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The Ultimate NCERT Revision Guide for Class 12 Geography

Chapter 2: The World Population: Distribution, Density and Growth

Fundamentals of Human Geography (Part 2) · 12th Class · Notes
(2026-27 / New NCERT)

Also see for this chapter: NCERT Solutions

These notes cover the full NCERT Chapter 2 of *Fundamentals of Human Geography*: how the world's population is spread out, how we measure population density, the factors that decide where people live, how population grows and changes, migration, the demographic transition model, and population control. Written in plain English for CBSE board exams, CUET, and UPSC foundation, with diagrams, comparison tables, and quick exam pointers.

Contents

1 Introduction: People as a Resource

The people of a country are its real wealth. They are the ones who use the country's other resources and decide its policies. A country is finally known by its people. So before we study farming, industry, or trade, we first study people: how many there are, where they live, and how their numbers change. This chapter looks at three closely linked ideas: **distribution** (where people live), **density** (how crowded a place is), and **growth** (how the number of people changes over time).

At the start of the 21st century the world had more than 6 billion people. But these people are not spread evenly. About **90 per cent of the world's population** lives on roughly **10 per cent of its land area**. As the geographer George

B. Cressey said about Asia, there are ”many places where people are few and few places where people are very many.” That single line sums up the whole pattern of world population.

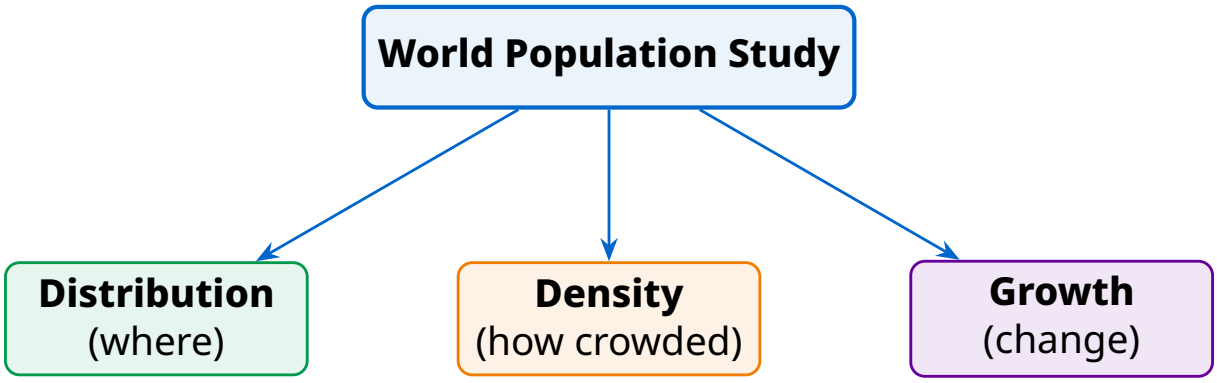
1.1 Distribution, Density and Growth: the three core terms

These three terms are easy to mix up, so fix them early. **Distribution** is about the spread, or the pattern, of people across space. **Density** is a ratio that tells you how crowded one unit of land is. **Growth** is the change in the total number of people over a period of time.

The three pillars of this chapter

- **Distribution:** the way people are spaced over the earth’s surface (pattern).
- **Density:** number of persons per square kilometre (crowding).
- **Growth:** the increase or decrease in the number of people over time (change).

All three together describe the **demographic** character of a region.



1.2 Why population study matters

Population change in an area is an important indicator of economic development, social progress, and the historical and cultural background of a region. A country needs to know how many women and men it has, how many babies are born each year, how many people die, whether people live in cities or villages, and what work they do. Governments use this data to plan schools, hospitals, jobs, and food supply.

