



POPULATION GROWTH

B.A. (Geography)

Sem 2 Paper 1 Unit 3

Ms. Anupama Rebecca Anthony

Assistant Professor

Department of Geography

Isabella Thoburn College

Lucknow



12/04/2020

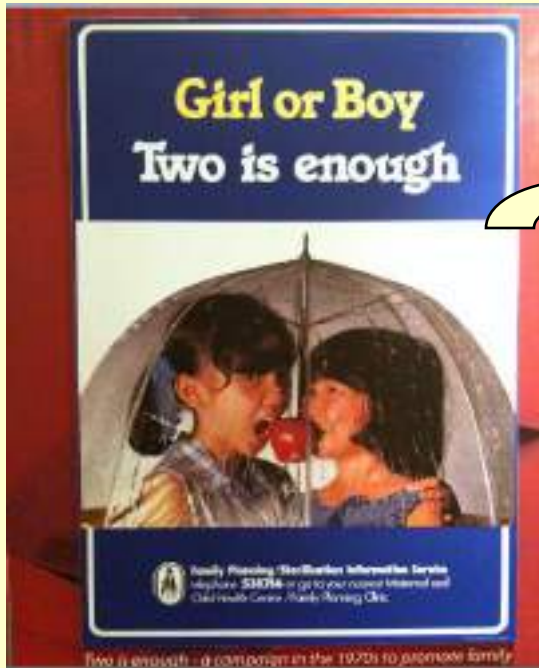


The Structure Of The Present Controls The Content Of The Future

Restrictive Population Policy

Singapore

Expansive Population Policy



1970s

1980s & 90s



“At least two. Better three. Four if you can afford it”



The Structure Of The Present Controls The Content Of The Future

POPULATION

- numbers
- age
- sex
- distribution
- density
- fertility
- mortality
- growth

SOCIETY

- Social
- Political
- Economic

Provides the essential background to all other aspects of Human Geography



Do we need Population Geography or is Demography enough?

✚ **Demography-** is the statistical study of human population. Provides a general perspective.

✚ **Population Geography-** Works in tandem with **Demography**. It is concerned with *spatial* analysis of the statistical data provided by demography—location, density, and pattern. Provides the concepts and theories to understand and forecast the size, composition, and distribution of the human population.

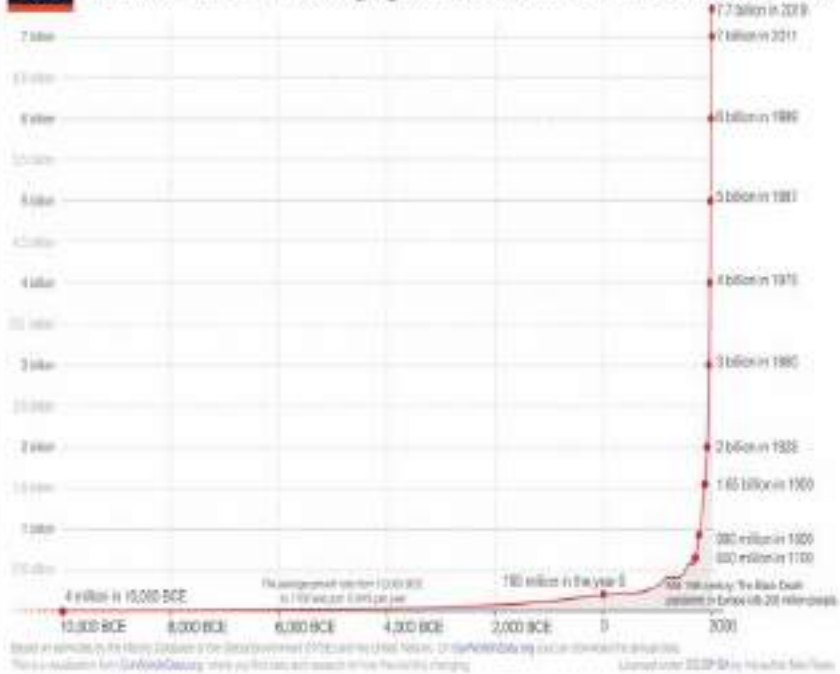
Population Geography is required as it seeks answers to the problems faced by the variability of demographic features over **space**.

QUESTION: Why is the concept of Scale crucial to the studies of population ??



How has the world population growth changed over time ?

Our World in Data The size of the world population over the last 12,000 years



- ✦ The world population today that is 1,860-times the size of what it was 12 millennia ago when the world population was around 4 million.
- ✦ Almost all of this growth happened just very recently.
- ✦ Around 108 billion people have ever lived on our planet. This means that today's population size makes up 6.5% of the total number of people ever born.

Source: <https://ourworldindata.org/world-population-growth>



World population in year

-8000

10 million

-9000

-8000

-7000

Sources: Biraben 1980; McEvedy & Jones 1978; UN World Pop. Prosp. 2012; combined by Gapminder.



World population in year

0

250 million

-1000

year 0

1000

Sources: Biraben 1980; McEvedy & Jones 1978; UN World Pop. Prosp. 2012; combined by Gapminder.



World population in year

1800

1 billion

1400

1600

1800

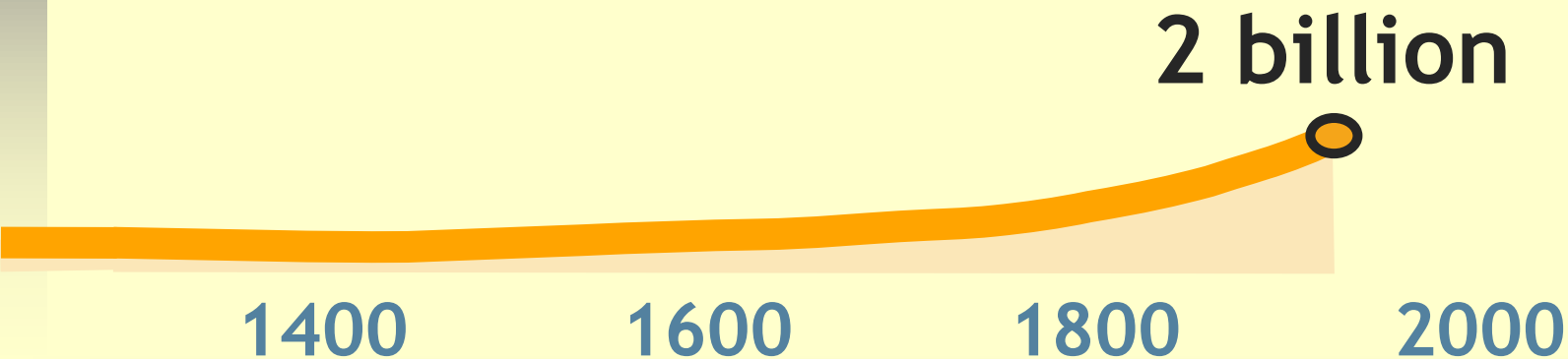
2000

Sources: Biraben 1980; McEvedy & Jones 1978; UN World Pop. Prosp. 2012; combined by Gapminder.



