Lecture-3

On

Population Geography

By

Mr. Bikash Barman

Assistant Professor

Department of Geography

Malda Women's College

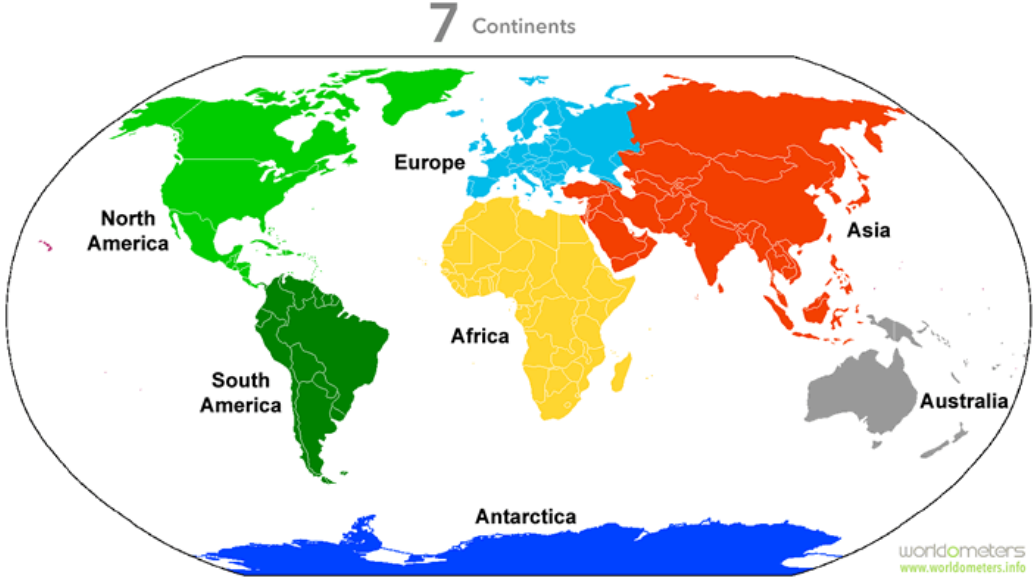
Today's Discussion

on

