

TRACING THE GROWTH OF THE GLOBAL COMMUNITY:
A POPULATION FORECASTING ANALYSIS

TEAM LEADER:

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1. Introduction :

1.1 Overview

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 n in the mid- 2080s.

1.2 Purpose

Population forecasting is very important to know the growth rate and to estimate future population of particular area. Agricultural resources development, water demand and urban facilities (infrastructures) are managed based on Population projection.

2.Problem Definition and Design Thinking :

The screenshot shows a Mural workspace titled "Untitled mural". The main canvas is titled "Build empathy" and contains an "Empathy map" diagram. The diagram is a flowchart with various sticky notes. The left sidebar has a vertical toolbar with icons for drawing and erasing. The top navigation bar includes the Mural logo, the title "Untitled mural", and a "Share" button. The bottom status bar shows the time as 15:01 and the date as 22-04-2023.

Empathy map

Use this framework to develop a deep, shared understanding and empathy for other people. An empathy map helps describe the aspects of a user's experience, needs, and pain points, to quickly understand your users' experience and mindset.

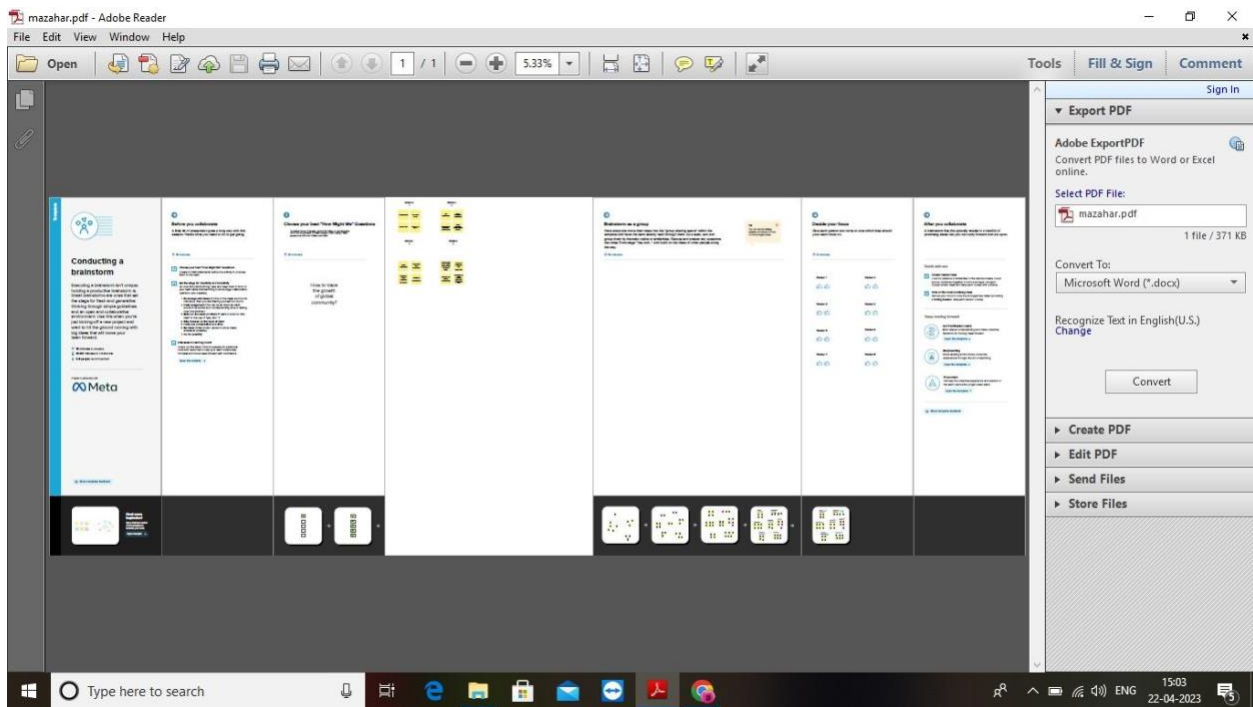
Build empathy

The intention of this framework is to help you understand your users' experience and mindset. It is a framework to help you understand your users' experience and mindset.

