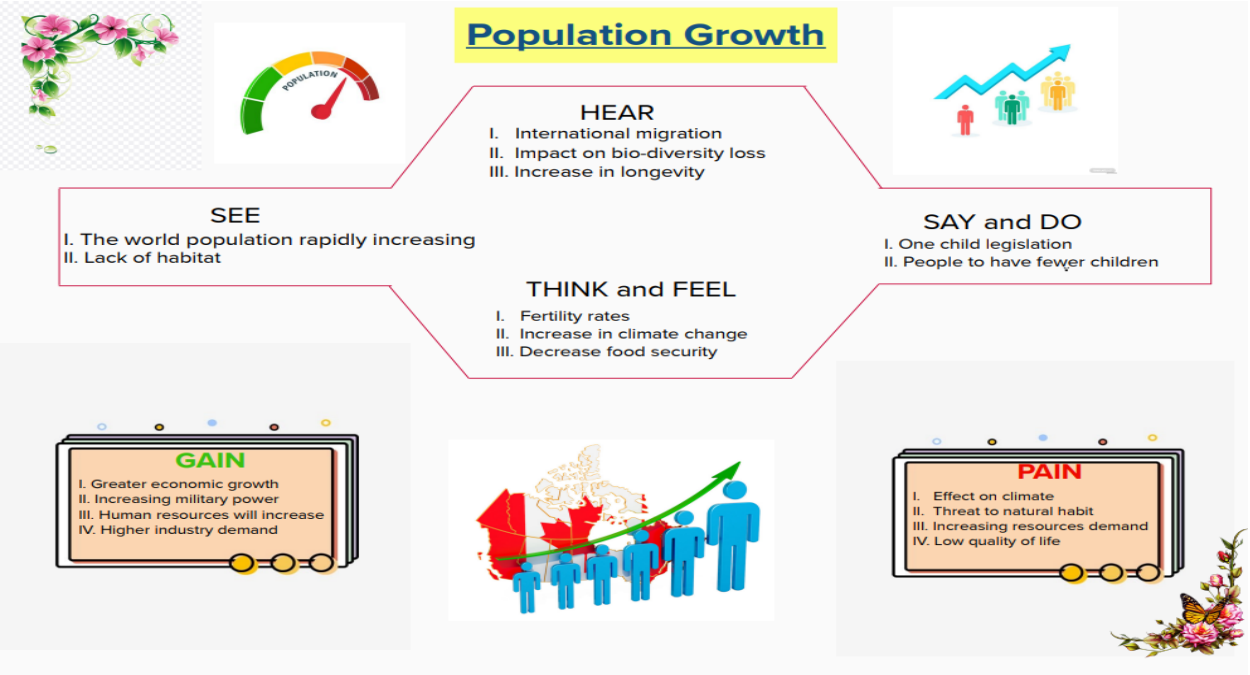
A POPULATION FORECAST ANALYSIS

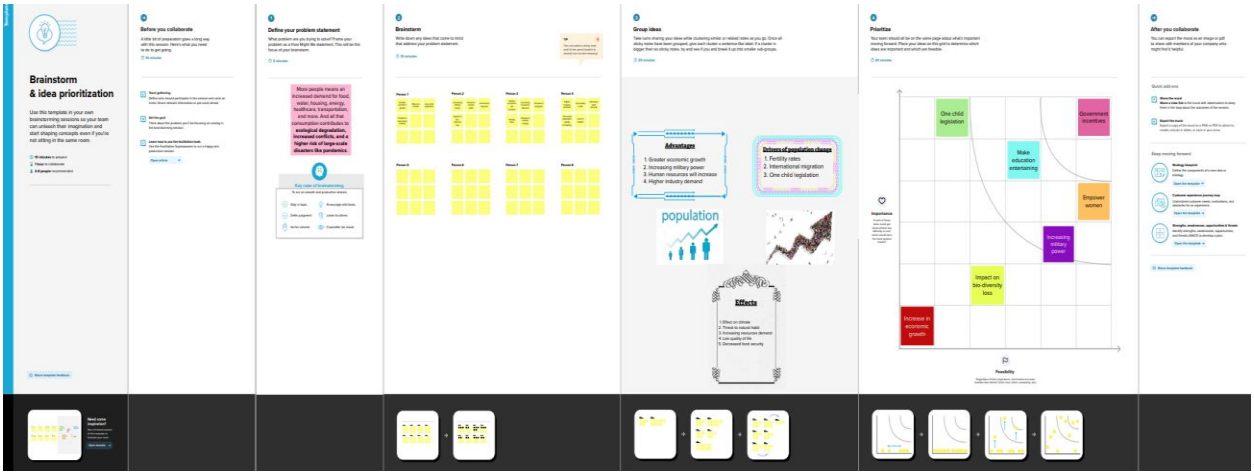
Introduction:

Population forecasting is a method to predict/forecast the future population of an area. Usually, the population at the design period of water supply systems is predicted to find the water demand at that time, as the systems are required to fulfill their purposes till the end of the design period. Methods to predict the population are discussed further.

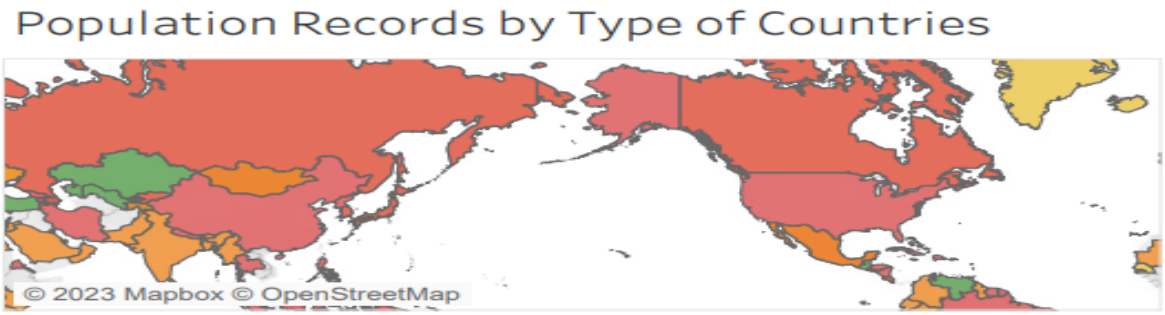
Population growth is the increase in the number of people in a population or dispersed group. Actual global human population growth amounts to around 83 million annually, or 1.1% per year. The global population has grown from 1 billion in 1800 to 7.9 billion in 2020. The UN projected population to keep growing, and estimates have put the total population at 8.6 billion by mid-2030, 9.8 billion by mid-2050 and 11.2 billion by 2100. However, some academics outside the UN have increasingly developed human population models that account for additional downward pressures on population growth; in such a scenario population would peak before 2100.

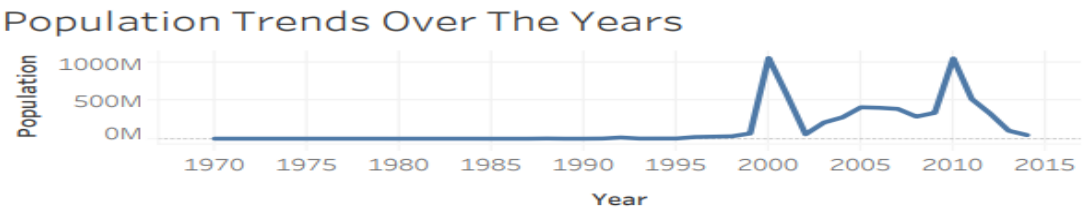
Problem Definition & Design Thinking :