World population in year

1930



Sources: Biraben 1980; McEvedy & Jones 1978; UN World Pop. Prosp. 2012; combined by Gapminder.

World population in year

1960

30 years later ▶ **3 billion**

1400

1600

1800

2000

Sources: Biraben 1980; McEvedy & Jones 1978; UN World Pop. Prosp. 2012; combined by Gapminder.

World population in year

1974

14 years later ▶ **4 billion**

1400

1600

1800

2000

Sources: Biraben 1980; McEvedy & Jones 1978; UN World Pop. Prosp. 2012; combined by Gapminder.

World population in year

1987

13 years later ▶ **5 billion**

1400

1600

1800

2000

Sources: Biraben 1980; McEvedy & Jones 1978; UN World Pop. Prosp. 2012; combined by Gapminder.

World population in year

1999

12 years later ▶ **6 billion**

1400

1600

1800

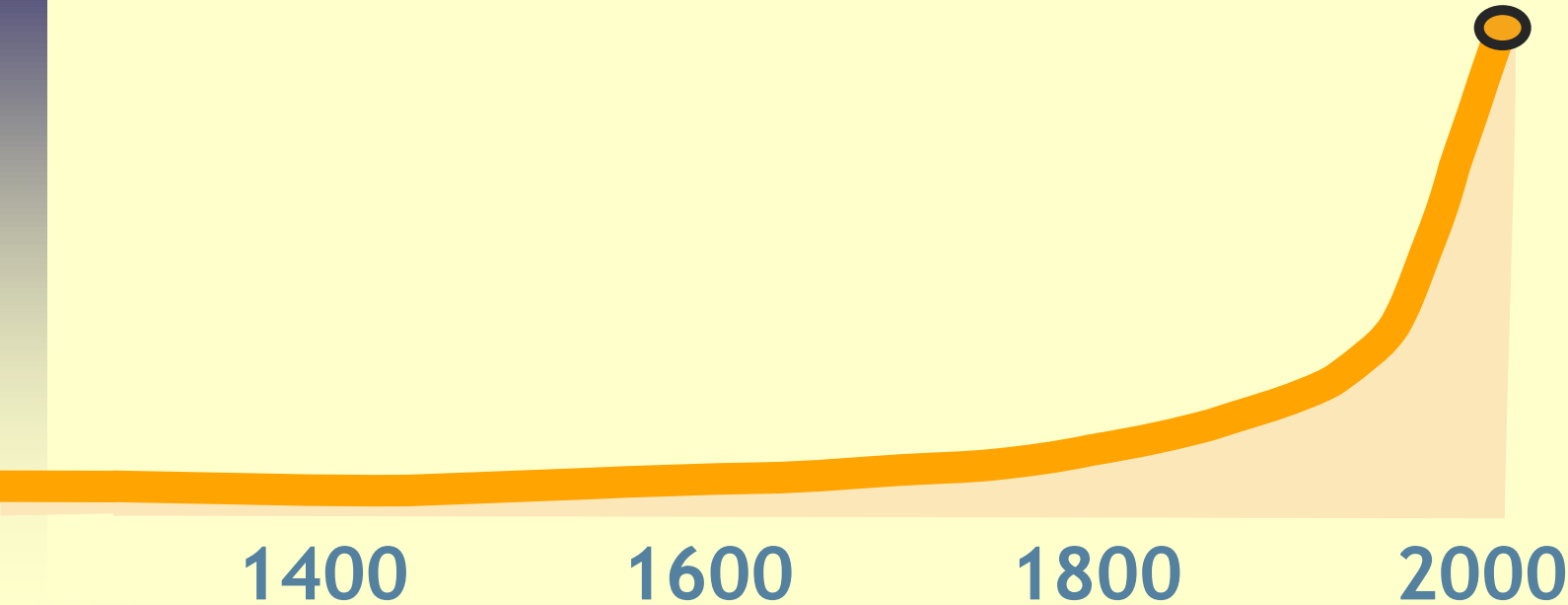
2000

Sources: Biraben 1980; McEvedy & Jones 1978; UN World Pop. Prosp. 2012; combined by Gapminder.

World population in year

2011

12 years later ▶ 7 billion



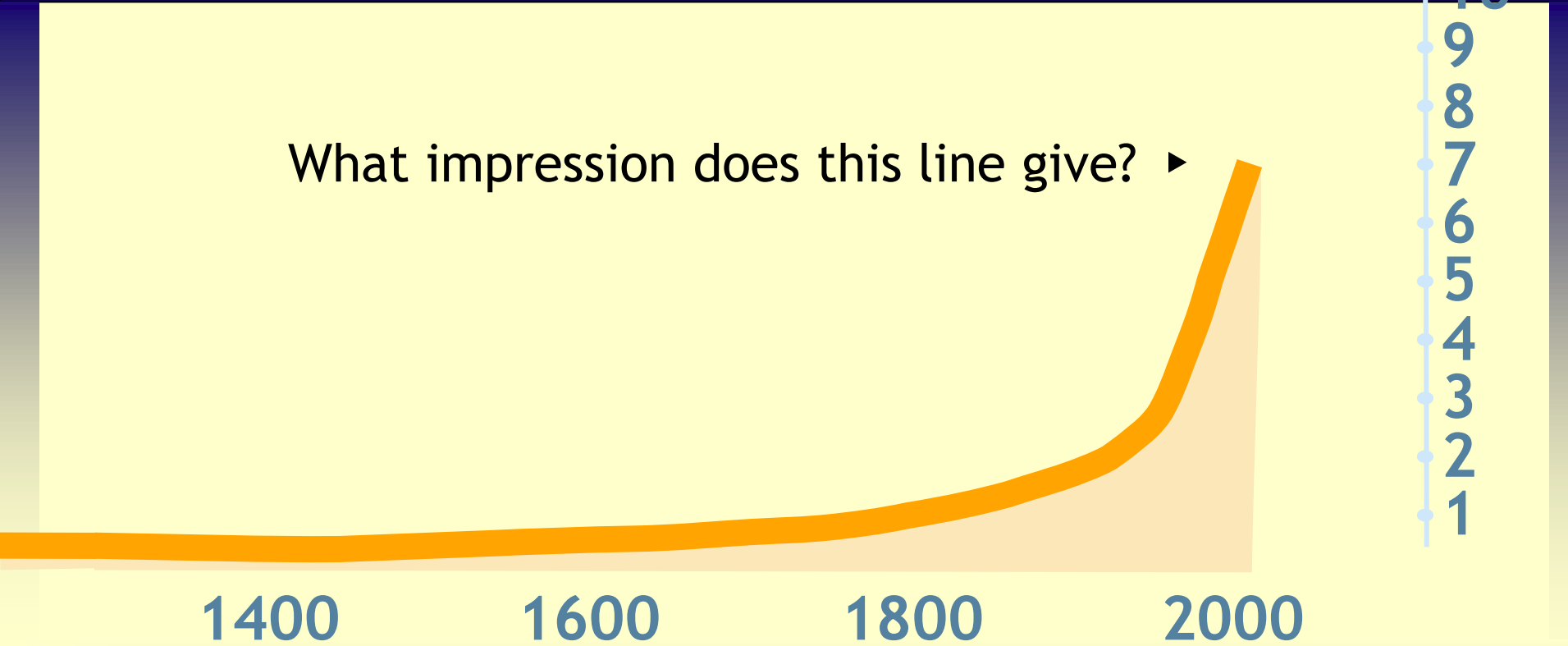
Sources: Biraben 1980; McEvedy & Jones 1978; UN World Pop. Prosp. 2012; combined by Gapminder.