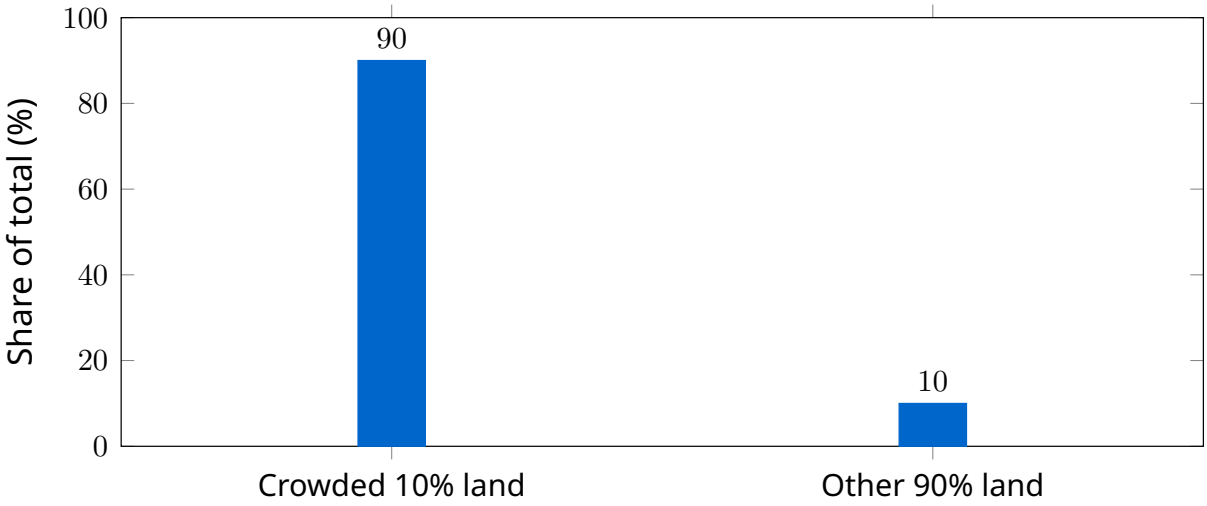
Census planning in India

India holds a Census every ten years (the last completed one was 2011). The numbers it collects, such as how many children are of school age in a district, decide where new schools, primary health centres, and ration shops are built.

So population data is not just a fact for exams; it directly shapes daily life.

1.3 The uneven spread at a glance

The 10 most populous countries together hold about **60 per cent** of the world's people, and 6 of these 10 lie in Asia. This is why Asia, with crowded river valleys and deltas, dominates any map of world population.



Remember the 90:10 rule

A favourite one-mark fact: **90% of people live on 10% of land**. The flip side, that 10% of people are scattered over 90% of land, is just as quotable. Keep both ready.

2 Density of Population

Each unit of land can support only a limited number of people. So we need a way to compare crowding between two places of different sizes. That measure is the **density of population**: the ratio of the number of people to the size of the land they live on. It is usually given in **persons per square kilometre**.

2.1 The density formula

Density is found by dividing the total population of an area by the area itself. A larger answer means a more crowded place.

Density of Population

$$\text{Density of Population} = \frac{\text{Population}}{\text{Area}} \quad \text{(persons per sq km)}$$

A high value means a crowded region; a low value means a sparsely settled one.

Worked example from the textbook: if Region X has an area of 100 sq km and a population of $1{,}50{,}000$ persons, then

$$\text{Density} = \frac{1{,}50{,}000}{100} = 1{,}500 \text{ persons per sq km.}$$

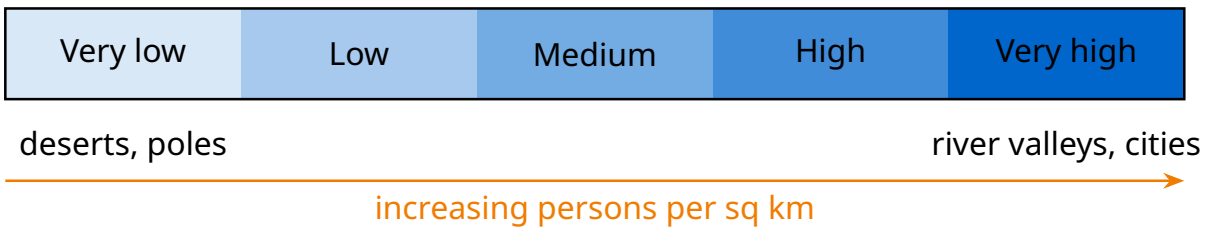
This tells us Region X is quite densely settled.

Density is not the same as total population

A large country can have a **huge total population but a low density** (for example, a country with vast empty deserts), while a small city-state can have a **small total population but very high density**. Always check whether the question asks for total numbers or for persons per sq km.

2.2 Reading density on a map

Density is shown on maps in bands, from very low to very high. River valleys, deltas, and industrial belts fall in the high band; deserts, dense forests, high mountains, and polar areas fall in the low band.



Density in one line

Density turns a raw head-count into a fair comparison. Two regions with the same population but different areas have very different densities, and density is what tells you which one feels crowded.

3 Patterns of Population Distribution in the World

Patterns of population distribution and density help us understand the demographic character of any area. **Population distribution** refers to the way people are spaced over the earth's surface. The world's population is highly uneven:

some belts are packed while vast stretches are nearly empty. This section maps out where the crowds are and where they are not.

3.1 Crowded and sparse belts

A handful of regions hold most of the world's people. The densely settled belts are East Asia, South Asia, Europe, and the north-eastern United States. The sparsely settled belts are the hot and cold deserts, the dense equatorial rainforests, and the polar regions.

