




# Characteristics of ecological population in india

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195b la2

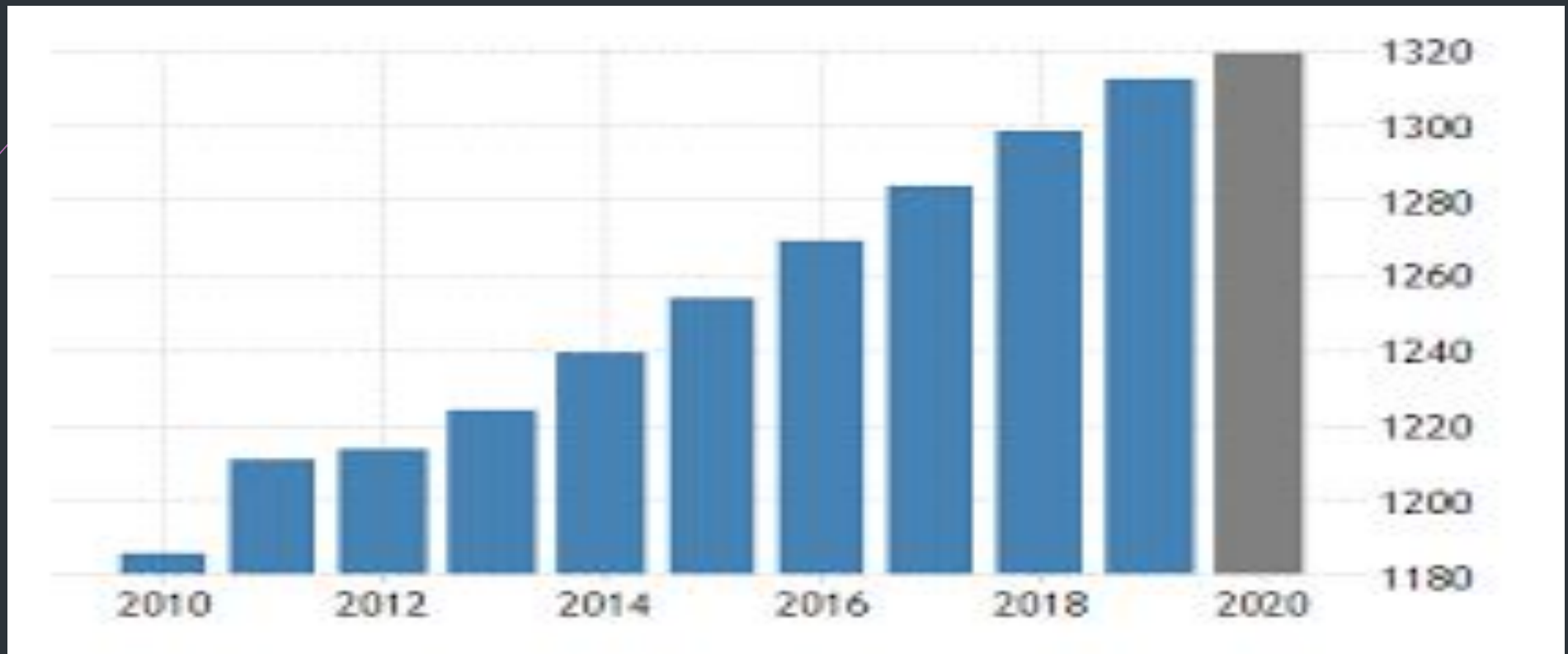


# Population Density

- Population density (in agriculture : standing stock and standing crop) is a measurement of population per unit area or unit volume; it is a quantity of type number density. It is frequently applied to living organisms, and particularly to humans. It is a key geographic term.

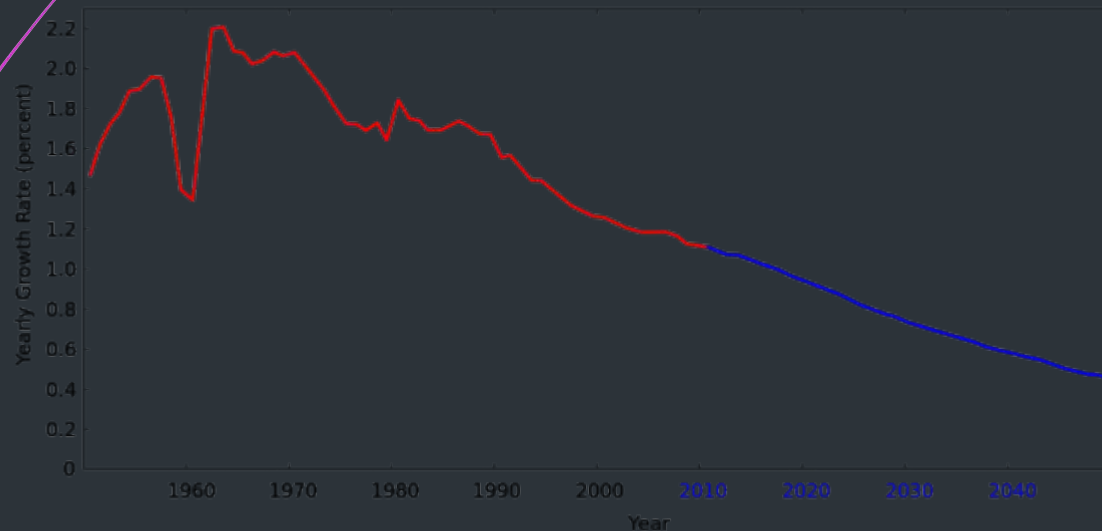
$$\text{Population density} = \frac{\text{total population}}{\text{total land area}}$$