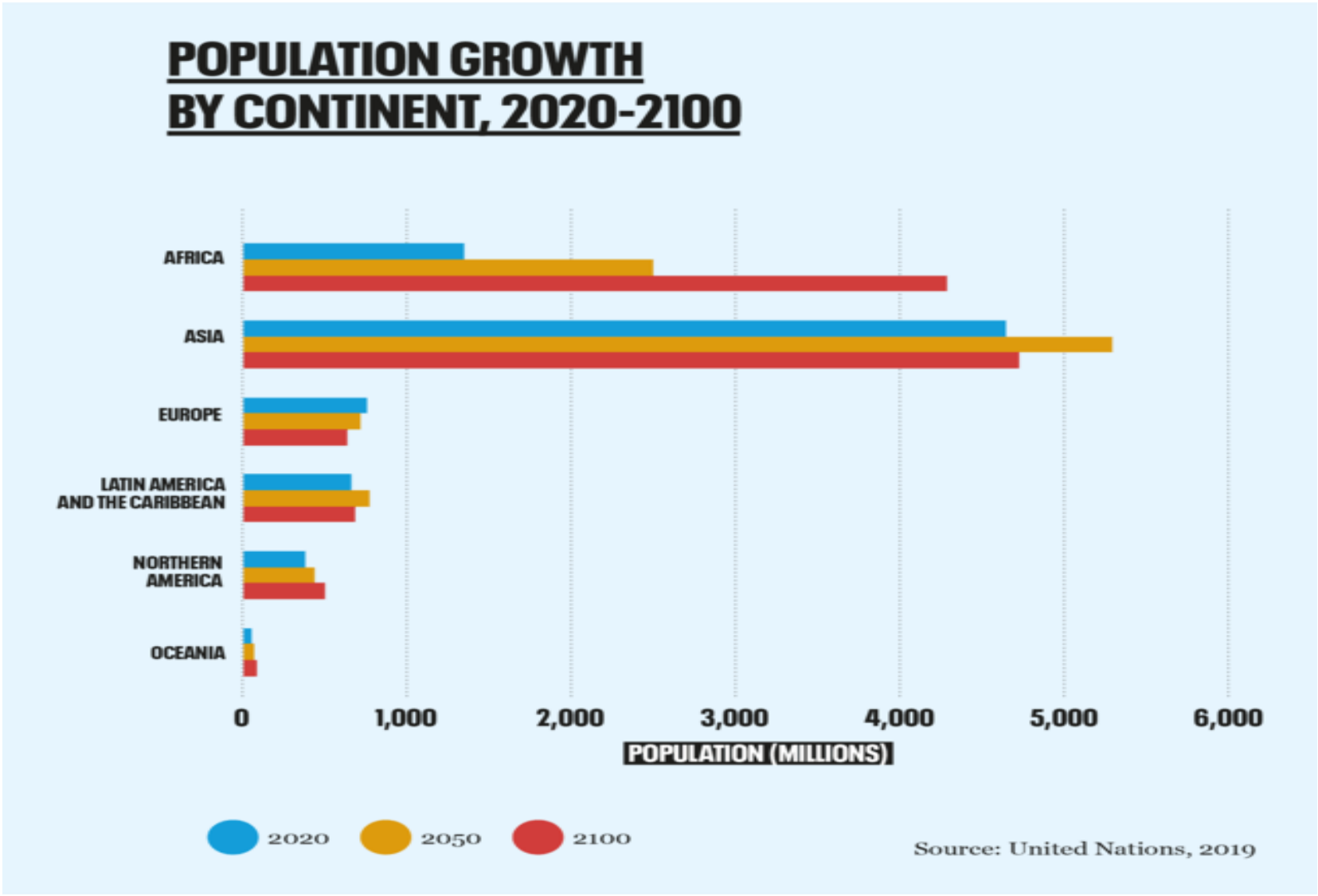
1. Spatial Distribution of population
2. Density of population
3. Concept of Over population
4. Concept of Under population
5. Concept of Optimum Population