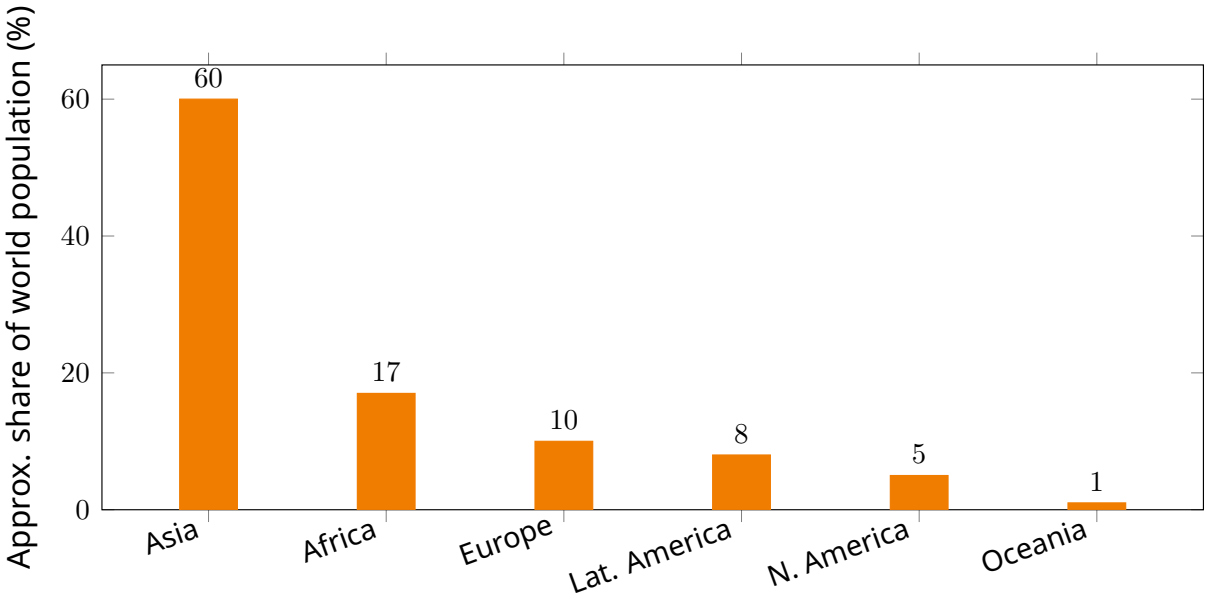
- **Densely populated belts:** fertile river valleys and deltas (Ganga, Yangtze, Nile), industrial regions of Europe and Japan, and the coastal plains of East and South Asia.
- **Sparsely populated belts:** the Atacama and Sahara deserts (too dry), the Amazon and Congo rainforests (too wet and disease-prone), and the Arctic and Antarctic (too cold).

Cressey's remark

George B. Cressey said of Asia that it has "many places where people are few and few places where people are very many." This captures the whole idea of uneven distribution: a small share of land carries the bulk of humanity.

3.2 Continent-wise share of population

Asia dominates the world's population, holding well over half of it, followed by Africa and Europe. Among the continents, **Africa records the highest rate of population growth**, while Europe grows the slowest (some countries there even show negative growth).