# Population density of india for several years



# POPULATION GROWTH

- The **population growth rate** is the rate at which the number of individuals in a **population** increases in a given time period as a fraction of the initial **population**. Global human **population growth** amounts to around 75 million annually, or 1.1% per year.



$$r = \frac{\log(P_{t+n}/P_t) * 100}{n * \log_e}$$

Where,

**r** = annual rate of population growth

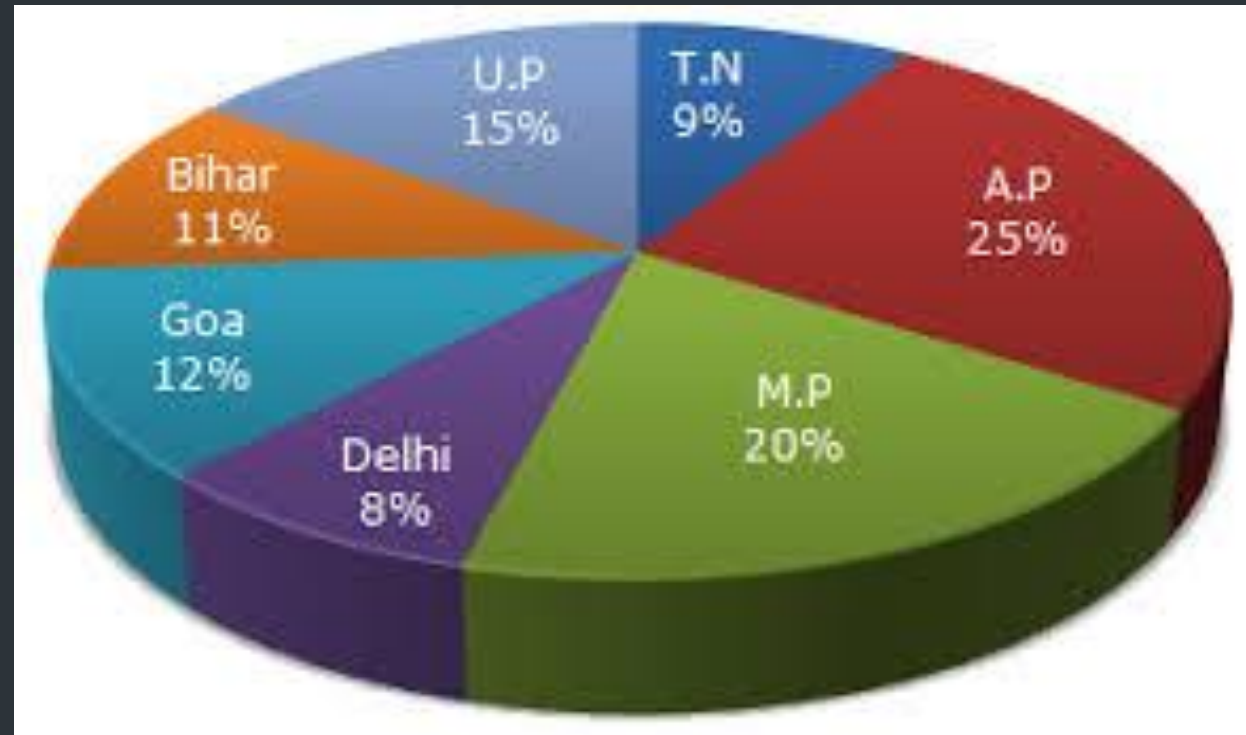
**P<sub>t+n</sub>** = population in the current census