World population



What impression does this line give? ▶

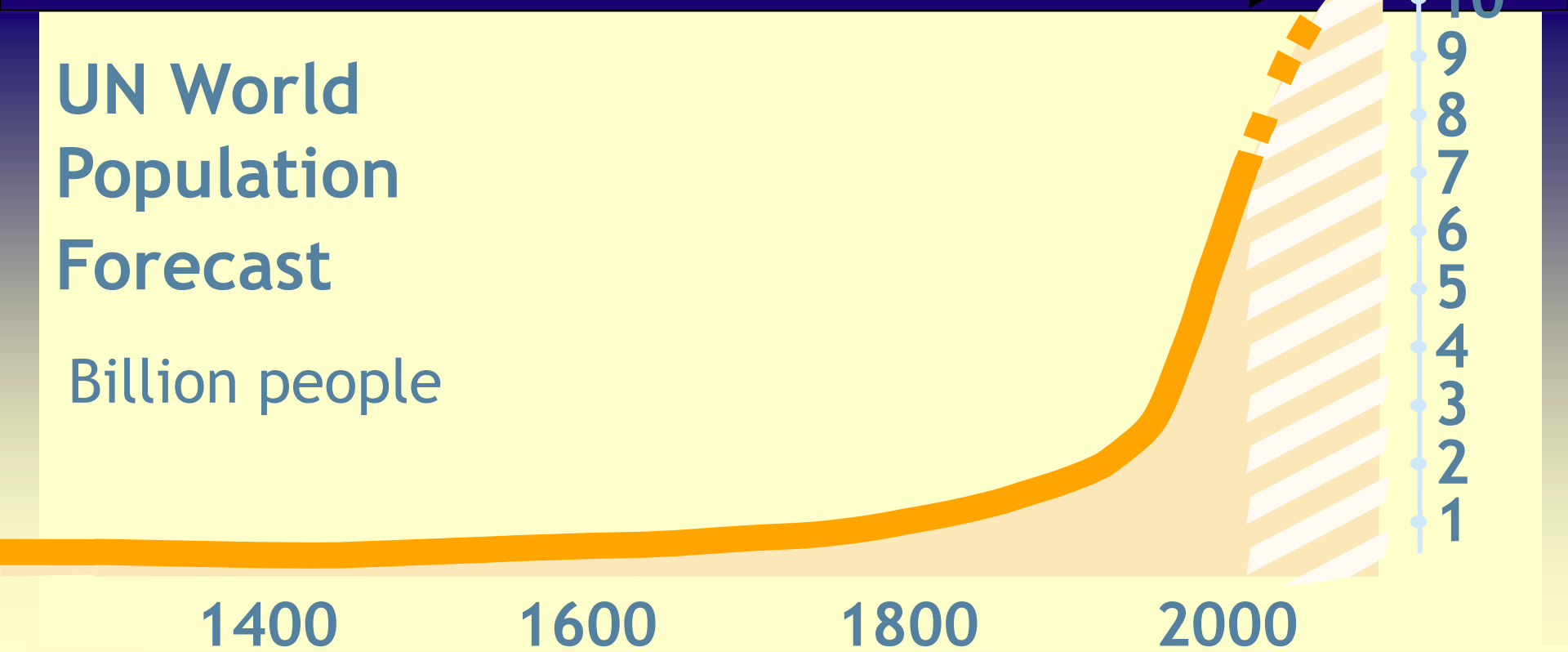


Sources: Biraben 1980; McEvedy & Jones 1978; UN World Pop. Prosp. 2012; combined by Gapminder.



UN World Population Forecast

Billion people



Sources: Biraben 1980; McEvedy & Jones 1978; UN World Pop. Prosp. 2012; combined by Gapminder.



RELATED QUESTIONS

- Why will the world population continue to grow fast?

More Adults

- How did babies per woman change historically?

It dropped

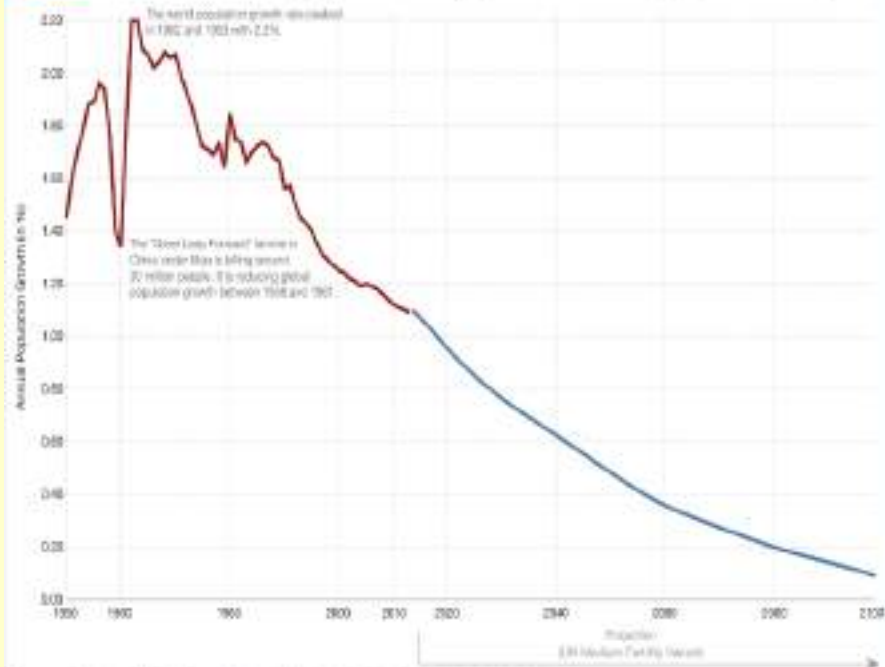
- How reliable is the world population forecast?

Very Reliable



How has the world population growth rate changed?

