

Project report
Team 5
Physics department
AACW

TRACING THE GROWTH OF GLOBAL COMMUNITY: A POPULATION FORECASTING ANALYSIS

- **Introduction:**

- ❖ **Overview:**

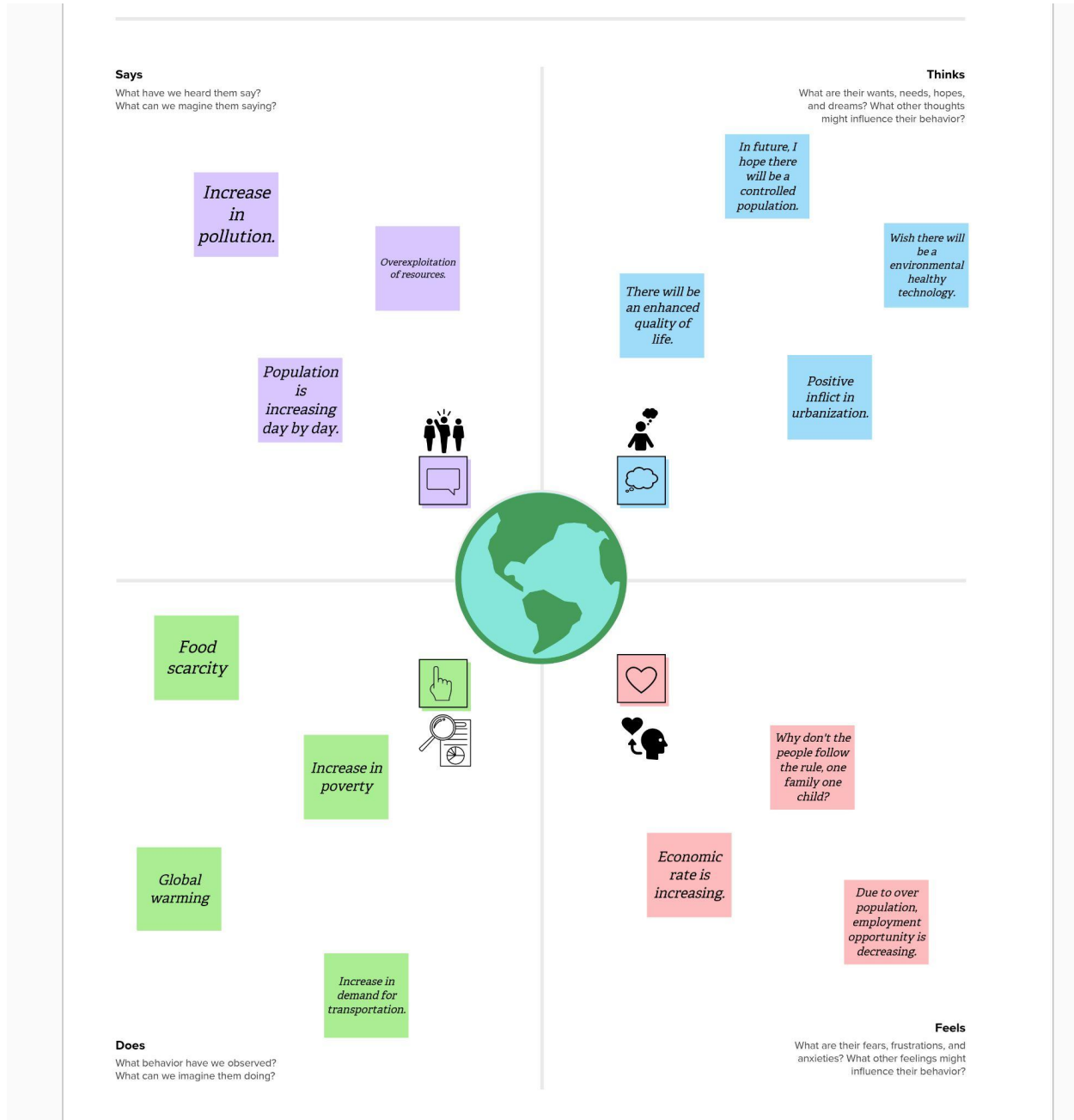
A dramatic growth of population has been occurring through the years. Population surviving to reproductive age, increasing urbanization and change in fertility rate have led to this growth. These trends will have far reaching implications for generations to come. We took this data and edited it in visualized form.