**P<sub>t-1</sub>** = population in a prior census period

**n** = number of years between censuses, **P<sub>t+n</sub>** and **P<sub>t</sub>**

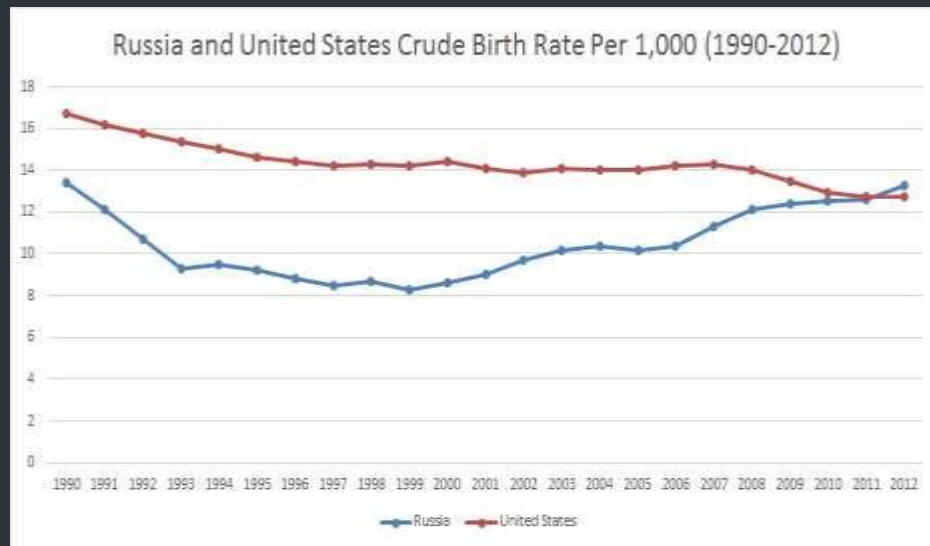
**e** = the natural logarithm, value of approx. 2.718

# Populatin growth of india of different states



# BIRTH RATE OR NATALITY

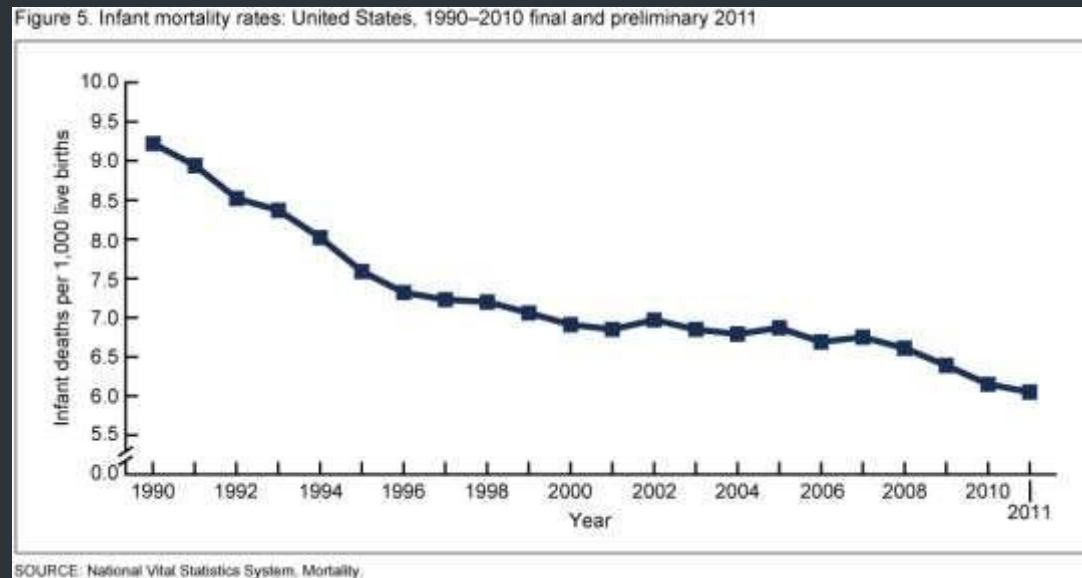
- The birth rate (technically, births/population rate) is the total number of live births per 1,000 of a population in a year.



$$\text{Birth Rate} = \frac{\text{Number of Births}}{\text{Annual Average Population}} \times 1000\text{‰}$$

# DEATH RATE OR MORTALITY

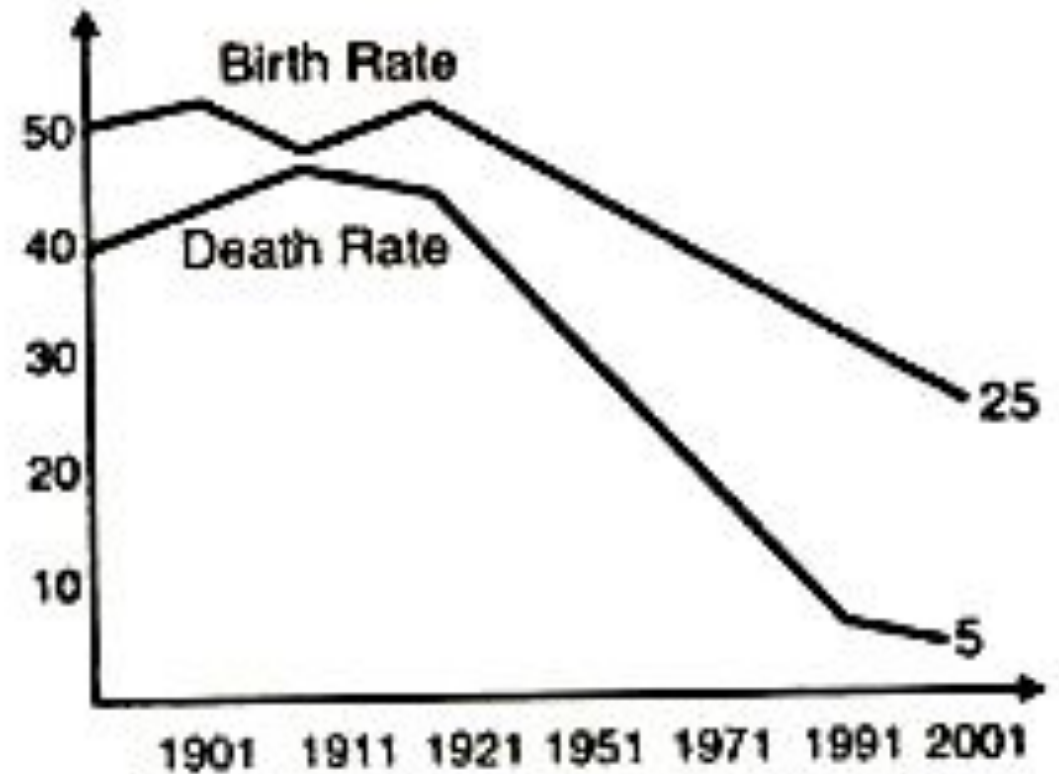
- Mortality rate, or death rate, is a measure of the number of deaths (in general, or due to a specific cause) in a particular population, scaled to the size of that population, per unit of time.