OurWorld In Data Annual world population growth rate (1950-2100)



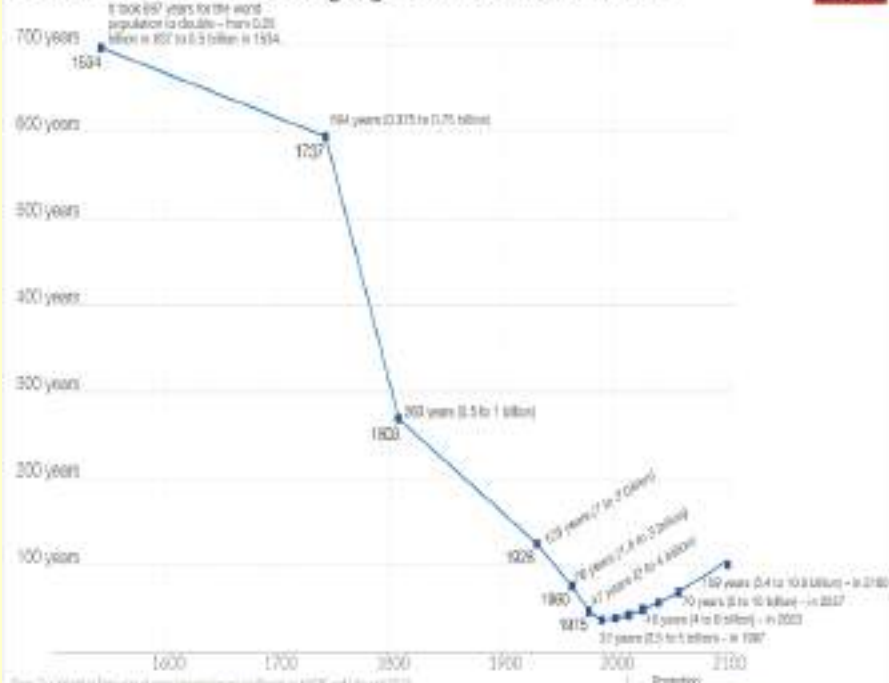
Data sources: OurWorld In Data, US Census Bureau, 5. Projections: United Nations Population Division (Medium Variant 2014 revision). The interactive data visualization is available at OurWorld In Data. There you find the raw data and more visualizations on this topic. Licensed under CC-BY-SA by the author: Max Roser.

Is the global population growing exponentially? The answer is no.

<https://ourworldindata.org/world-population-growth>

Population Doubling Time

Time for the world population to double



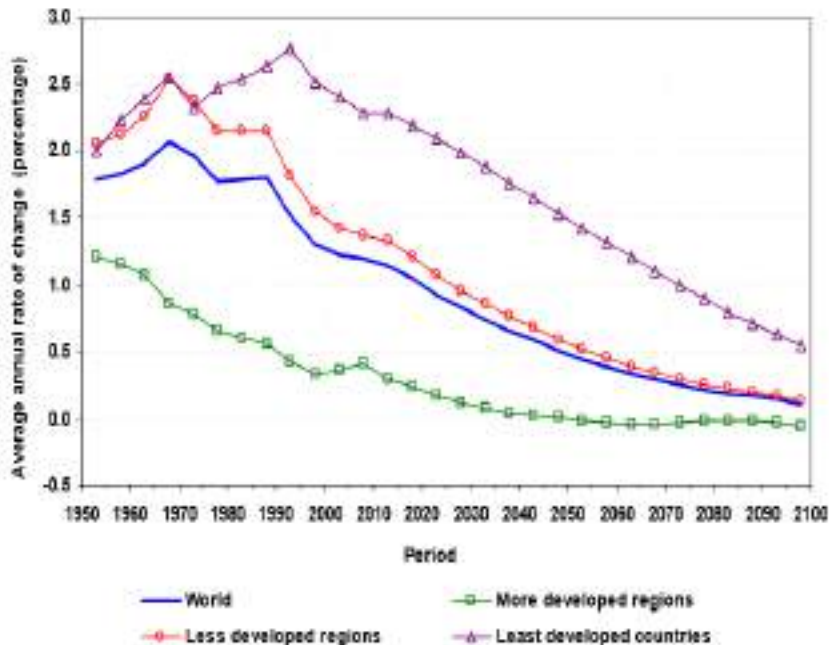
- The fastest doubling of the world population happened between 1950 and 1987: a doubling from 2.5 to 5 billion people in *just 37 years* — the population doubled within a little more than one generation. This period was marked by a peak population growth of 2.1% in 1962.

<https://ourworldindata.org/world-population-growth>



Population growth by world regions Less Developed vs More Developed

Figure L1. Average annual rate of population change for the world and development groups, 1950-2100



Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat (2013). *World Population Prospects: The 2012 Revision, New York: United Nations.*

- ✦ The rates of population growth in less developed regions, although declining rapidly, will continue to be far above those in more developed regions for the foreseeable future.
- ✦ The 49 least developed countries, according to UN data, experienced the greatest increases in population growth.

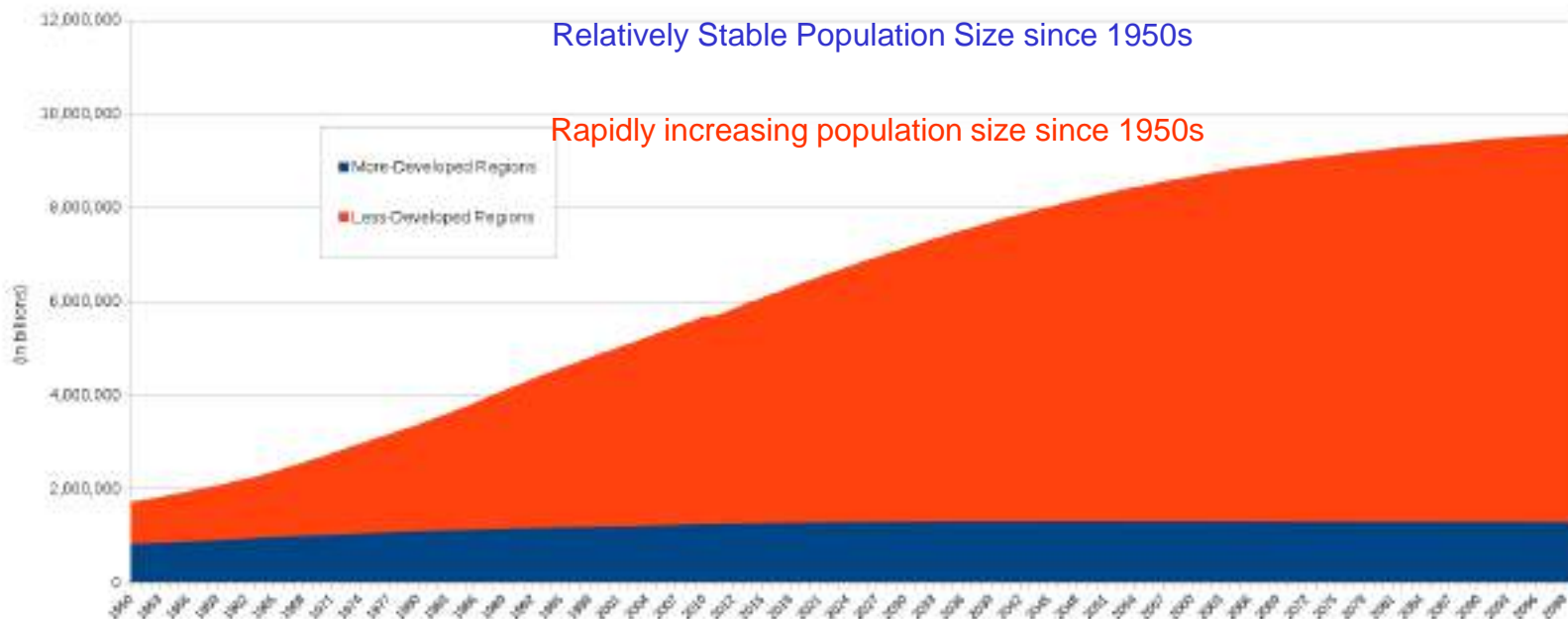
Source: United Nations, Department of Social and Economic Affairs, Population Division (2013). *World Population Prospects: The 2012 Revision, Highlights and Advance Tables*