Diagram Content:

- What they think:**
 - There's a lot of things that are going on in the world.
 - The idea is to be able to see the world from their perspective.
 - It's a lot of things that are going on in the world.
- What they feel:**
 - It's a lot of things that are going on in the world.
 - It's a lot of things that are going on in the world.
 - It's a lot of things that are going on in the world.
- What they say:**
 - It's a lot of things that are going on in the world.
 - It's a lot of things that are going on in the world.
 - It's a lot of things that are going on in the world.
- What they do:**
 - It's a lot of things that are going on in the world.
 - It's a lot of things that are going on in the world.
 - It's a lot of things that are going on in the world.

2.2 Ideation and Brainstorming Map

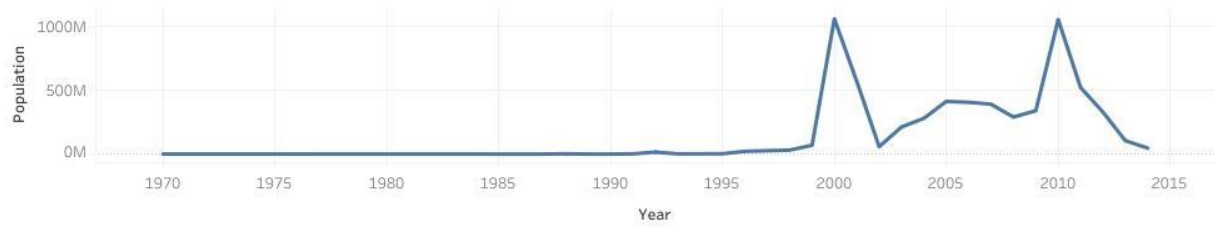


3Result:
3.1 Dashboard

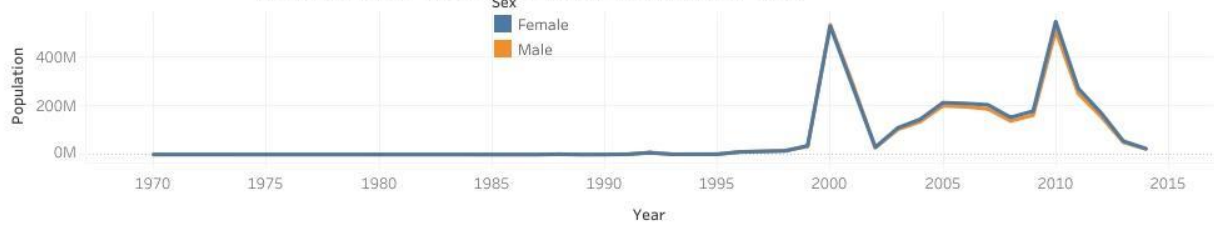
RECORD TYPES OF COUNTRIES

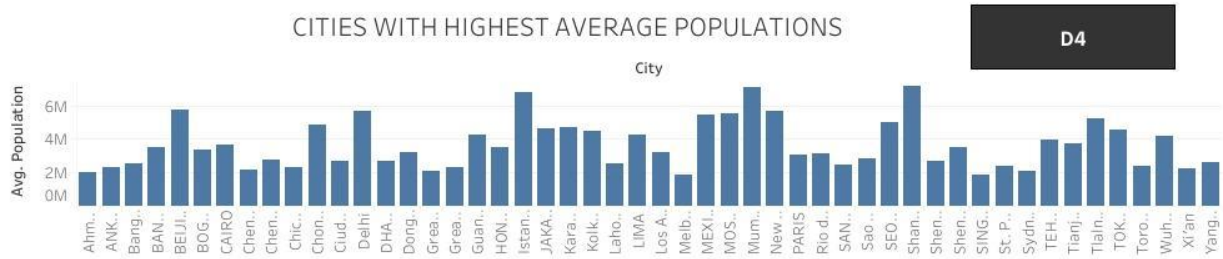


POPULATION TRENDS OVER THE YEARS

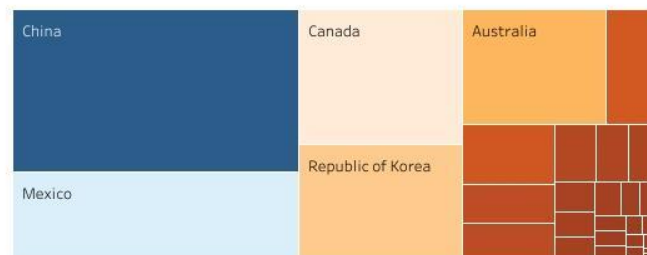


POPULATION TRENDS OVER THE YEAR BY SEX





COUNTRIES BY HIGHEST AVG POPULATION FROM 2000-2014



POPULATION BY CITY TYPE

D5



City type
City proper
Urban agglomeration

Sheet 12

Country or Area	
City	
Åland Islan...	
Albania	
American S...	
Andorra	
Armenia	
Aruba	
Australia	
Austria	
Azerbaijan	
Bahamas	
Bahrain	
Bar	
6th of Octo..	
A CoruÃ±a	
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3.2 Story