$$\text{Death Rate} = \frac{\text{Number of Deaths}}{\text{Annual Average Population}} \times 1000\text{‰}$$

**Table 2. India's Birth and Death Rate**

Year	Birth Rate	Death Rate	Growth Rate
1901-1910	49.2	42.6	6.6
1911-1920	48.1	47.2	0.9
1921-1930	46.3	36.3	10.0
1931-1940	45.2	31.2	14.0
1941-1950	39.9	27.4	12.5
1951-1960	41.7	22.8	18.9
1961-1970	41.2	19.0	22.2
1971-1980	37.2	16.0	22.2
1981-1990	32.5	15.0	21.2
1990-1991	29.5	9.8	19.7
1995-1996	28.3	9.0	19.3
1991-2001	25.8	8.0	17.1

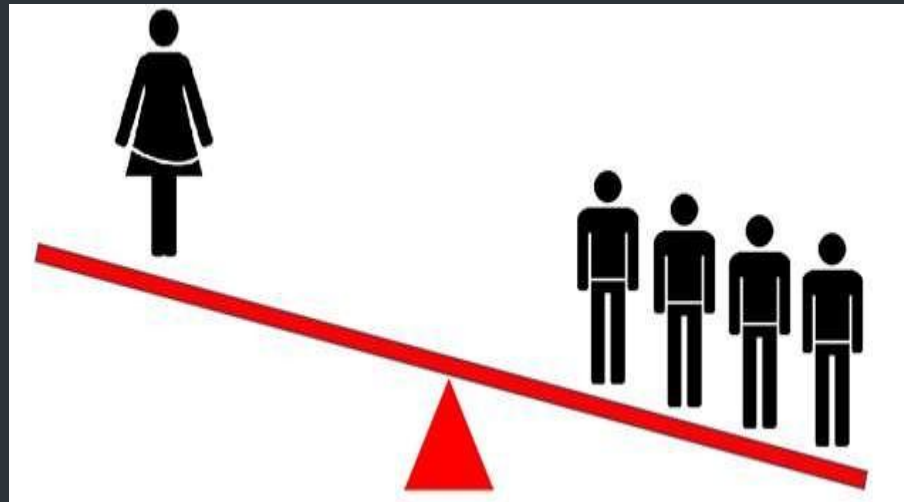


**Fig. 3**



# GENDER RATIO

- The **gender ratio** is the ratio of males to females in a population. In the majority of species, this is 1:1, the reasons for which are described in Fisher's principle. Some eusocial wasps, such as the *Polistes fuscatus* and the *Polistes exclamans*, seem to defy this ratio at times.



$$\text{Sex ratio} = \frac{\text{population}_{\text{males}}}{\text{population}_{\text{females}}} * 100$$