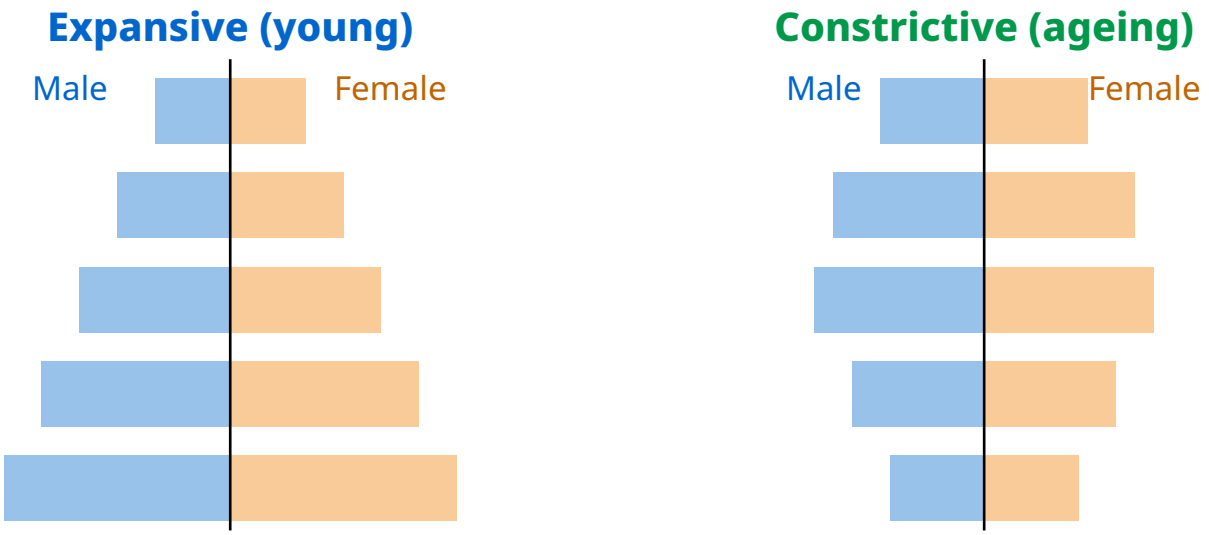


Continent facts examiners love

Two quick MCQ facts: **Asia** holds the largest share of world population, and **Africa** has the highest population growth rate. Europe is the slow-grower. Keep these three straight.

3.3 Population pyramids: reading age and sex structure

A **population pyramid** is a bar chart that shows the share of males and females in each age group. Its shape tells you whether a population is young and growing, balanced, or ageing. A wide base means many children (high birth rate); a narrow base with a bulging middle means an ageing population.



Why India's pyramid matters

India has a wide-based pyramid, meaning a large share of young people. This "demographic dividend" can power the economy if there are enough jobs and schools, but it also pressures resources. Planners read the pyramid to decide how many colleges and jobs the country will need a decade from now.

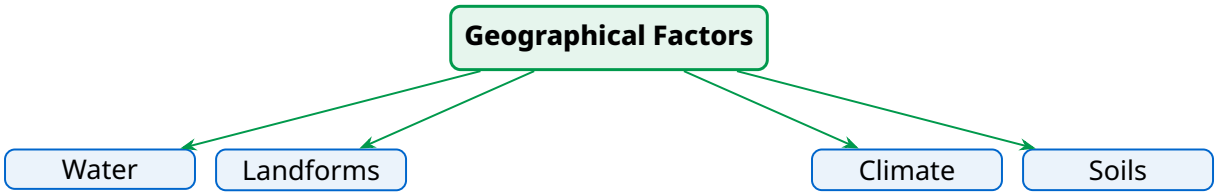
4 Factors Influencing the Distribution of Population

People do not settle randomly. They choose places that make life easier and offer work. The factors that decide where people live fall into three groups: **geographical**, **economic**, and **social and cultural**. Knowing these factors lets you explain why the Ganga plains are packed while the high Himalayas are nearly empty.

4.1 Geographical factors

These are the natural features of the land and climate. Four matter most.

- **Availability of water:** Water is the most important need for life. It is used for drinking, bathing, cooking, cattle, crops, industries, and navigation. This is why **river valleys are among the most densely populated areas** of the world.
- **Landforms:** People prefer flat plains and gentle slopes, which suit crops, roads, and industry. Mountains and hills slow down transport and farming, so they stay thinly settled. The Ganga plains are crowded; the Himalayan mountain zones are scarce.
- **Climate:** A comfortable climate with little seasonal change attracts people. Very hot or very cold deserts, and areas of very heavy rainfall, repel them. The Mediterranean was settled early because of its pleasant climate.
- **Soils:** Fertile loamy soils support intensive agriculture, so they carry more people. Poor or rocky soils support fewer.



WLCS for geographical factors

Remember **"W-L-C-S"**: **W**ater, **L**andforms, **C**limate, **S**oils. Read it as "Water Lands Cool Soils." All four are about what nature offers a place.

4.2 Economic factors

These are about work and money. Three stand out.

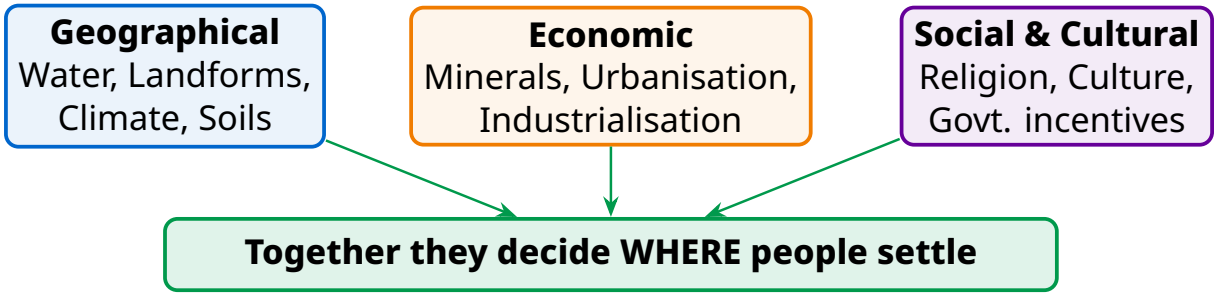
- **Minerals:** Areas with mineral deposits attract industries. Mining and industry create jobs, so skilled and semi-skilled workers move in. The Katanga-Zambia copper belt in Africa is a classic example.
- **Urbanisation:** Cities offer better jobs, schools, hospitals, transport, and civic amenities. This pulls people in, causing rural-to-urban migration, and mega-cities keep growing.
- **Industrialisation:** Industrial belts provide jobs not only to factory workers but also to transport operators, shopkeepers, bank staff, doctors, and teachers. The Kobe-Osaka region of Japan is thickly populated for this reason.