Spatial Distribution of Population

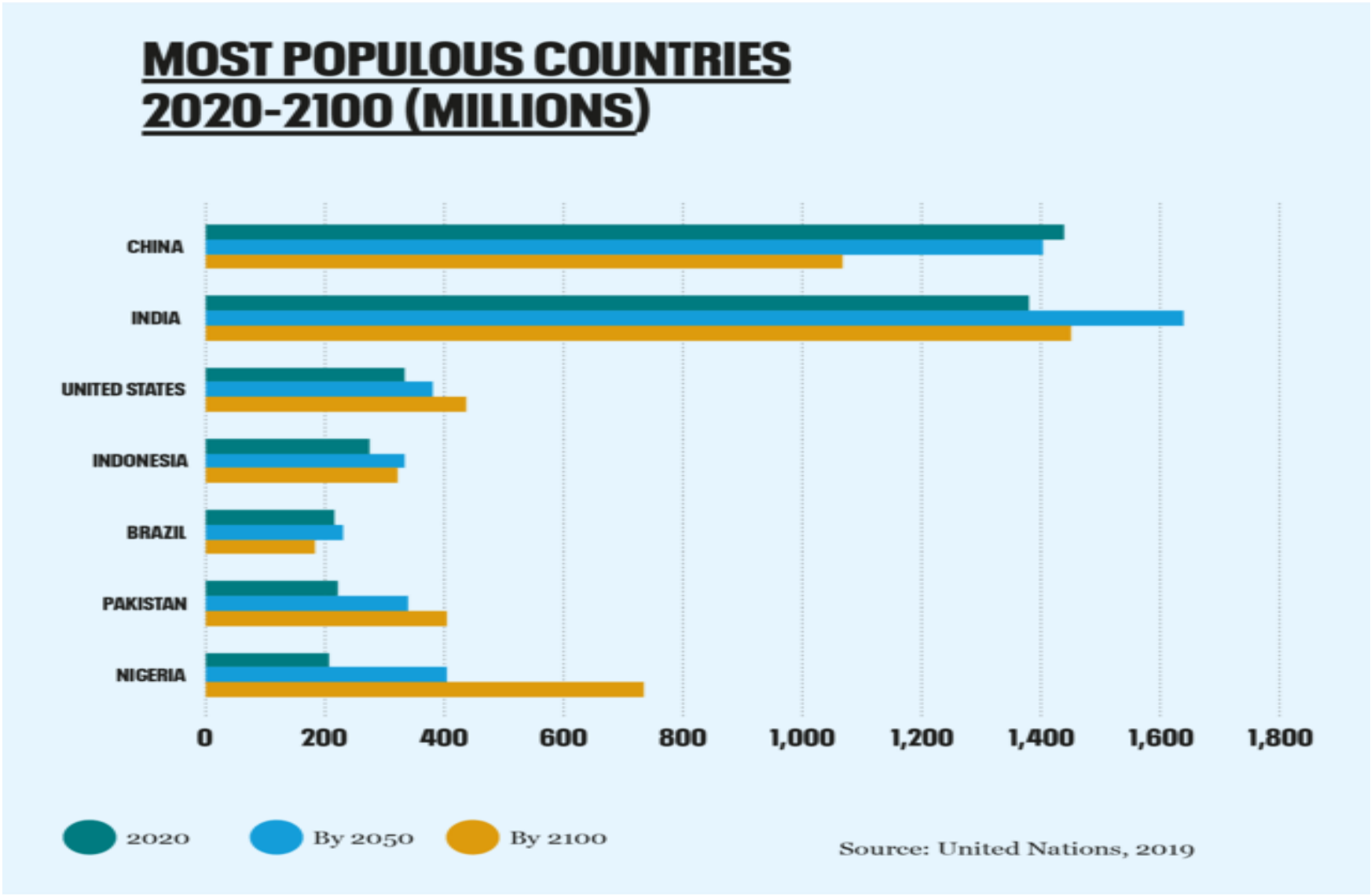
Sl. No	Continent	Population (2020)	Area (Km²)	Density (P/Km²)	World Population Share
1	Asia	4,641,054,775	31,033,131	150	59.54%
2	Africa	1,340,598,147	29,648,481	45	17.20%
3	Europe	747,636,026	22,134,900	34	9.59%
4	North America	592,072,212	21,330,000	28	7.60%
5	South America	430,759,766	17,461,112	25	5.53%
6	Australia/Oceania	42,677,813	8,486,460	5	0.55%
7	Antarctica	0	13,720,000	0	0.00%