Population growth by world regions Less Developed vs More Developed

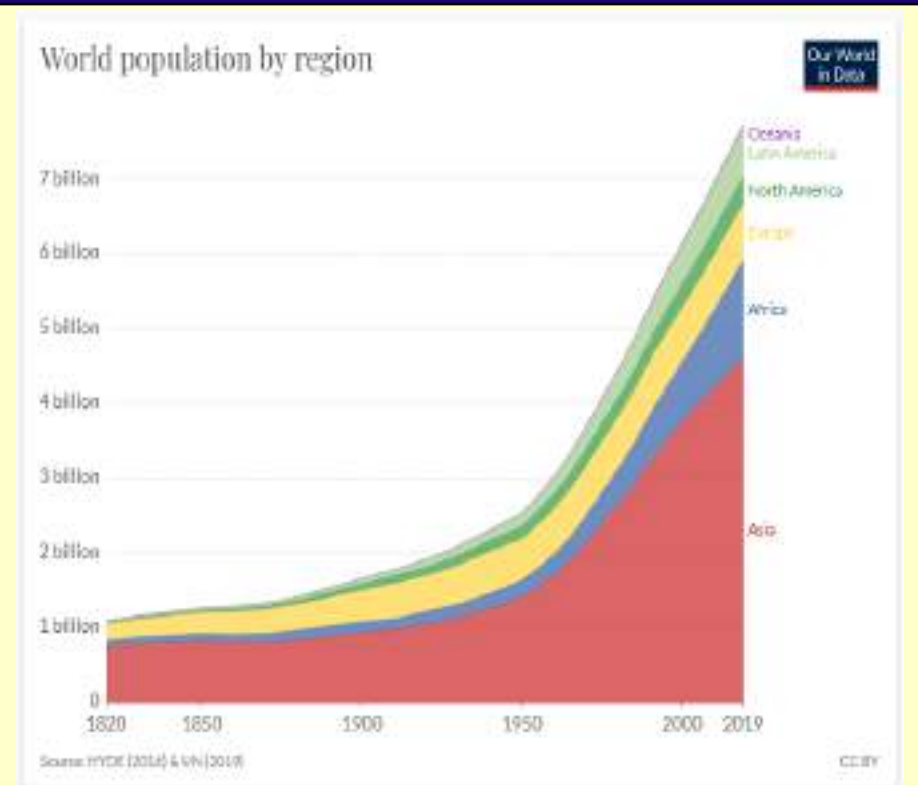
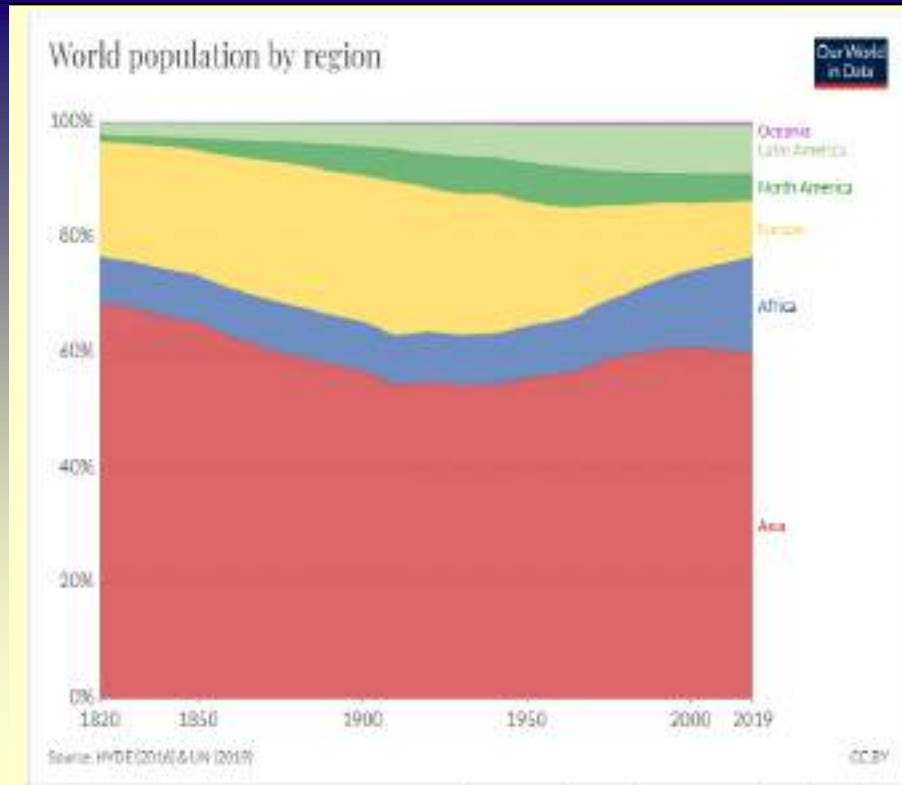
Population Growth in More- and Less-Developed Regions, 1950-2100.

Source: UN World Population Prospects, 2012 Revision.





Region wise population growth



Source: <https://ourworldindata.org/world-population-growth#future-population-by-region>



Some Population Definitions

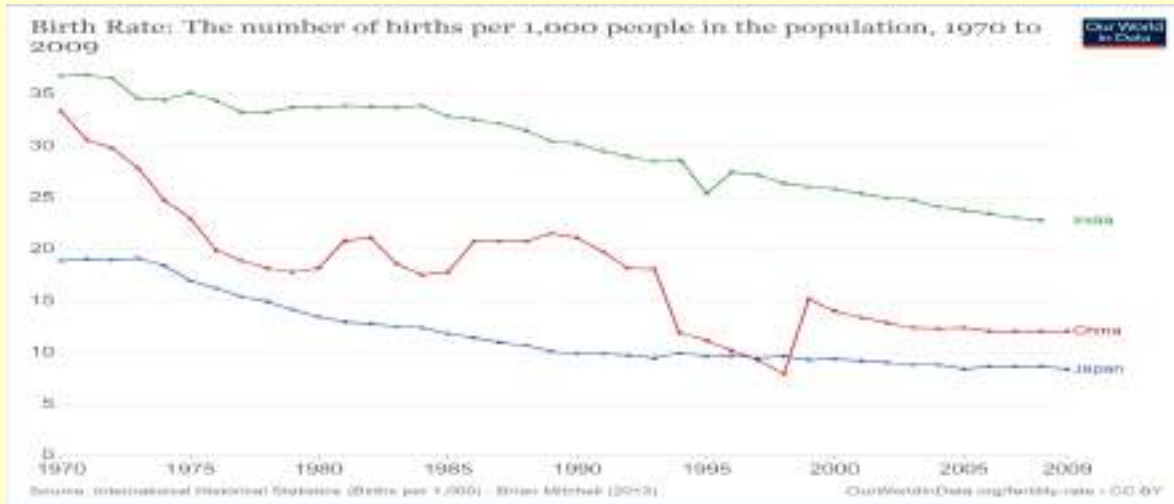
Demographers employ a wide range of measures of population composition from individual counts rates and cohorts

- ⊕ **Rates** simply record the frequency of occurrence of an event during a given time frame for a designated population.
- ⊕ **Cohort** measures refer data to a population group unified by a specified common characteristic.