- ❖ **Purpose:**

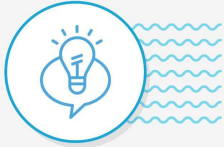
This project is used to keep a track of the increasing population from the early twentieth century till 2015 and can be used for future purposes. Using the data given in the project, the male and female population over these years can be easily differentiated, and the average population of each city can be observed.

● Problem definition and design thinking:

★ Empathy map:



★ Ideation and brainstorming map:



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.

🕒 10 minutes to prepare

🕒 1 hour to collaborate

👤 2-8 people recommended

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



2

Brainstorm

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

🕒 10 minutes

Avandhika.K

Mechanization of agriculture enabled societies.

Animal domestication, provided for few to feed many.

Family size tend to decrease as women enter the labour forces.

Improvements in medical care helped people to live longer.

The costs of raising children also increased.

Environmental investment can improve public health.

Kavya.D

Developing vaccines and biotics.

Promoting nutrition by providing milk, breads and cereals with vitamins.

Researching causes and means of transmission of infectious diseases.

Improving the quality of water supply.

Forming public health boards to detect illness.

Improving waste removal.

Jayashree.S

Rapid population growth worsens the impacts of climate.

Risks in low resource regions.

Affects the environmental determinants of health.

Population growth, along with increase in consumption.

Human mortality is relatively high.

Rising food and energy prices.

Karpagaradhi.S

Observation of the population size.

Accurate map of age structure.

A graph of the food production.

Expanded work forces can help nations increase their economic output.

Fertility levels are lower in developed countries.

Women empowerment has increased.

Group ideas

Take turns sharing your ideas while clustering similar or related notes as you go. Once all sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you can break it up into smaller sub-groups.

🕒 20 minutes

Resources:

- Animal domestication, provided for few to feed many.
- Mechanization of agriculture enabled societies.
- Promoting nutrition by providing milk, breads and cereals with vitamins.
- Rapid population growth worsens the impacts of climate.
- Rising food and energy prices.
- Improving the quality of water supply.

Observation:

- Accurate map of age structure.
- Observation of the population size.
- A graph of the food production.

Medical:

- Forming public health boards to detect illness.
- Developing vaccines and biotics.
- Researching causes and means of transmission of infectious diseases.
- Improvements in medical care helped people to live longer.

Regions:

- Risks in low resource regions.
- Affects the environmental determinants of health.
- Human mortality is relatively high.
- Improving waste removal.
- Population growth, along with increase in consumption.

Women empowerment:

- Family size tend to decrease as women enter the labour forces.
- Women empowerment has increased.
- Fertility levels are lower in developed countries.

Economic:

- Environmental investment can improve public health.
- Expanded work forces can help nations increase their economic output.