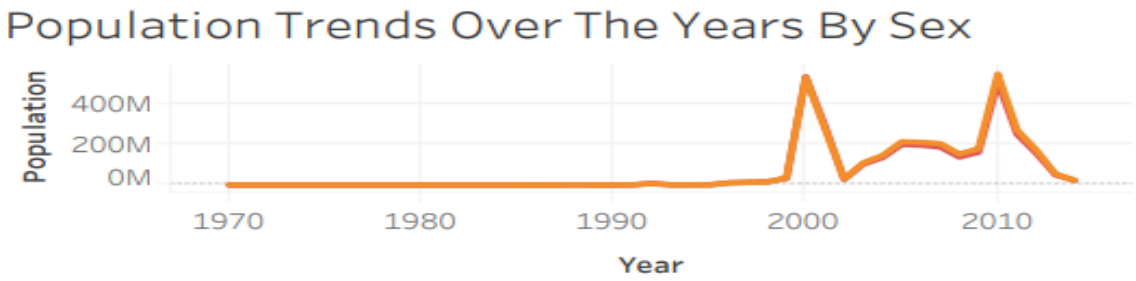


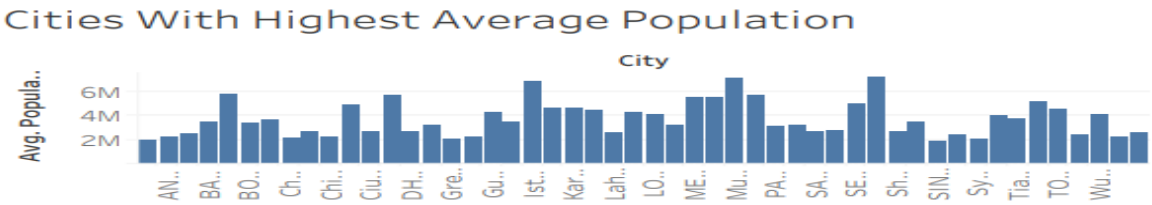

Brainstorm
& idea prioritization
Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.
Define your problem statement
Brainstorm
Group ideas
Advantages
1. Greater economic growth
2. Increasing military power
3. Human resources will increase
4. Higher industry demand
Drivers of population change
1. Fertility rates
2. International migration
3. One child legislation
population
Effects
Prioritize
One child legislation
Government incentives
Make education entertaining
Empower women
Increasing military power
Impact on bio-diversity loss
Increase in economic growth
Importance
Feasibility
After you collaborate

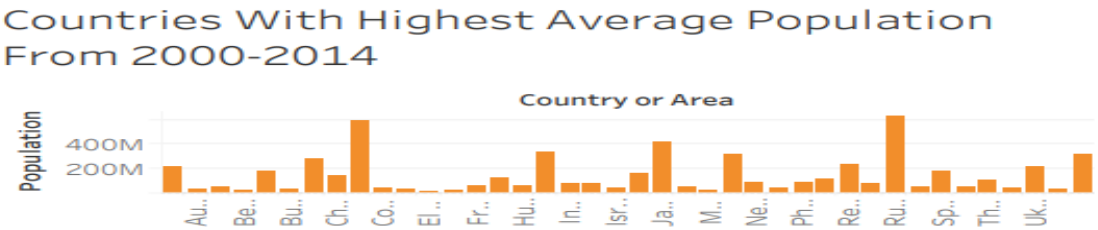
Result:


Population Records by Type of Countries
© 2023 Mapbox © OpenStreetMap


Population Trends Over The Years
Population
1000M
500M
0M
1970
1975
1980
1985
1990
1995
2000
2005
2010
2015
Year







Advantages of Population Growth:

- If the population is above the optimum size, the country will be able to make better use of its resources.
- The size of markets will increase. This should enable firms to take greater advantage of economics of scale.

- There may be an increase in factor mobility if the rise has resulted from an increase in the birth rate or immigration. Expanding industries can recruit new workers to the labour force. These people are likely to be familiar with new ideas and methods. If this is the case, the firm's training costs will be reduced.
- Extra demand will be generated. This is likely to stimulate investment and this may lead to introduction of new technology.

Disadvantages of Population Growth:

- Shortage of land for settlement and farming leading to land fragmentation.
- Shortage of social services e.g. schools and hospitals.
- High government expenditure to provide social services for the people.
- High dependency ratio since much of the population is made up of children hence reducing investments and future savings.
- High rates of unemployment because of the less available jobs.
- Unemployment leads to high rates of crime and social unrest especially among the youths.
- Exhaustion of resources due to over exploitation.
- It encourages rural-urban migration and its evils like high crime rate, unemployment and drug abuse.