Tableau - story [from LOCALHOST] - Tableau license expires in 13 days

File Data Worksheet Dashboard Story Analysis Format Server Window Help

Home Back Forward Refresh Add New Point Remove Point Duplicate Point

Story Layout

New story point

Blank Duplicate

Sheet 6
Sheet 7
Sheet 8
Sheet 9
Sheet 10
Sheet 11
Sheet 12
Dashboard 3
Dashboard 4
Dashboard 5

Drag to add text

Show title

Size
Story (1016 x 964)

Story 4

THIS IS A GEOGRAPHIC MAP. IT SHOWS ALL THE COUNTRIES ACCORDING TO THAT POPULATIONS RECORD TYPES.

THE LINE GRAPH SHOWS THE POPULATION TRENDS OVER HE YEARS.

THIS LINE GRAPH COMPARES THE TREND OF FE OF MALE.

Record Type

- Census - de facto - co.
- Census - de jure - co.
- Census - de jure - sa.
- Estimate - de facto
- Estimate - de jure
- Record type not defi.
- Sample survey - de f.
- Sample survey - de ju.

Data Source Sheet 6 Sheet 7 Sheet 8 Sheet 9 Sheet 10 Sheet 11 Sheet 12 Dashboard 3 Dashboard 4 Dashboard 5 Story 4

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Story Layout

Story 4

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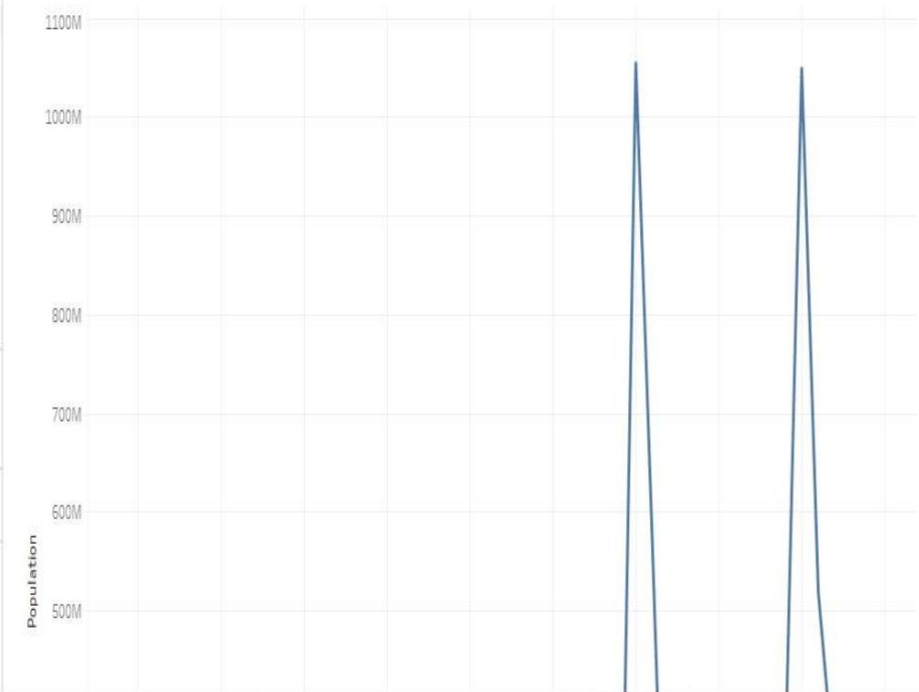
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Story