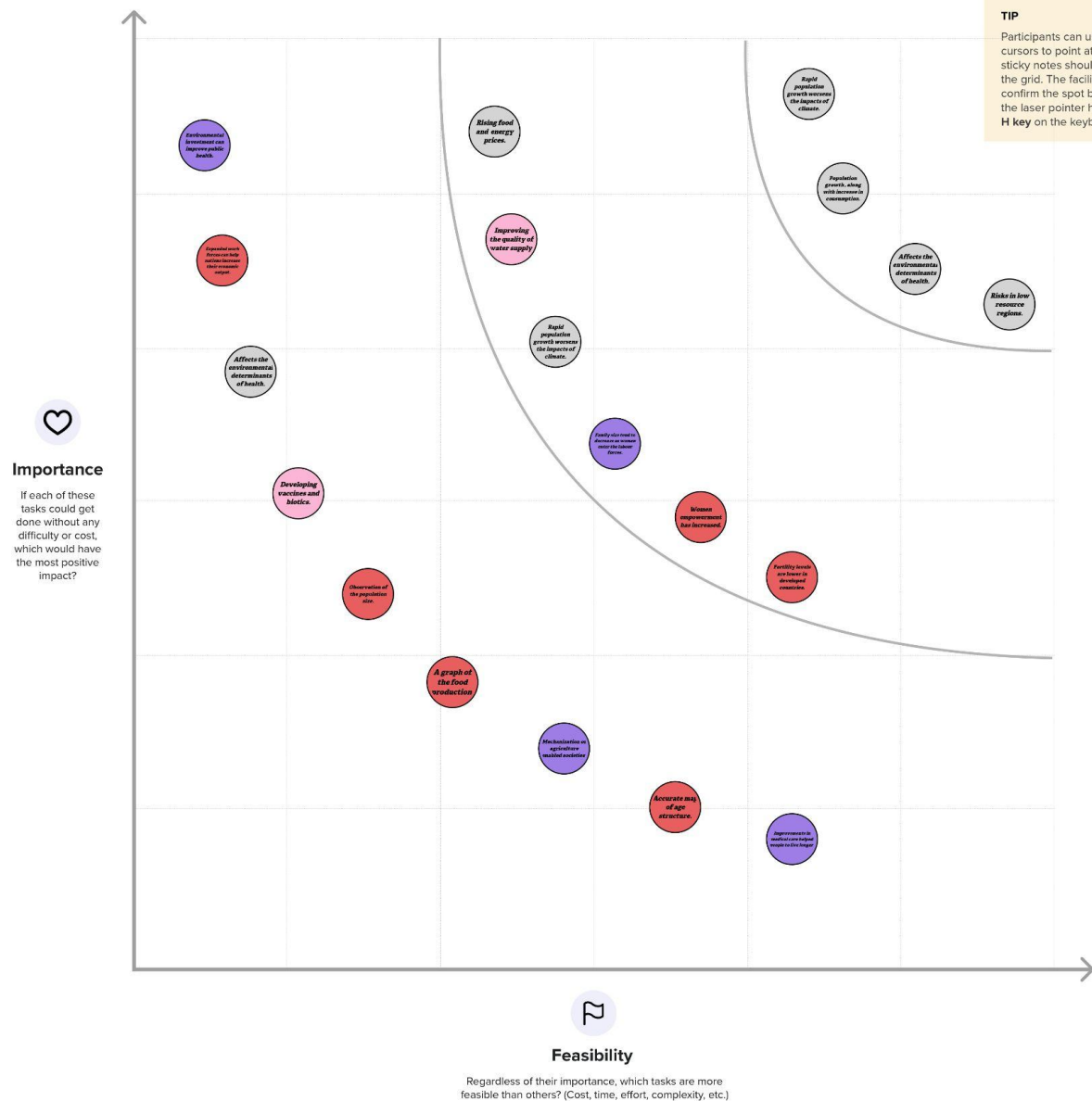
TIP

Add customizable notes to make it browse, organize, categorize important themes within your