Population Projection by Continent



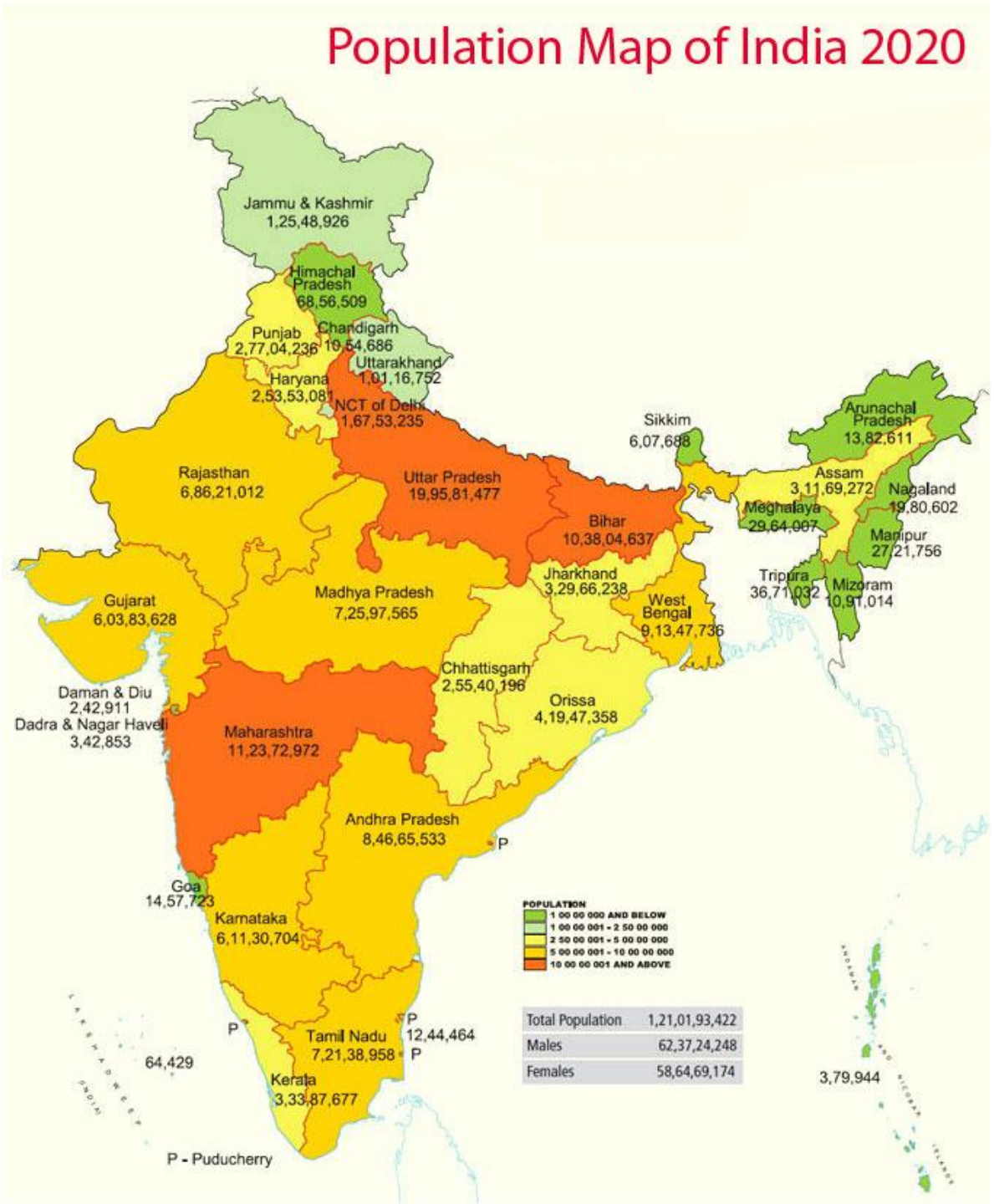
Population Projection by Country



Spatial Distribution of Population in India, 2011

1	Uttar Pradesh	199,812,341	16.50
2	Maharashtra	112,374,333	9.28
3	Bihar	104,099,452	8.60
4	West Bengal	91,276,115	7.54
5	Madhya Pradesh	72,626,809	6.00
6	Tamil Nadu	72,147,030	5.96
7	Rajasthan	68,548,437	5.66
8	Karnataka	61,095,297	5.05
9	Gujarat	60,439,692	4.99
10	Andhra Pradesh	49,386,799	4.08