BIRTH RATE

Crude birth rate = Number of live births during the year
----- **x 1000**
Mid-year population



Factors Influencing CBR include:

- *age and sex structure
- *customs
- *religious beliefs
- *population policies.

Does there exist a relationship between Birth Rate and Development Levels?

From: <https://ourworldindata.org/fertility-rate>



Fertility Rates

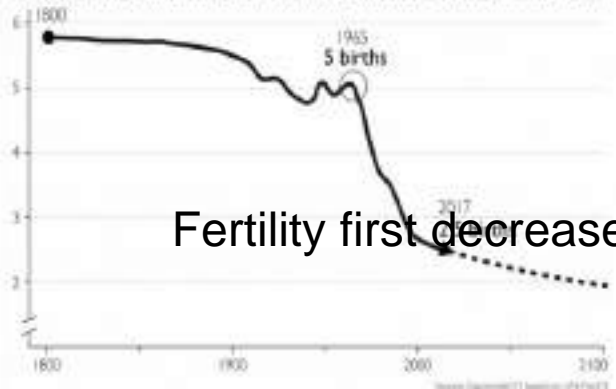


Total fertility rate (TFR)	45-49
	5 x ASFR
	15-19

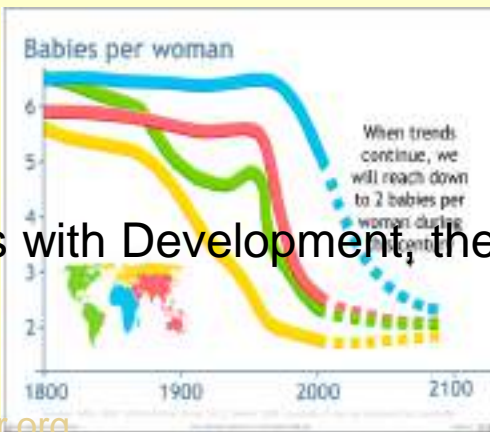
	1000

A total fertility rate of 2.1 is necessary just to replace the present population.

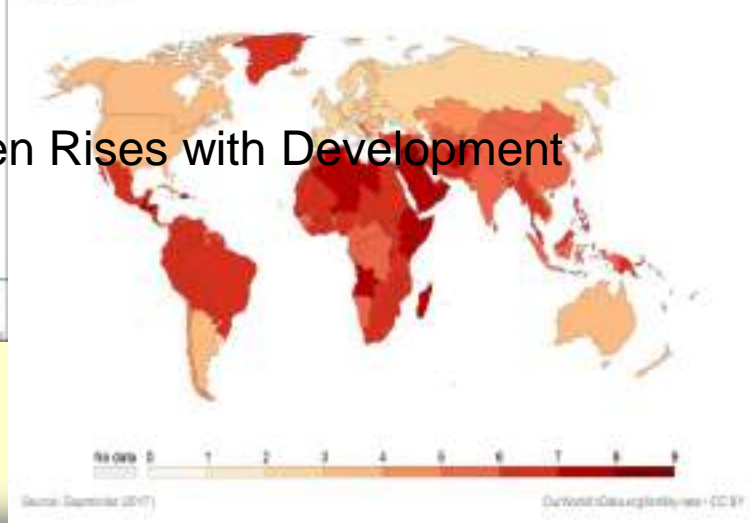
AVERAGE NUMBER OF BABIES PER WOMAN FROM 1800 TO TODAY



Fertility first decreases with Development, then Rises with Development



Children born per woman, 1950
Shown is the 'Total Fertility Rate' which measures the number of children that would be born to a woman if she were to live to the end of her childbearing years and bear children in accordance with the age-specific fertility rates of the specific year.



source: www.gapminder.org

Zero Population growth?

What if TFR were to fall below 2?

Population Explosion vs Population Implosion

Population Growth



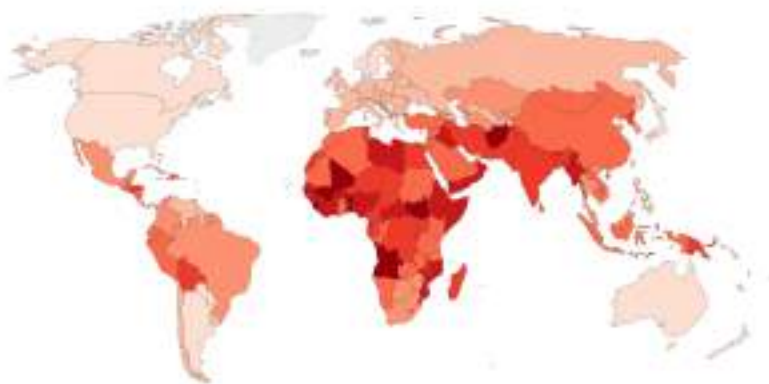
Crude Death Rates

Crude death rate
(CDR)

$$\frac{\text{Number of deaths during the year}}{\text{Mid-year population}} \times 1000$$

Also known as Mortality Rate

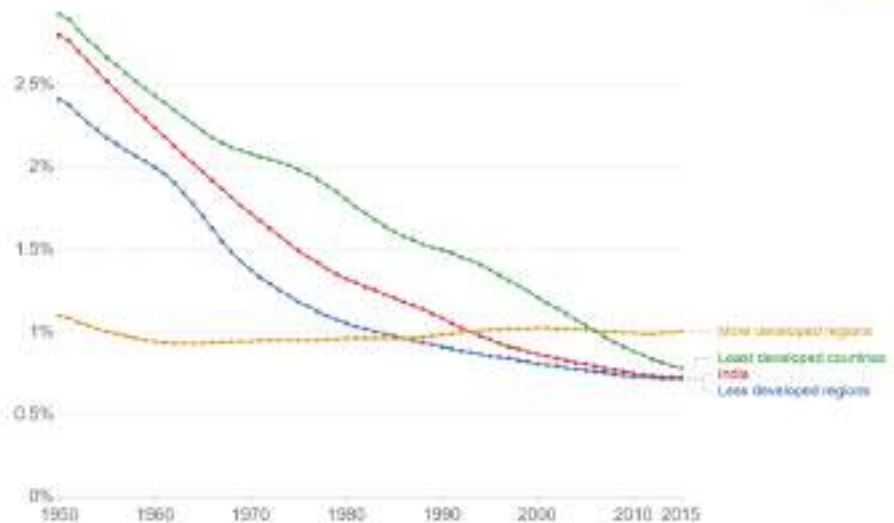
Crude death rate: the share of the population that dies per year, 1950



No data 0% 0.5% 1% 1.5% 2% 2.5% 3% 3.5% >4%

Source: UN Population Division (2017 Revision)

Crude death rate: the share of the population that dies per year, 1950 to 2015



Source: UN Population Division (2017 Revision)

source: <https://ourworldindata.org>



Natural Increase

- ⊕ **Rate of natural increase = CBR- CDR**
- ⊕ Tells only a part of the story of population change..
- ⊕ Does not include increase or decrease as a result of migration (Immigration/Emigration) of people. Migration involves the long-distance movement from one residential location to another.
- ⊕ When that relocation occurs across political boundaries, it affects the population structure of both the origin and destination jurisdictions.