Layout

Story 4

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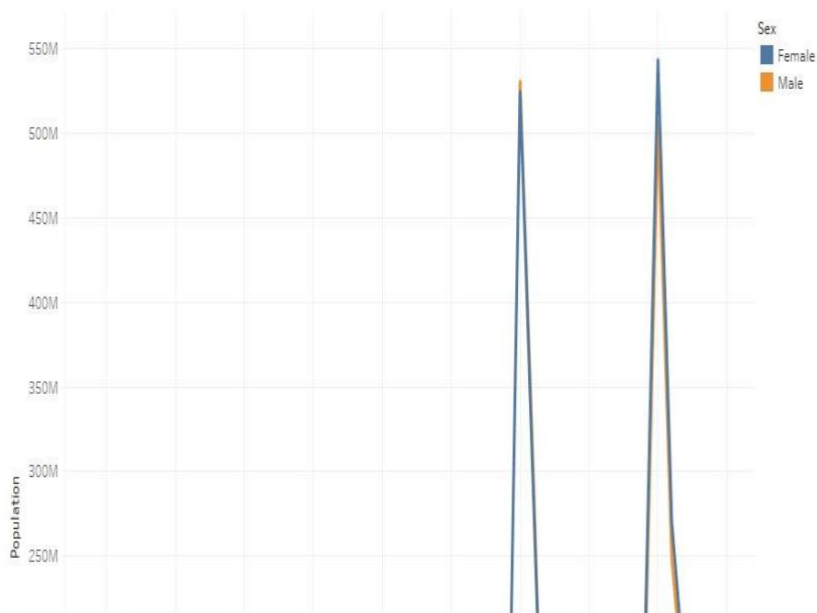
Story (1016 x 964)

GRAPHIC MAP. IT SHOWS ALL THE CORDING TO THAT POPULATIONS

THE LINE GRAPH SHOWS THE POPUATION TRENDS OVER HE YEARS.

THIS LINE GRAPH COMPARES THE TREND OF FEMALE OF MALE.

THIS C POPUL



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Story

Layout

Story 4

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THIS SHOWS THE POPULATION TRENDS
THIS LINE GRAPH COMPARES THE TREND OF FEMALE
THIS COLUMN CHART SHOWS THE AVERAGE
POPULATION OF THE CITIES.

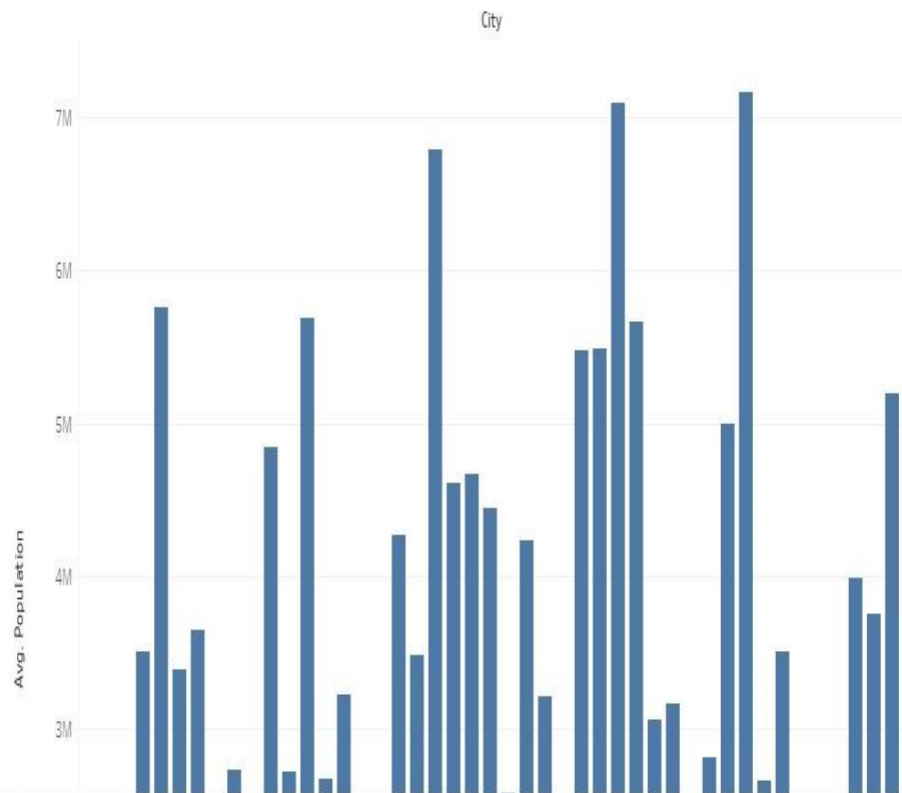
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Story (1016 x 964)