Population Map of India 2020



Population Density

Number of population per square kilometer

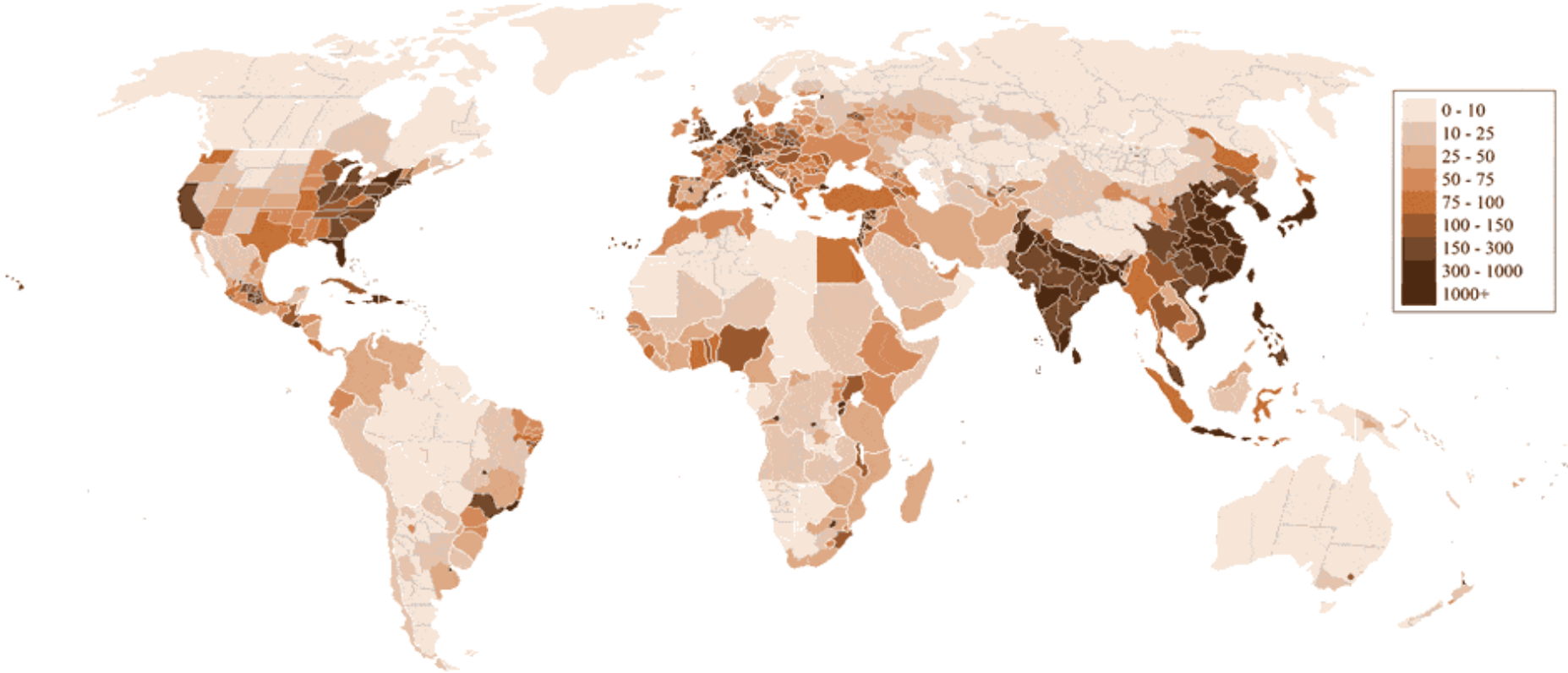
Population Density = Total population/total land

জনঘনত্ব বা জনসংখ্যার ঘনত্ব হল একক আয়তনের এলাকাতে বসবাসকারী জনসংখ্যার পরিমাপ। সাধারণত জীবন্ত প্রাণী, যেমন মানুষ ইত্যাদির ক্ষেত্রে এটি ব্যবহৃত হয়।