Mega-cities pulling migrants

Cities such as Mumbai, Delhi, and Bengaluru add lakhs of migrants every year. People leave villages because a city promises a better wage, a hospital nearby, and a school for their children. This is economic factors at work, live, in your own country.

4.3 Social and cultural factors

Some places draw people because of religious or cultural importance, such as pilgrimage towns. On the other hand, people move away from places of social or political unrest. Sometimes governments offer incentives to make people settle in thinly populated areas, or to move out of overcrowded ones.



Three-group answer frame

For "factors influencing distribution," always answer in **three labelled groups**: Geographical (water, landforms, climate, soils), Economic (minerals, urbanisation, industrialisation), and Social & Cultural (religion, culture, government policy). Examiners reward the structure, not just the points.

5 Population Growth and Its Components

Population growth, or population change, is the change in the number of people in a territory during a specific period of time. It can be **positive** (numbers rise) or **negative** (numbers fall), and it can be shown either in absolute numbers or as a percentage. This section covers the key terms, the formulas for birth and death rates, and migration.

5.1 Basic concepts of population change

A few terms come up again and again. Learn them as a set.

- **Growth of population:** the change in population of an area between two points of time. Example: India's population in 2011 (121.02 crore) minus 2001 (102.70 crore) gives a growth of 18.15 crore.
- **Growth rate of population:** the same change written as a percentage.
- **Natural growth:** the population added by the difference between births and deaths. Natural Growth $=$ Births $-$ Deaths.
- **Actual growth:** Births $-$ Deaths $+$ In-migration $-$ Out-migration.
- **Positive growth:** when the birth rate is more than the death rate, or people migrate in permanently.

- **Negative growth:** when the birth rate falls below the death rate, or people migrate out.

Natural and Actual Growth

$$\text{Natural Growth} = \text{Births} - \text{Deaths}$$

$$\text{Actual Growth} = \text{Births} - \text{Deaths} + \text{In-migration} - \text{Out-migration}$$

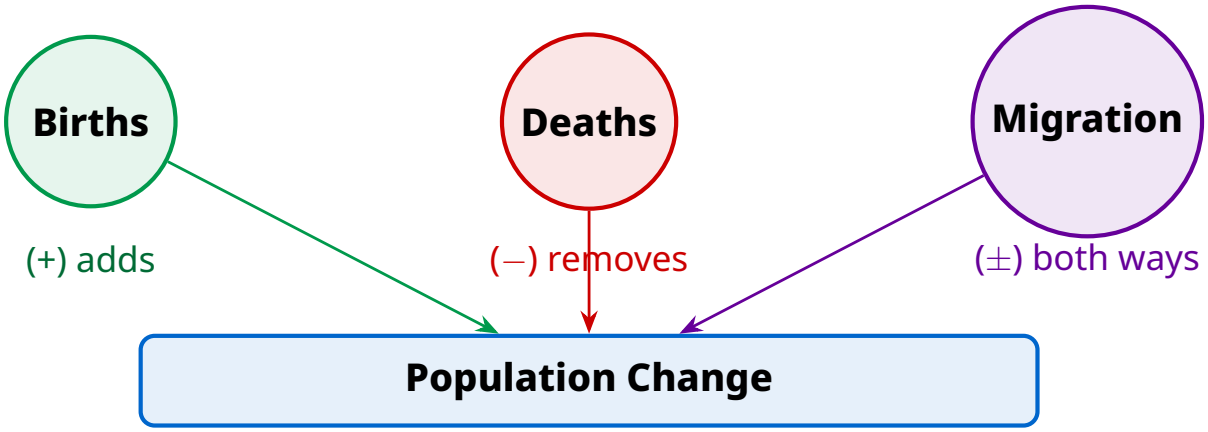
Natural growth ignores movement of people; actual growth includes it.

Natural growth vs actual growth

A common slip is using "natural growth" when the question involves migration. **Natural growth** uses only births and deaths. The moment people move in or out, you must switch to **actual growth**, which adds in-migration and subtracts out-migration.

5.2 Three components of population change

There are exactly three things that change the head-count of a place: **births**, **deaths**, and **migration**. Births and deaths together give natural change; migration adds movement on top.



5.3 Crude Birth Rate and Crude Death Rate

To compare births and deaths across places of different sizes, we use rates "per thousand" of population, not raw counts.