Story Layout

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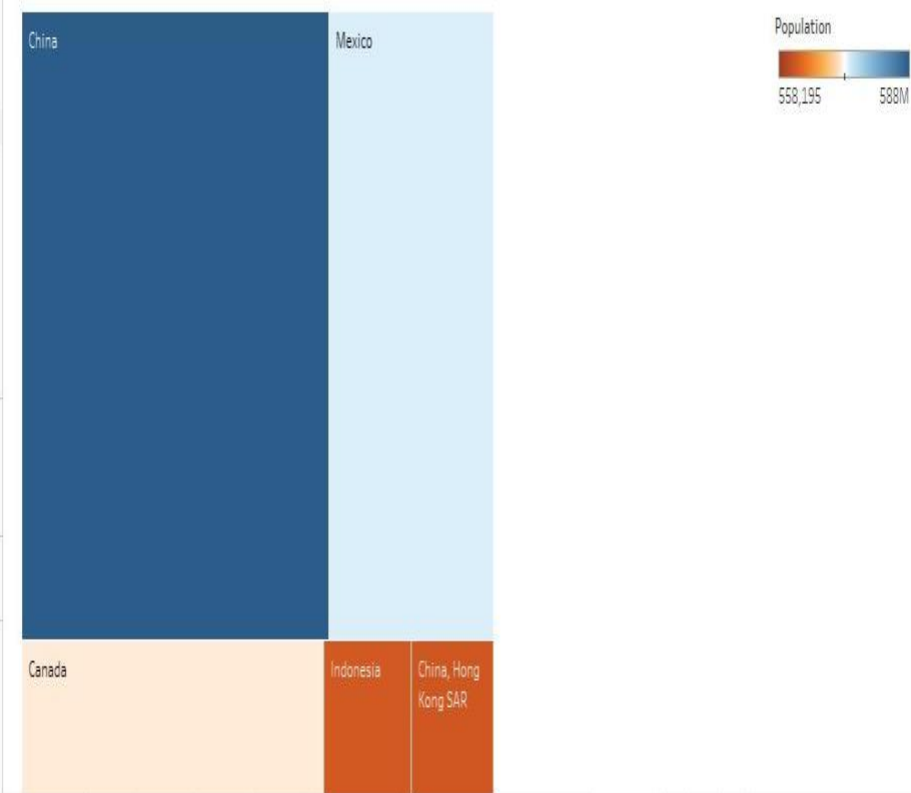
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Size

Story (1016 x 964)

Story 4

PH COMPARES THE TREND OF FEMALE
THIS COLUMN CHART SHOWS THE AVERAGE
POPULATION OF THE CITIES.
THIS TREE MAP SHOWS HIGHEST AVERAGE
POPULATION OF ALL COUNTRIES.
THIS P
MOST



Data Source Sheet 6 Sheet 7 Sheet 8 Sheet 9 Sheet 10 Sheet 11 Sheet 12 Dashboard 3 Dashboard 4 Dashboard 5 Story 4

30 marks 1 row by 1 column SUM(Population): 2,035,664,674



Story Layout

Story 4

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Size

Story (1016 x 964)

CHART SHOWS THE AVERAGE IF THE CITIES. THIS TREE MAP SHOWS HIGHEST AVERAGE POPULATION OF ALL COUNTRIES. THIS PIE CHART DEMONSTRATES WHERE DOES THE MOST OF CITY TYPE. THIS D COUNT

City type

City proper

Urban agglomeration

Population

6,189,282,491

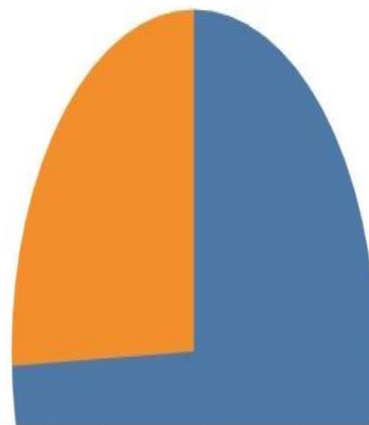


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Sheet 10
Sheet 11
Sheet 12
Dashboard 3
Dashboard 4
Dashboard 5

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Show title

Size

Story (1016 x 964)

Story 4

REE MAP SHOWS HIGHEST AVERAGE LATION OF ALL COUNTRIES.