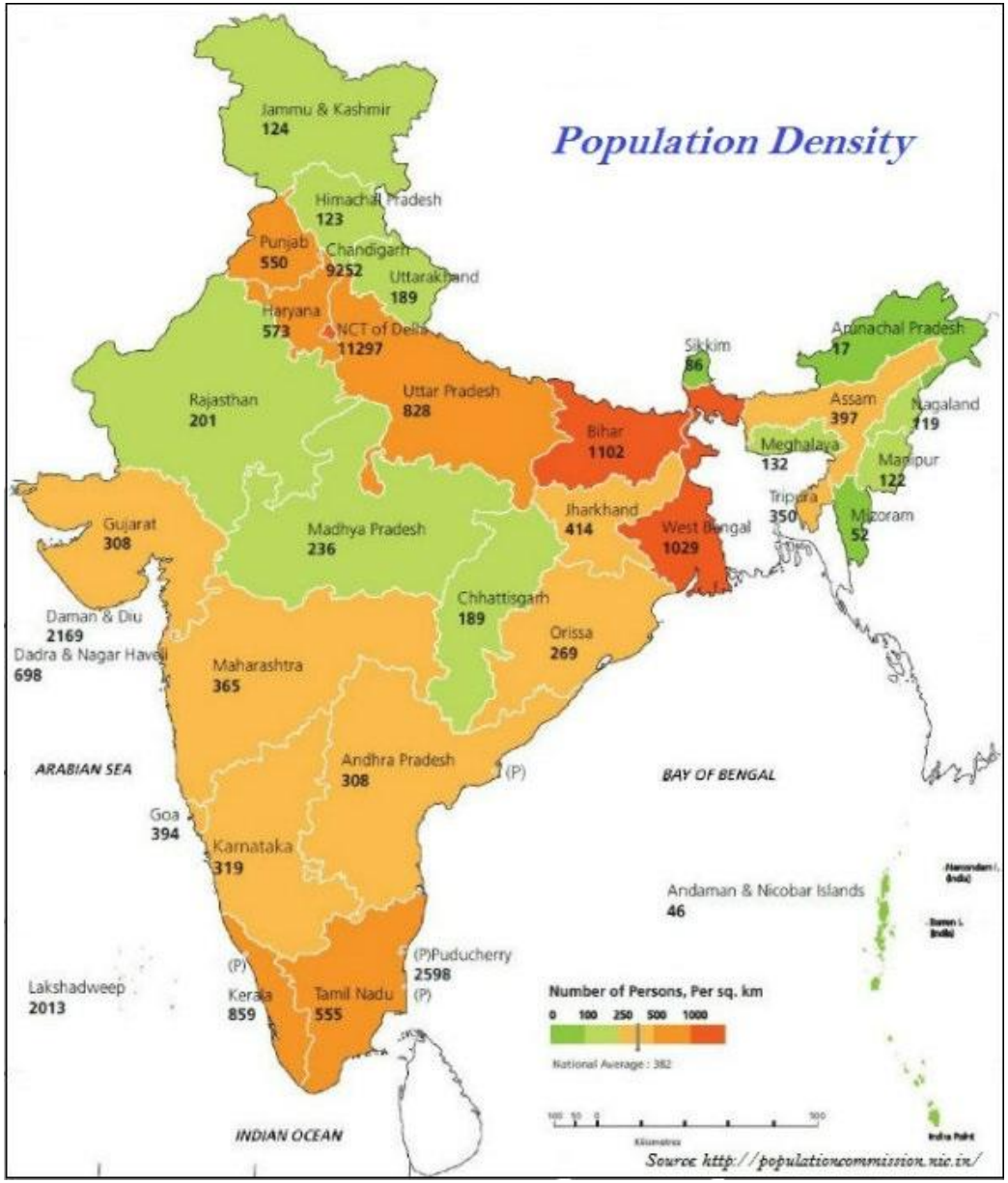
Different types of population density

1. **Arithmetic density**: The total number of people / area of land
2. **Physiological density**: The total population / area of arable land
3. **Agricultural density**: The total number of population engaged in agriculture / area of total arable land
4. **Residential density**: The number of people living in an urban area / area of residential land
5. **Urban density**: The number of people inhabiting an urban area / total area of urban land
6. **Ecological optimum**: The density of population that can be supported by the natural resources