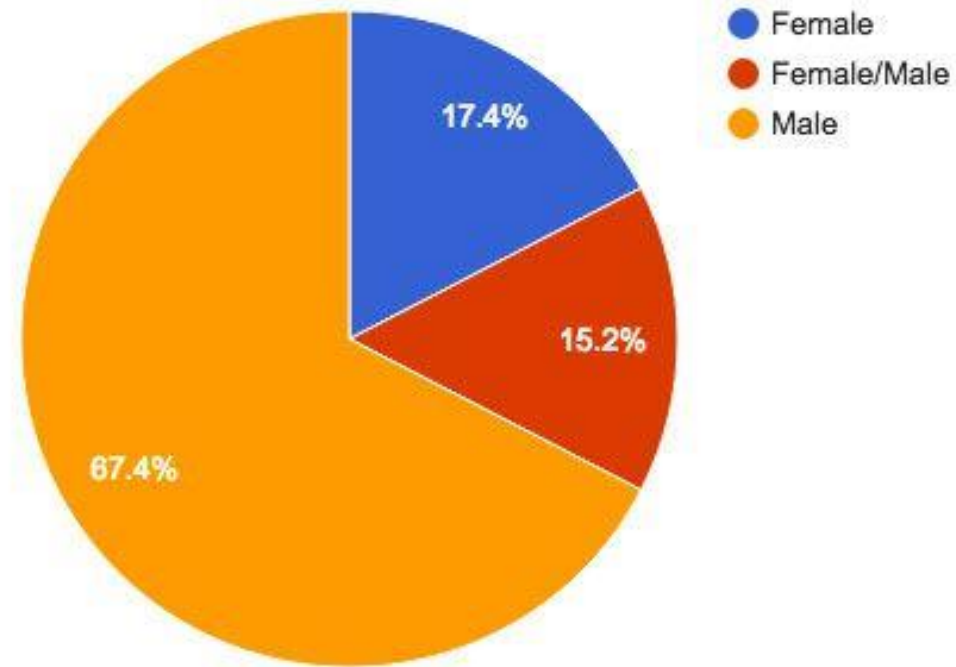


# BIOTIC POTENTIAL

- **Biotic potential** density dependent. Full expression of the **biotic potential** of an organism is restricted by environmental resistance, any condition that inhibits the increase in number of the population. It is generally only reached when environmental conditions are very favourable.

# In india gender ratio

Fall 2015 Broadcast Dramas: Creators/Showrunners

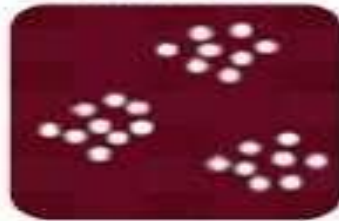


Indiewire

# PATTERN OF DISTRIBUTION

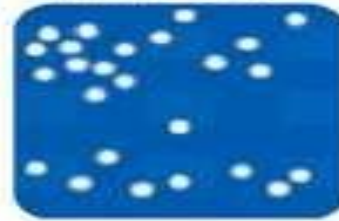
## Patterns of Population Distribution

CLUMPED



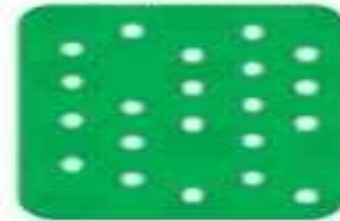
Organisms are clustered together in groups. This may reflect a patchy distribution of resources in the environment. This is the most common pattern of population dispersion.

RANDOM



Organisms have an unpredictable distribution. This is typical of species in which individuals do not interact strongly.

UNIFORM



Organisms are evenly spaced over the area they occupy. This is typical of species in which individuals compete for a scarce environmental resource, such as water in a desert.