Crude Birth Rate (CBR)

$$\text{CBR} = \frac{B}{P} \times 1000$$

B = live births during the year, P = estimated mid-year population. Unit: births per 1000 people.

Crude Death Rate (CDR)

$$\text{CDR} = \frac{D}{P} \times 1000$$

D = number of deaths during the year, P = estimated mid-year population. Unit: deaths per 1000 people.

Population grows not only when births rise but also when deaths fall. Better sanitation and health care lower the CDR, and the gap between CBR and CDR is the natural increase. Mortality rates depend on a region's age structure, social progress, and level of economic development.

Why "crude"?

These rates are called "crude" because they use the **whole population** as the base, without adjusting for age or sex. A place with many young adults will naturally show a higher birth rate, but the crude rate does not correct for that.

Always divide by mid-year population

In both CBR and CDR the denominator P is the **estimated mid-year population**, not the start or end of the year. Forgetting the "$\times 1000$" is the other classic error; the rate is always per thousand.

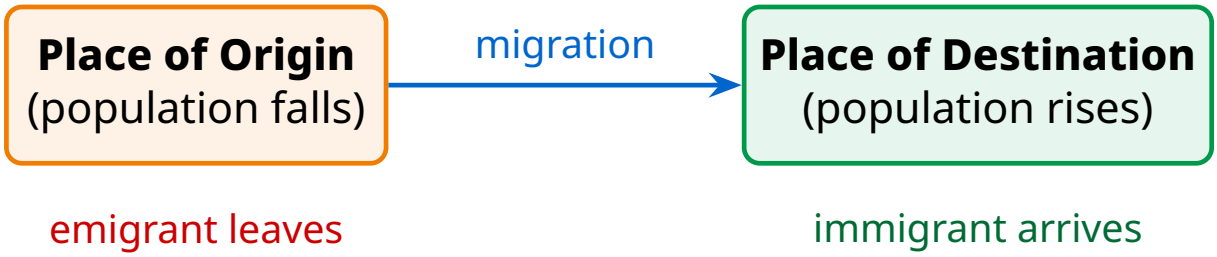
6 Migration

Apart from births and deaths, population size changes through **migration**, the movement of people from one place to another. The place a person leaves is the **place of origin**; the place they go to is the **place of destination**. The origin loses population while the destination gains it. Migration can be seen as a natural effort to find a better balance between people and resources.

6.1 Types and direction of migration

Migration may be **permanent, temporary, or seasonal**. It can flow rural to rural, rural to urban, urban to urban, or urban to rural. The same person is both an **emigrant** (leaving their place) and an **immigrant** (entering a new one).

- **Immigration:** migrants who move *into* a new place are immigrants.
- **Emigration:** migrants who move *out* of a place are emigrants.



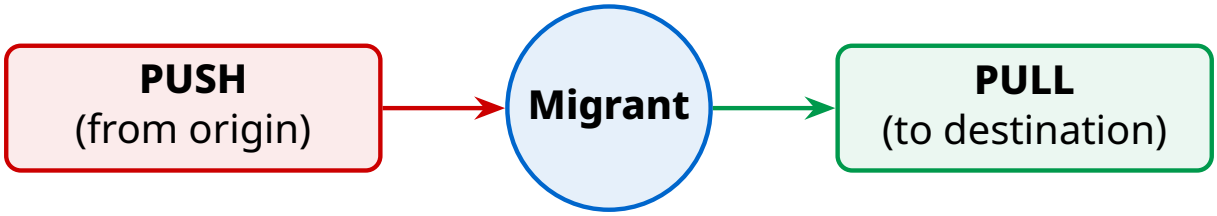
Immigrant vs emigrant

The same move makes a person both. From the origin's view they are an **emigrant** (E for Exit); from the destination's view they are an **immigrant** (I for Into). Tie the first letter to the direction and you will not mix them up.

6.2 Push and pull factors

People migrate for a better economic and social life. Two sets of factors drive every move. **Push factors** make the origin less attractive; **pull factors** make the destination more attractive.

Push Factors (origin repels)	Pull Factors (destination attracts)
Unemployment	Better job opportunities
Poor living conditions	Better living conditions
Political turmoil	Peace and stability
Unpleasant climate, natural disasters	Pleasant climate
Epidemics	Security of life and property
Socio-economic backwardness	Better civic amenities



Gulf migration from India

Lakhs of workers from Kerala and other states migrate to Gulf countries. The **push** is limited local jobs; the **pull** is higher wages abroad. The money they send home (remittances) supports entire local economies, showing how migration reshapes both origin and destination.

