as reduce population growth.

Migration is another area where solutions can be applied to address population growth. Migration can be an effective way of reducing population pressures in areas where resources are scarce. By promoting safe and legal migration, we can reduce the risks of irregular migration and human trafficking while also ensuring that migrants are able to contribute to the economic and social development of their host communities.

6. Conclusion

The growth of the world's population is a complex issue that requires careful consideration and intervention to ensure a sustainable future for all. In

this essay, we have explored several areas where solutions can be applied to address the challenges posed by population growth.

Family planning and reproductive health education can empower people to make informed decisions about their family size and spacing, leading to a reduction in unplanned pregnancies and population growth. Additionally, access to contraception and reproductive healthcare services can improve maternal and child health outcomes.

Education is essential to address population growth, empowering individuals to make informed decisions about their lives, including family planning, health, and career choices. By improving access to education, especially for girls and women, we can promote social and economic development while reducing population growth.

Migration can be an effective way to reduce population pressures in areas where resources are scarce, and by promoting safe and legal migration, we can ensure that migrants are able to contribute to the economic and social development of their host communities.

Technology and innovation can help to increase food production, improve access to clean water and sanitation, and create new jobs and economic opportunities while reducing the impact of population growth on the environment.

In conclusion, addressing population growth requires a multi-pronged approach, with solutions applied to several areas, including family planning, sustainable development, education, migration, technology, and innovation. By taking action now, we can create a more sustainable future for ourselves and future generations, ensuring that we meet the needs of the present generation without compromising the ability of future generations to meet their own needs.

7. Future Scope

As the world's population continues to grow, it is important to consider

what enhancements can be made in the future to address the challenges posed by this growth. In this essay, we will explore several potential enhancements that can be made in the areas of family planning, sustainable development, education, migration, technology, and innovation.

In the area of family planning, new and improved contraceptive methods could be developed to increase options for individuals and couples. Additionally, access to family planning services could be improved through better infrastructure and more widespread education. This could be accomplished through government programs or public-private partnerships that increase access to reproductive health services.

Education could be enhanced by utilizing new technologies, such as artificial intelligence and virtual reality, to improve the quality of education and increase access to education for those in remote or underserved areas. Additionally, expanding educational opportunities for women and girls could help to empower them to make informed decisions about their lives, including family planning.

Migration could be enhanced by creating policies that encourage safe and legal migration while reducing the risks associated with irregular migration and human trafficking. This could involve the creation of more pathways for skilled workers to migrate legally, as well as the creation of programs that support the integration of migrants into their host communities.

In all of these areas, there is a need for increased collaboration between governments, non-governmental organizations, and the private sector. By working together, we can create comprehensive solutions that address the challenges posed by population growth.