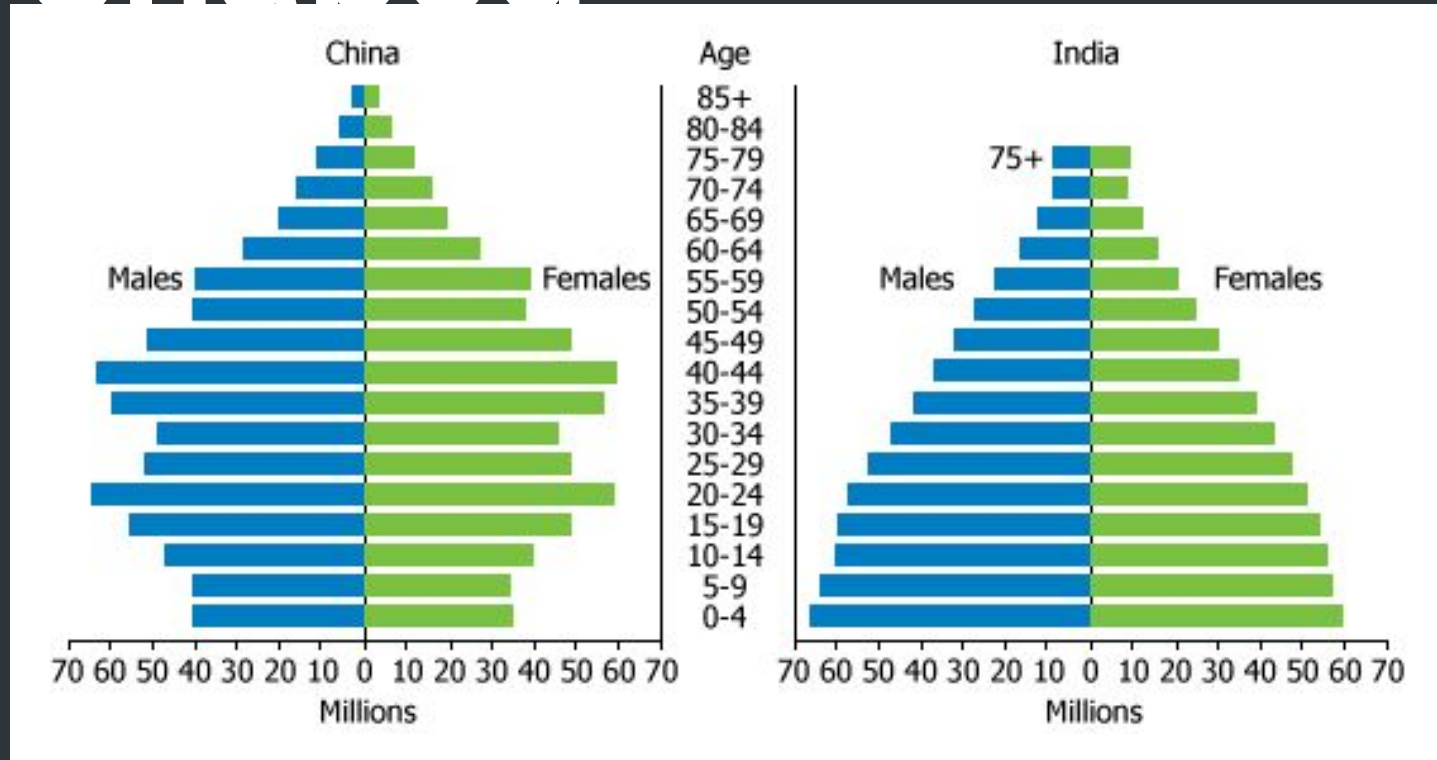
# AGE

# DISTRIBUTIO

□ There are three types of age distribution methods:

- N**
- Pyramid Shaped
  - Bell Shaped
  - Urn Shaped

# Pyramid shaped



Pyramid Shaped Age Distribution of Population of China and India

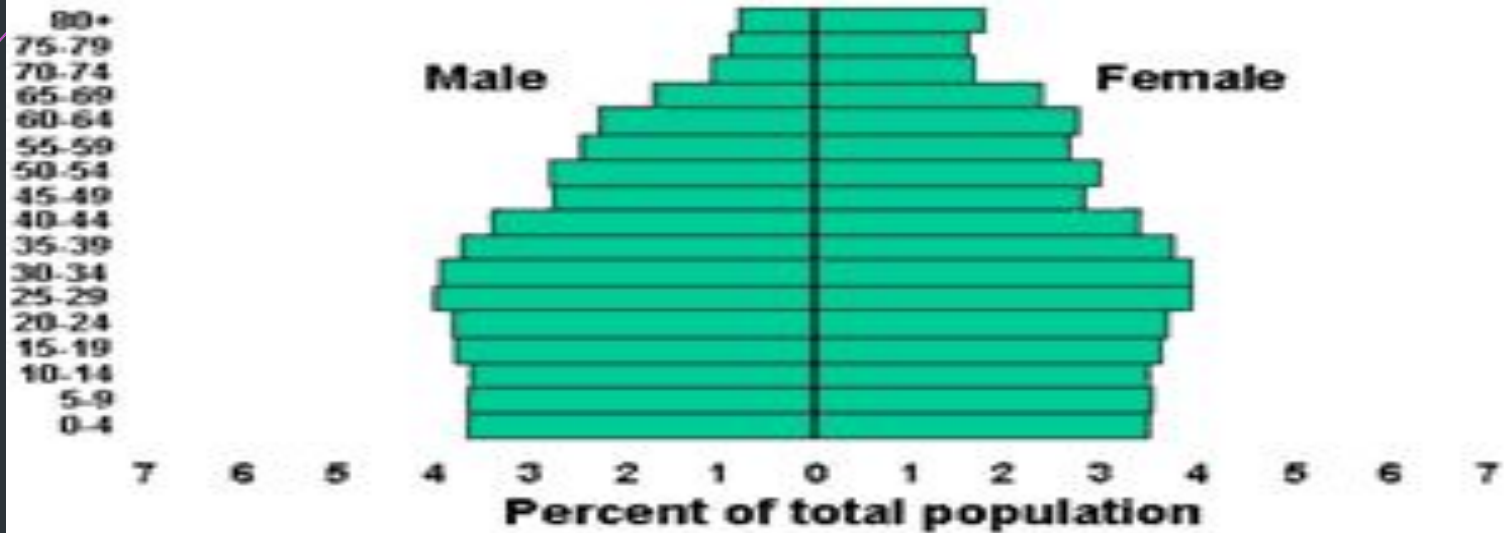
# Bell

# Shaped

“Stable” population distribution

## Age and Sex Distribution

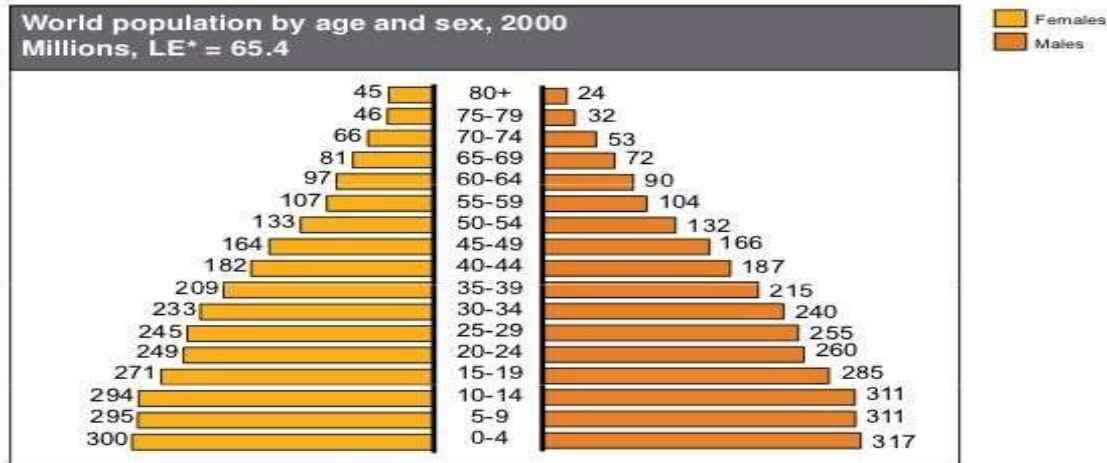
Industrialized Countries



Bell Shaped Age Distribution of Population

# Urn Shaped

5 Today's 'pyramid-shaped' population profile will become 'urn-shaped' by 2050



\* LE = Life Expectancy

Source: UN, World Population Prospects: The 2002 Revision and World Urbanization Prospects: The 2001 Revision

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NOVARTIS





# Immigra tion

- Immigration is the movement of people into a destination country to which they are not native or do not possess its citizenship in order to settle or reside there, especially as permanent residents or naturalized citizens, or to take-up employment as a migrant worker or temporarily as a foreign worker.