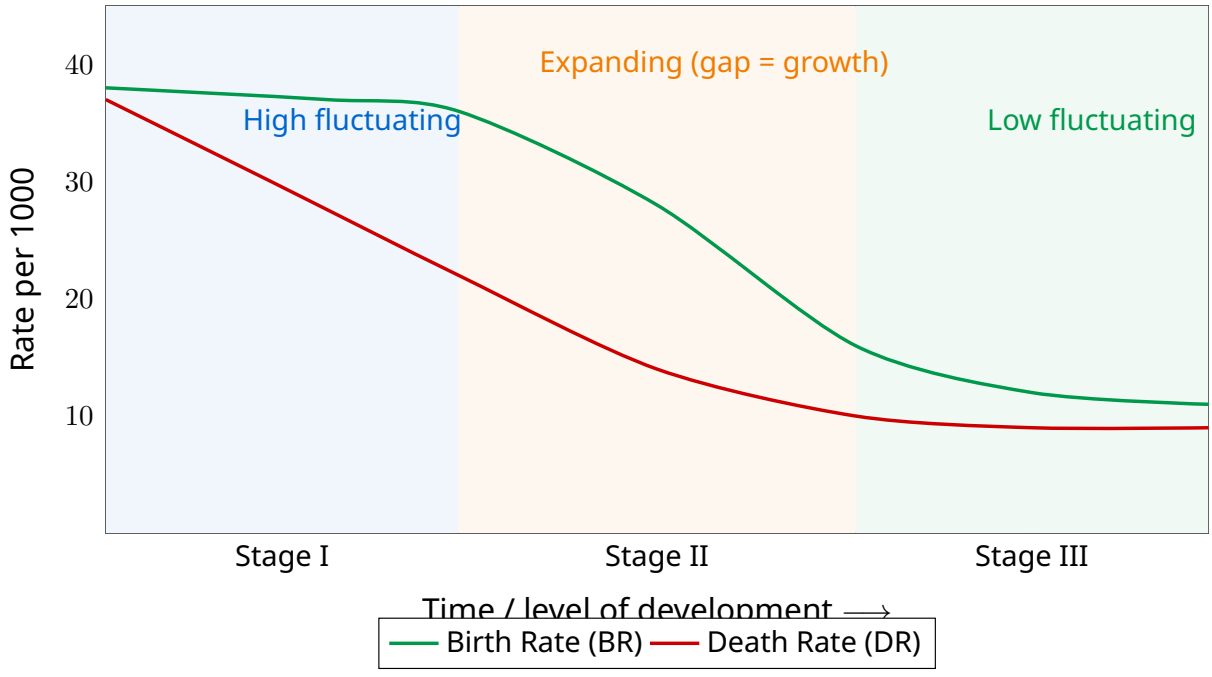
7 Demographic Transition and Population Control

The **demographic transition theory** describes and predicts how the population of a region changes as society develops. As a society moves from rural, farming, and illiterate to urban, industrial, and literate, its population shifts from **high births and high deaths** to **low births and low deaths**. These changes happen in stages, together called the **demographic cycle**.

7.1 The three stages

The theory has a three-stage model. Read the stages as a story of falling death rates first, then falling birth rates.

- **Stage I (High fluctuating):** High fertility and high mortality. People have many children to balance the deaths caused by epidemics and an uncertain food supply. Growth is slow, most people farm, large families are an asset, life expectancy is low, and both literacy and technology are low. Two hundred years ago every country was here.
- **Stage II (Expanding):** Fertility stays high at first but begins to fall, while mortality drops sharply thanks to better sanitation and health. Because of this gap, the net addition to population is large. This is the stage of rapid growth.
- **Stage III (Low fluctuating):** Both fertility and mortality fall to low levels. Population is stable or grows slowly. Society is urbanised, literate, and technically skilled, and families are deliberately kept small.



This shows that human beings are extremely flexible and can adjust their fertility. In the present day, different countries sit at different stages of the transition.

Stage	Birth rate	Death rate	Population growth
I. High fluctuating	High	High	Slow / nearly stable
II. Expanding	High, then falling	Falling fast	Rapid (largest gap)
III. Low fluctuating	Low	Low	Stable or slow

Stage order: Death falls first

Memory hook: **"Deaths drop, then births drop."** In Stage II the death rate falls first (creating the growth spurt); only in Stage III does the birth rate finally catch down. Picture the red death line diving before the green birth line.

7.2 Population control measures

Family planning means spacing out or preventing the birth of children. Access to family planning services is a major way to limit population growth and improve women's health. Useful measures include propaganda (awareness), free availability of contraceptives, and tax disincentives for very large families.

Malthus in one box

Thomas Malthus (1798) argued that population would grow faster than the food supply. Any further rise would cause a "population crash" through famine, disease, and war. He held that **preventive checks** (controlling births) are better than **positive checks** (famine, disease, war). For our resources to last, the world must control rapid population growth.