THIS PIE CHART DEMONSTRATES WHERE DOES THE MOST OF CITY TYPE.

THIS DATA COLLECTION SHOWS THE POPULATION OF COUNTRY.

City	Åland Islan...	Albania	American S...	Andorra	Armenia	Aruba	Australia	Austria	Azerbaijan	Population
Alwar										555
Amadora										99,905,812
Amagasaki										
Amarillo (TX)										
Ambala										
Ambala Sad...										
Ambarnath										
Ambato										
Ambattur										
Ambon										
Americana										
Amersfoort										
Amiens										
AMMAN										
Amnat Char...										
Amol										
Ampang										
Ampang/UI...										
Amravati										
Amritsar										

Data Source Sheet 6 Sheet 7 Sheet 8 Sheet 9 Sheet 10 Sheet 11 Sheet 12 Dashboard 3 Dashboard 4 Dashboard 5 Story 4

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4: Advantages and Disadvantages:

4.1 Advantages

The primary advantage of forecasting is that it provides the business with valuable information that the business can use to make decisions about the future of the organization. In many cases forecasting uses qualitative data that depends on the judgment of experts.

4.2 Disadvantages

The disadvantages pertaining to forecasting include the following: Forecasts are Never

Completely Accurate – Forecasts are never 100% and it is almost impossible to predict the future with certainty. Even if you have a great process in place and forecasting experts on your payroll, your forecasts will never be spot on.

5: Application

In this study, different machine learning algorithms were used to forecast population; extreme gradient boosting, CatBoost, linear regression, ridge regression, Holt-Winters, exponential, autoregressive integrated moving average (ARIMA) and prophet prediction model. Models were trained using 1595 different demographic indicators of 262 different countries between 1960 and 2017. When the performance of algorithms was compared, the extreme gradient boosting model was the most successful among all models. Besides, the total population of Turkey in 2017 estimated by pre-trained machine learning algorithms were compared with the result predicted by Cohort component method. Results showed that machine learning algorithms performed better than the demographic model.

...Population Forecasting

The various mathematical methods available are generally classified in two categories: Short term methods and Long term methods

Short term methods (1-10 years)

Arithmetic progression

1.3 Geometric progression

Incremental increase method

1.4 Decreasing rate of growth Simple graphical method

Long term methods (10-50 years)

Comparative graphical method

Ratio method

Logistic curve method

6. Conclusion:

We have examined a diverse set of mechanisms through which population growth affects economic development. This chapter opens with a review and synthesis of our conclusions on the expected effects of a decline in the population growth rate that works through these mechanisms. It then proceeds to a discussion of how environmental and institutional contexts mediate the actions of these mechanisms—a major theme of this report. The final section discusses policy implications.

EFFECTS OF SLOWER POPULATION GROWTH ON ECONOMIC DEVELOPMENT

Following the framework set up in the Introduction, we consider how conditions are likely to differ if a country, through a government program, were to achieve and maintain lower fertility than it would otherwise have experienced (with constant mortality). As noted above, such a decline would produce at every subsequent point slower population growth, smaller population size, lower population density,

and an older age structure. Working through these direct demographic effects, a reduced level of fertility is also likely to produce several other changes.

Slower Population Growth and Exhaustible Resources

Globally slower population growth may delay the time at which a particular stage of depletion of an exhaustible resource is reached.

7. Features Scope:

The current population of India in 2023 is, 1,428,627,663, a 0.81% increase from 2022. The population of India in 2022 was 1,417,173,173, a 0.68% increase from 2021. The population of India in 2021 was 1,407,563,842, a 0.8% increase from 2020.

United Nations projections:

The UN Population Division report of 2022 projects world population to continue growing after 2050, although at a steadily decreasing rate, to peak at 10.4 billion in 2086, and then to start a slow decline to about 10.3 billion in 2100 with a growth rate at that time of -0.1%.

Under the UN's "medium variant" projection, a middle-of-the-road estimate, India's population will surpass 1.5 billion people by the end of this decade and will continue to slowly increase until 2064, when it will peak at 1.7 billion people.