**Immigration means the movement of people to a country.**



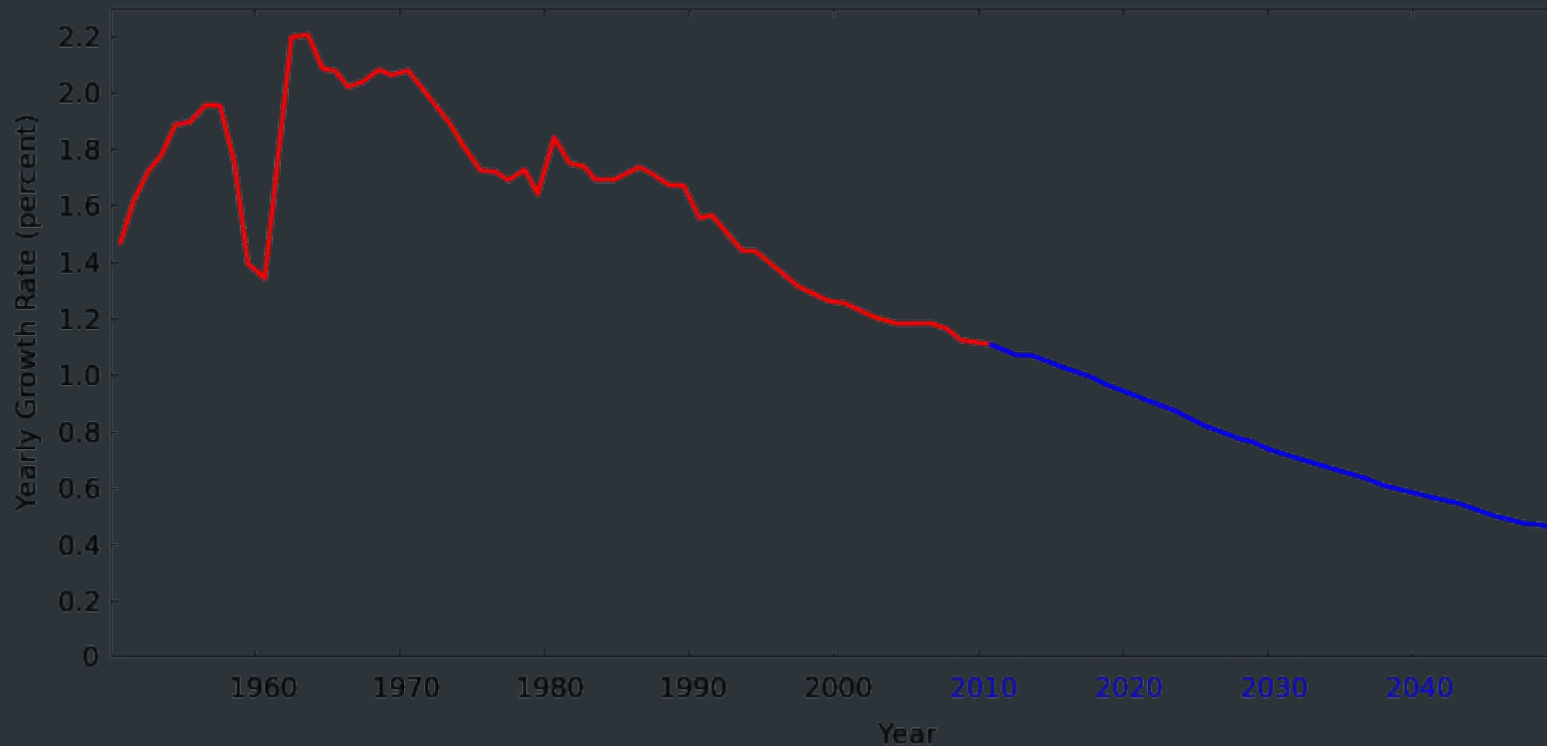
# Emigra tion

- Emigration is the act of leaving one's native country with the intent to settle elsewhere. Conversely, immigration describes the movement of persons into one country from another. Both are acts of migration across national boundaries.

**Emigration means**  
movement of people from a  
m country.

# Positive/Negative Growth Rate

- A Positive growth rate indicates that the population is increasing, while a Negative growth rate indicates that the population is decreasing.



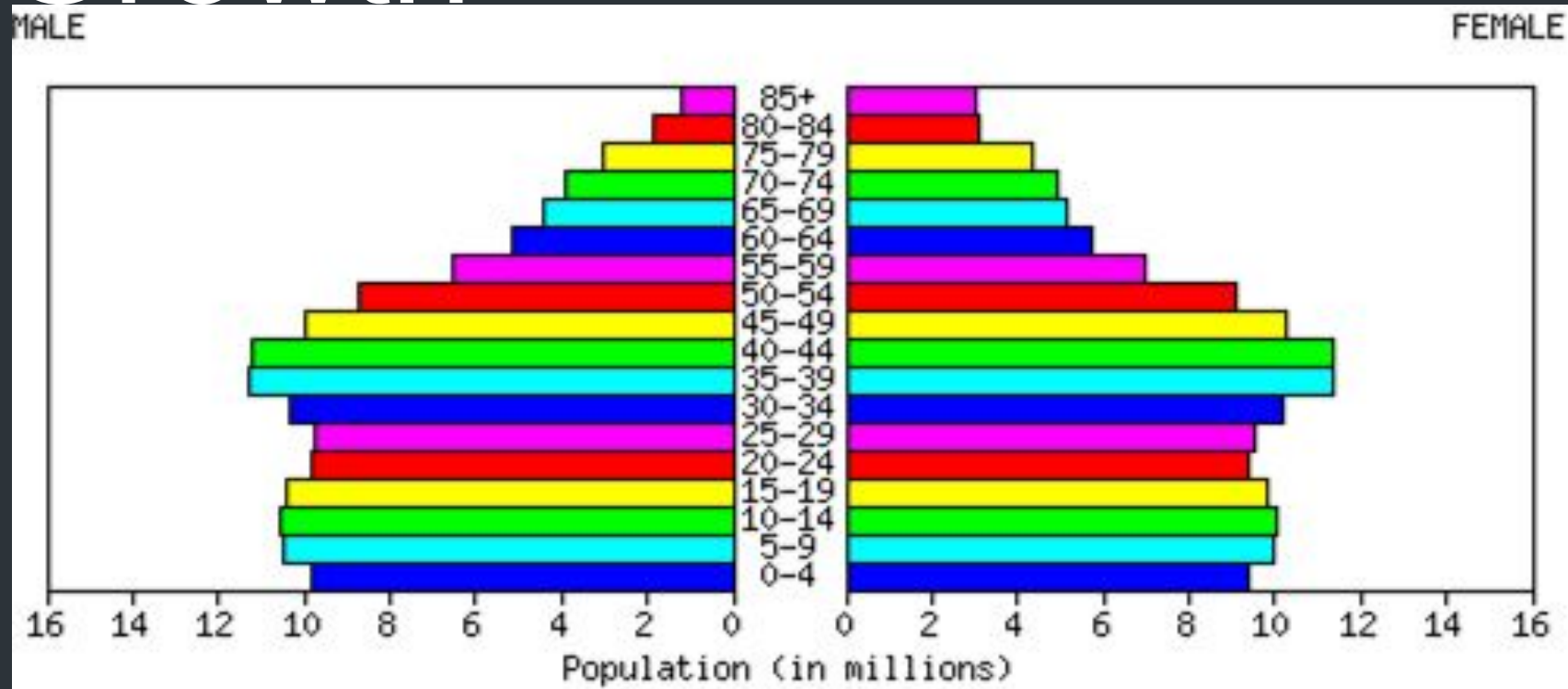


# Zero

# Growth

- Zero population growth, sometimes abbreviated ZPG (also called the replacement level of fertility), is a condition of demographic balance where the number of people in a specified population neither grows nor declines, considered as a social aim by some. According to some, zero population growth is the ideal towards which countries and the whole world should aspire in the interests of accomplishing long-term environmental sustainability. What it means by 'the number of people neither grows nor declines' is that births plus in-migrants equal deaths plus out-migrants.

# Zero Population Growth



Zero Population Growth Graph