Natural population growth, 1985

Natural population growth is the population increase determined by births and deaths. Migration flows are not taken into account. This is shown from 1950, with UN projections to 2100 based on its median scenario.

Our World in Data



Source: UN Population Division (2017 Revision)



Natural population growth, 1995

Natural population growth is the population increase determined by births and deaths. Migration flows are not taken into account. This is shown from 1950, with UN projections to 2100 based on its median scenario.

Our World in Data



Source: UN Population Division (2017 Revision)



Natural Increase: A spacio-temporal perspective

Natural population growth, 2005

Natural population growth is the population increase determined by births and deaths. Migration flows are not taken into account. This is shown from 1950, with UN projections to 2100 based on its median scenario.

Our World in Data



Source: UN Population Division (2017 Revision)

Natural population growth, 2015

Natural population growth is the population increase determined by births and deaths. Migration flows are not taken into account. This is shown from 1950, with UN projections to 2100 based on its median scenario.

Our World in Data



Source: UN Population Division (2017 Revision)

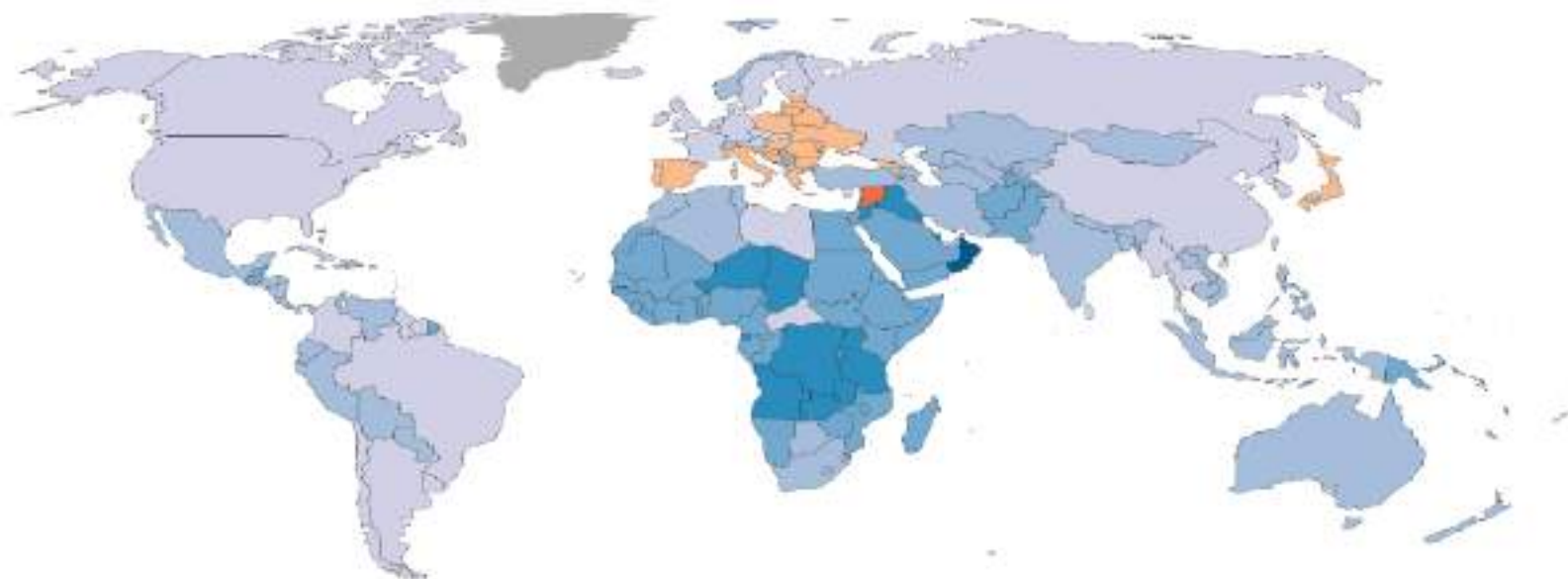
source: <https://ourworldindata.org>

Our World in Data. Improved population growth | CC BY

Population growth rate, 2015

Annual rate of population change from 1950, including UN projections to 2100 based on its median scenario. This takes births, deaths and migration into account.

Our World
in Data



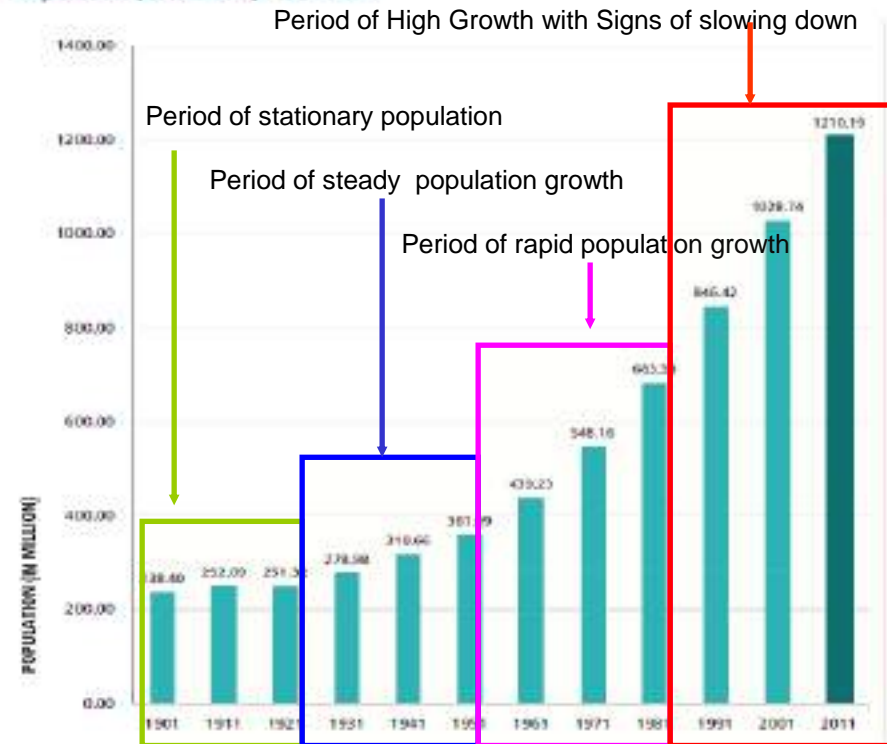
Source: UN Population Division (2017 Revision)