Application:

Population projections are attempts to show how the human population statistics might change in the future. These projections are an important input to forecasts of the population's impact on this planet and humanity's future well-being. Models of population growth take trends in human development and apply projections into the future. These models use trend-based-

assumptions about how populations will respond to economic, social and technological forces to understand how they will affect fertility, mortality and thus population growth.

The 2019 projections from the United Nations Population Division showed that annual world population growth peaked at 2.1% in 1968, has since dropped to 1.1%, and could drop even further to 0.1% by 2100, which would be a growth rate not seen since pre-industrial revolution days. Based on this, the UN projected that the world population, 8 billion as of 2022, would level out around 2100 at 10.9 billion, assuming a continuing decrease in the global average fertility rate from 2.5 births per woman during the 2015–2020 period to 1.9 in 2095–2100, according to the medium-variant projection.

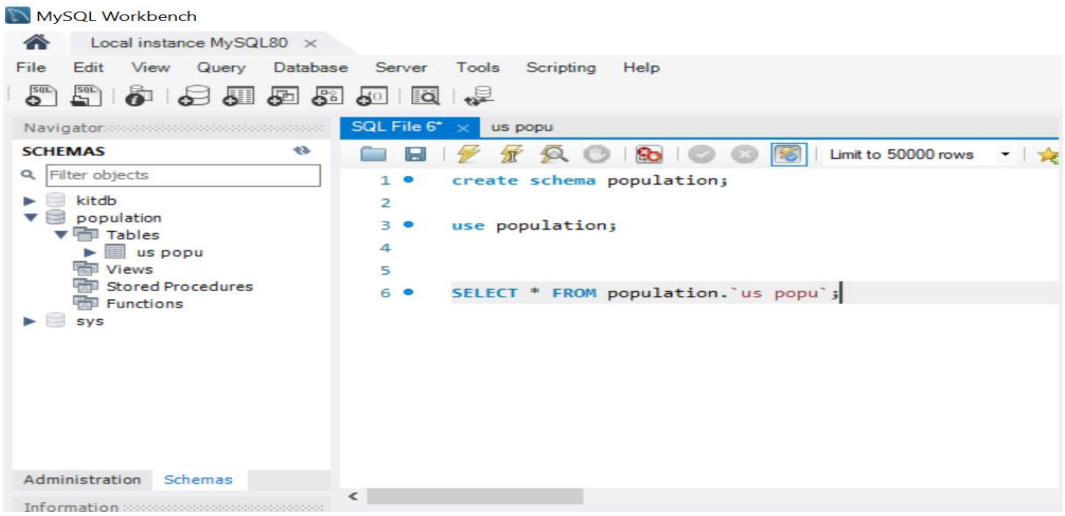
Conclusion:

Population growth rate is needed to be controlled to save the World especially in those countries with faster growth rate. It will balance the system as manpower is required for the growth of country. Over Population is always has negative impact on a country's growth but controlled pollution growth is also required for a country to achieve success in many ways. Whether resources may be limited for over populated countries but extra manpower is definitely required for generating extra resources and making new inventions. To make a country developed and powerful every citizen of that country need to take step on his own end apart from blaming on others. Over population may be the biggest cause for the destruction of a nation. We must find out effective solutions to the problem in order to achieve success as a Nation. To live a better life every family need to have proper family planning in manner to provide their kids complete nutritious food, proper shelter, best education and other important resources. A country

can only get success when its citizens are healthy and live a happy and content life. Thus controlled population is the key to the success for every Country in the World.

Appendix:

a. Mysql command



b. **Dashboard command**

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<param name='display_spinner' value='yes' />

<param name='display_overlay' value='yes' />

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<param name='language' value='en-US' /></object>

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var vizElement = divElement.getElementsByTagName('object')[0];

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else if (divElement.offsetWidth > 500) {
vizElement.style.width='1000px';vizElement.style.height='827px';} else {
vizElement.style.width='100%';vizElement.style.height='1177px';}

var scriptElement = document.createElement('script');

scriptElement.src = 'https://public.tableau.com/javascripts/api/viz_v1.js';
vizElement.parentNode.insertBefore(scriptElement, vizElement);

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c. Story command

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var scriptElement = document.createElement('script');

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</script>