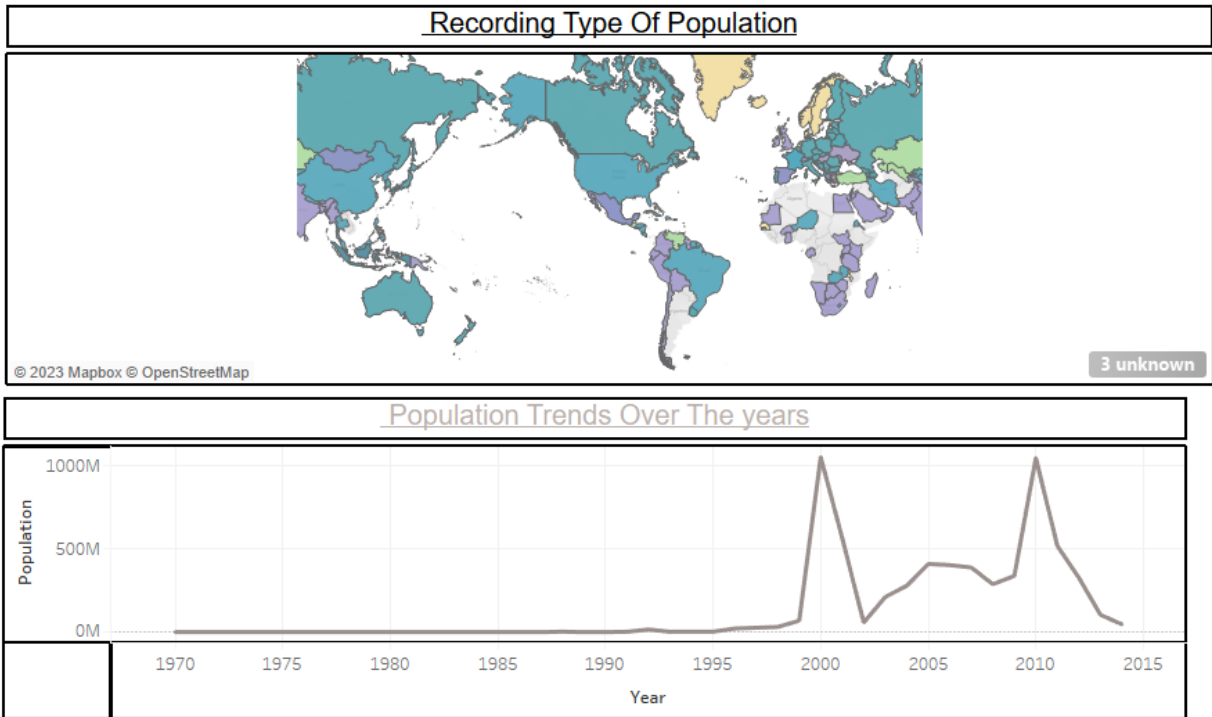
Prioritize

 20 minutes

Participants can use their cursors to point at where sticky notes should go on the grid. The facilitator can confirm the spot by using the laser pointer holding the **H key** on the keyboard.



Result:



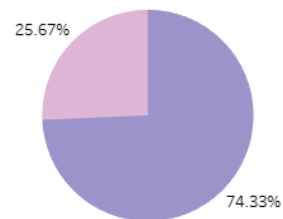
D2

The chart displays the population of the United States from 1970 to 2015, categorized by sex. The Y-axis represents the population in millions (M), ranging from 0M to 400M. The X-axis represents the year, from 1970 to 2015. The Female population is shown in light blue, and the Male population is shown in dark blue. Both populations show a steady increase over time, with a significant peak around 2000 and another peak around 2010. The Female population is consistently higher than the Male population throughout the period.

| Year | Female (M) | Male (M) |
|------|------------|----------|
| 1970 | 180 | 170 |
| 1975 | 185 | 175 |
| 1980 | 190 | 180 |
| 1985 | 195 | 185 |
| 1990 | 200 | 190 |
| 1995 | 205 | 195 |
| 2000 | 450 | 440 |
| 2005 | 200 | 195 |
| 2010 | 450 | 440 |
| 2015 | 200 | 195 |

| City | Avg. Population (M) |
|---------------|---------------------|
| BANGKOK | 3.5 |
| BEIJING .. | 5.8 |
| BOGOTA.. | 3.5 |
| CAIRO | 3.8 |
| Chongq... | 4.8 |
| Delhi | 5.8 |
| Dongguan | 3.3 |
| Guangzh... | 4.3 |
| HONG K... | 3.5 |
| Istanbul | 6.8 |
| JAKARTA | 4.6 |
| Karachi | 4.6 |
| Kolkata (...) | 4.5 |
| LIMA | 4.2 |
| Los Ange... | 3.3 |
| MEXICO... | 5.5 |
| MOSKVA | 5.5 |
| Mumbai .. | 7.0 |
| New Yor... | 5.7 |
| PARIS | 3.1 |
| Rio de Ja... | 3.2 |
| Sao Paulo | 2.8 |
| SEOUL | 5.0 |
| Shanghai | 7.2 |
| Shenzhen | 3.6 |
| TEHRAN | 4.0 |
| Tianjin | 3.8 |
| Tlalapa... | 5.3 |
| TOKYO | 4.6 |
| Wuhan | 4.1 |

Countries By Highest Average Population 2000-2014

[illegible]

- **Advantages:**

- ★ Greater economic expansion.
- ★ Increased productivity through specialization.
- ★ More scope for innovation and inventions.

- **Disadvantages:**

- ★ Decrease employment opportunities.
- ★ Increase in pollution
- ★ Increase in poverty
- ★ Increase in environmental damage
- ★ Shortage in resources

- **Applications:**

- ★ The data are used for predicting, managing, and monitoring the rise and fall of population.

- **Conclusions:**

From the project, we have got a clear knowledge about the population trends over the years by gender, cities and countries which have the highest population. We can also infer from the data that the population has increased over the years. If the population continues to grow at this rate then the economy of the overpopulated countries will be unable to cope up with growth of the population. So all governments should take steps to

balance the country's economy, basic needs of people and employment opportunities with the increasing populations.