OurWorldInData.org/world-population-growth/ • CC BY

Indian Scenario (Census 2011)

Sl. No	Country	Reference date	Population (In millions)	Decadal change (in %)
1	China	01.11.2010	1,341.0	5.43
2	India	01.03.2011	1,210.2	17.64
3	U.S.A	01.04.2010	308.7	7.26
4	Indonesia	31.05.2010	237.6	15.05
5	Brazil	01.08.2010	190.7	9.39
6	Pakistan	01.07.2010	184.8	24.78
7	Bangladesh	01.07.2010	164.4	16.76
8	Nigeria	01.07.2010	158.3	26.84
9	Russian Fed.	01.07.2010	140.4	-4.29
10	Japan	01.10.2010	128.1	1.1
	Other Countries	01.07.2010	2844.7	15.42
	World	01.07.2010	6908.7	12.97

India Population (in millions): 1901-2011



Source: Provisional Population Totals India: Census 2011

Population Growth



Population Growth in India

Population and its growth, India : 1901-2011

Census Years	Population	Decadal growth		Change in decadal growth		Average annual exponential growth rate (percent)	Progressive growth rate over 1901 (percent)
		Absolute	Percent	Absolute	Percent		
1	2	3	4	5	6	7	8
1901	23,83,96,327		-	-	-	-	-
1911	25,20,93,390	1,36,97,063	5.75	-	-	0.56	5.75
1921	25,13,21,213	-7,72,177	(0.31)	-14469240	-6.05	-0.03	5.42
1931	27,89,77,238	2,76,56,025	11.00	28428202	11.31	1.04	17.02
1941	31,86,60,580	3,96,83,342	14.22	12027317	3.22	1.33	33.67
1951 ¹	36,10,88,090	4,24,27,510	13.31	2744168	-0.91	1.25	51.47
1961 ¹	43,92,34,771	7,81,46,681	21.64	35719171	8.33	1.96	84.25
1971	54,81,59,652	10,89,24,881	24.80 ⁶	30778200	3.16	2.20	129.94
1981 ²	68,33,29,097	13,51,69,445	24.66 ⁶	26244564	-0.14	2.22	186.64
1991 ³	84,64,21,039	16,30,91,942	23.87	2,79,22,497	17.12	2.16	255.05
2001 ⁴	1,02,87,37,436	18,23,16,397	21.54	1,92,24,455	10.54	1.97	331.52
2011 ⁵	1,21,01,93,422	18,14,55,986	17.64	-8,60,411	-0.47	1.64	407.64

The percentage decadal growth during 2001-2011 has registered the sharpest decline since independence. For 2001-2011, this decadal growth has become 17.64 percent, a decrease of 3.90 percentage points from 21.54 percent for the period 1991-2001.

The population of India has increased by more than 181 million during the decade 2001-2011. The absolute addition is slightly lower than the population of Brazil, the fifth most populous country in the world!

2001-2011 is the first decade (with the exception of 1911-1921) which has actually added lesser population compared to the previous decade.

Source: Provisional Population Totals India: Census 2011

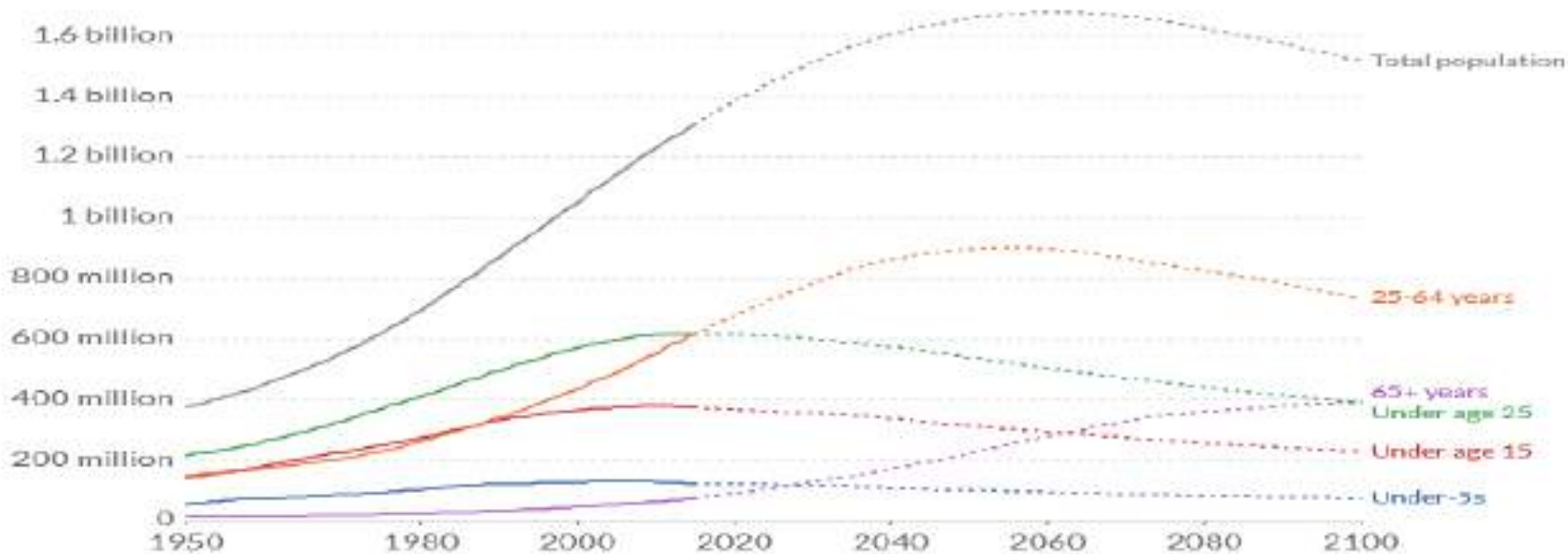


Is India's population growth coming to an end?

Population by age bracket with UN projections, India, 1950 to 2100

Historical population estimates (from 1950 to 2015), and projections through to 2100 based on UN medium fertility scenarios. This is shown for various age brackets and total population.

Our World
in Data



Source: UN Population Division (2017 Revision)

CC BY



Resources & References

Bjelland, Mark, Daniel Montello, Jerome Fellman, Arthur Getis and Judith Getis (2013). Human Geography: Landscapes of Human Activities

Fouberg, Erin H., and Alexander B. Murphy. 2012. Human Geography: People, Places and Culture.

Maurya, S.D.(2012). Manav Bhugol

United Nations, Department of Social and Economic Affairs, Population Division (2013). World Population Prospects: The 2012 Revision, Highlights and Advance Tables

Census of India 2011: Provisional Population Totals

Max Roser, Hannah Ritchie and Esteban Ortiz-Ospina (2020) - "World Population Growth". *Published online at OurWorldInData.org*. Retrieved from: 'https://ourworldindata.org/world-population-growth' [Online Resource]

<https://ourworldindata.org>

www.gapminder.org/teach (Free teaching material downloaded)



THANK YOU