Malthus keyword trap

In Malthus, **preventive checks** = deliberate control of births (good), and **positive checks** = nature's harsh corrections like famine and disease (bad). The word "positive" sounds good but means the harmful one. Do not be fooled in an MCQ.

8 Exam Focus: Question Trends and How to Score

This chapter is a steady source of marks in CBSE board exams, CUET, and UPSC prelims. The questions are predictable once you know the pattern. This section maps the common question types, works a numerical, and lists the traps that cost easy marks.

8.1 What gets asked, and where the marks are

Over the years, the same set of ideas comes back: factors of distribution, the density formula, push-pull factors, and the three stages of demographic transition. The table below shows the usual question types and how to answer each.

Topic	Common form	How to answer
Factors of distribution	5-mark long answer	Three labelled groups (G, E, S) with one example each
Density	1-mark formula / numerical	State formula, substitute, give units
Push vs pull factors	3-mark "distinguish"	Two-column table, 3 points each side
Demographic transition	5-mark long answer	Three stages with birth/death/growth in each
CBR and CDR	1–3 marks	Write formula with per-1000 base
Components of change	1-mark VSA	Births, deaths, migration

8.2 A worked density numerical

Density questions are pure marks if you write all three steps: formula, substitution, answer with units. Here is the textbook style worked out in full.

Question: A region has an area of 250 sq km and a population of $5{,}00{,}000$ persons. Find its density of population.

Step 1: Write the formula.

$$\text{Density} = \frac{\text{Population}}{\text{Area}}$$

Step 2: Substitute the values.

$$\text{Density} = \frac{5{,}00{,}000}{250}$$

Step 3: Compute and add units.

$$\text{Density} = 2{,}000 \text{ persons per sq km}$$

So the region is densely settled, with 2,000 persons living on each square kilometre.

Three-step scoring habit

For any rate question (density, CBR, CDR), always show **formula** $\rightarrow$ **substitution** $\rightarrow$ **answer with units**. A correct final number with no formula or no units rarely gets full marks.

8.3 Pitfalls that cost easy marks

Most lost marks in this chapter come from a few repeated slips. Run through these before the exam.

- Confusing **density** (per sq km) with **total population**.
- Mixing up **immigrant** (moves in) and **emigrant** (moves out).
- Calling **Stage I** the high-growth stage; the rapid growth is in **Stage II**.
- Treating Malthus's **positive checks** as good; they are the harmful, natural ones.
- Forgetting the $\times 1000$ in CBR and CDR.
- Listing distribution factors as a flat list instead of three labelled groups.

Last-minute revision order

With ten minutes left before the exam, revise in this order: (1) density and CBR/CDR formulas, (2) the three factor groups, (3) push vs pull, (4) the three transition stages. These four cover the bulk of the marks.

9 Quick Reference Summary

This section gathers every formula, key term, and exam pointer of the chapter on one or two pages for last-minute revision.

9.1 All formulas at a glance

Master formula list

Density: $\text{Density} = \dfrac{\text{Population}}{\text{Area}}$ (persons / sq km)

Birth and death rates: $\text{CBR} = \dfrac{B}{P} \times 1000, \quad \text{CDR} = \dfrac{D}{P} \times 1000$

Natural Growth = Births $-$ Deaths

Actual Growth = Births $-$ Deaths $+$ In-migration $-$ Out-migration

9.2 Key terms recap

Term	Meaning
Distribution	The way people are spaced over the earth's surface.
Density	Persons per square kilometre.
Growth of population	Change in numbers between two points of time.
Natural growth	Births minus deaths only.
Place of origin	The place a migrant leaves (population falls).
Place of destination	The place a migrant arrives at (population rises).
Push factors	Conditions that drive people away from the origin.
Pull factors	Conditions that attract people to the destination.
Demographic cycle	The set of stages a population passes through as society develops.
Family planning	Spacing or preventing births to limit growth.

9.3 Exam-ready key facts

- About **90%** of people live on about **10%** of the land.
- The 10 most populous countries hold about **60%** of world population; **6** of them are in Asia.
- **Africa** has the highest population growth among the continents.
- Human population grew **more than ten times** in the past 500 years, and **four times** in the 20th century alone.
- Sparse-population regions: Atacama desert, equatorial rainforests, polar regions.
- Three components of population change: **births, deaths, migration**.

Distribution factors: G-E-S

For the three factor groups, remember **"G-E-S"**: **G**eographical, **E**conomic, **S**ocial & Cultural. Spell it as "GES" and unpack each group in the exam.

One-line chapter takeaway

People settle where nature and the economy make life easier, so population is highly uneven; we measure crowding with density and track change through births, deaths, and migration; and as societies develop they move through the demographic transition from high-high to low-low rates.

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