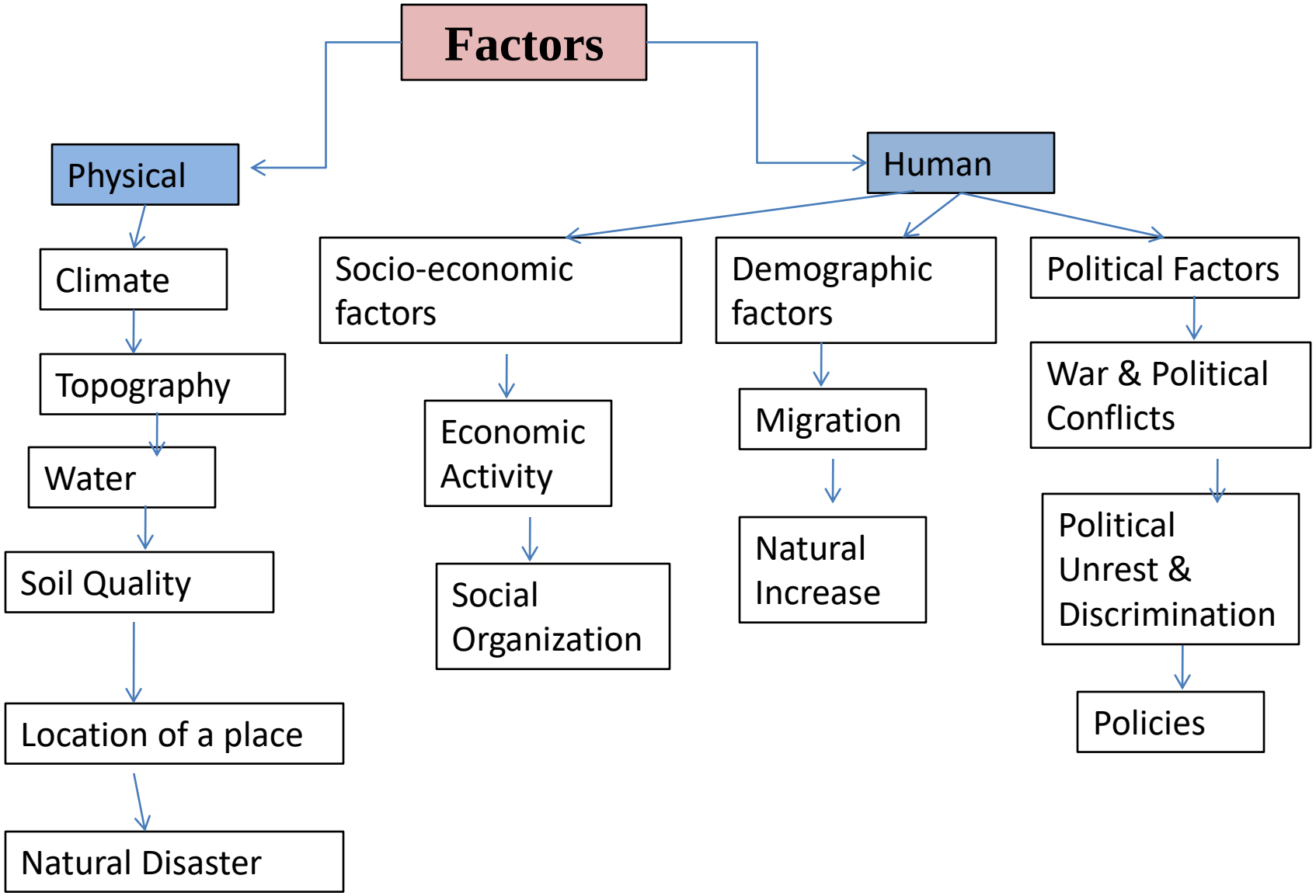
World's Population Density Map, 2020

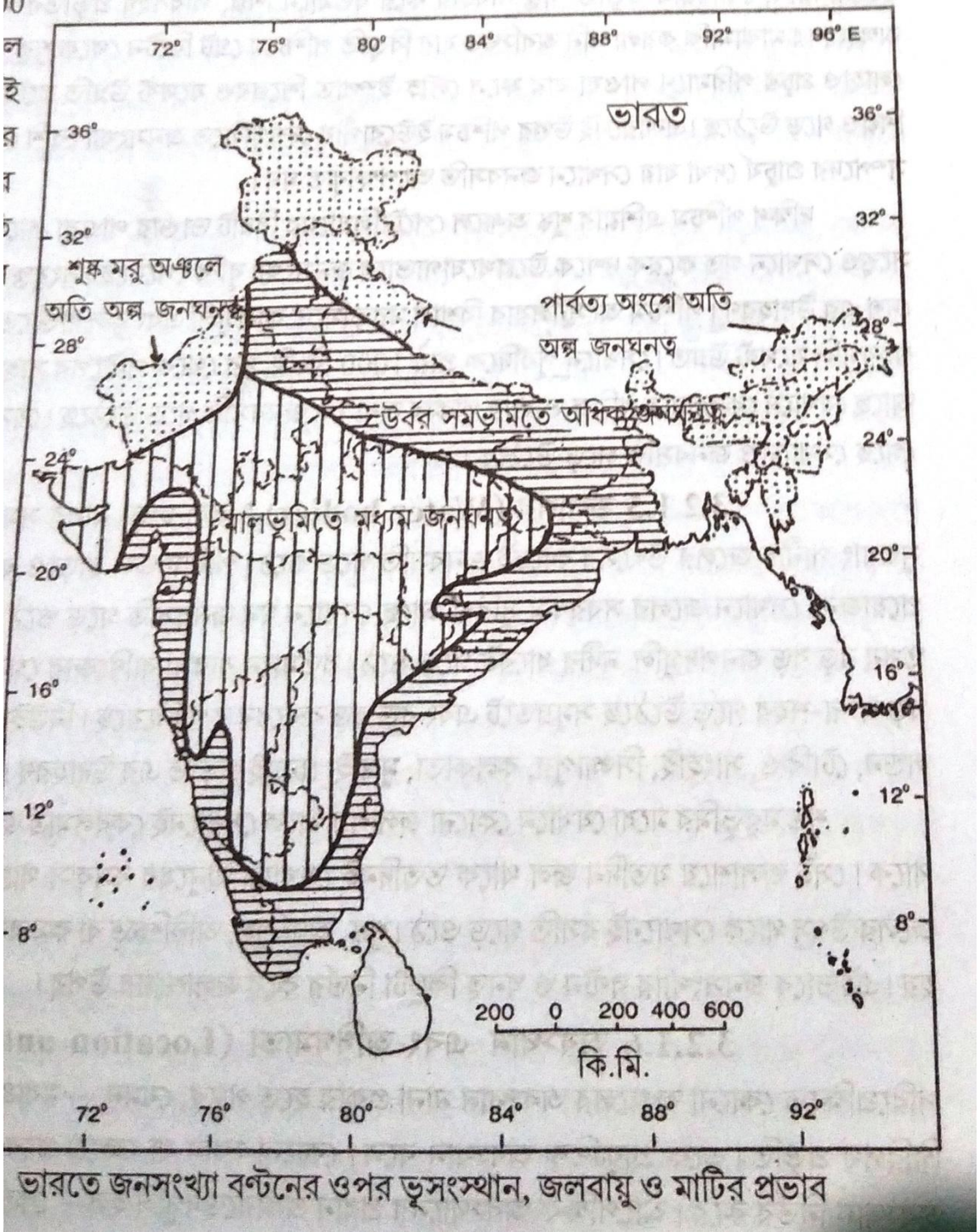


India's Population Density Map, 2011



Factors affecting spatial distribution and Density of population





ভারতে জনসংখ্যা বণ্টনের ওপর ভূসংস্থান, জলবায়ু ও মাটির প্রভাব

Role of topography, climate and soil on spatial distribution and density of population in India

Vertical distribution of population

- Demographer Stazzewski stated that the distribution and density of population is decreased with the increased of height.
- 56 percent world population lived within 200 m from the sea level

Q1.What are the basic differences between distribution and density?
Q2.What are the different types of population density?
Q3.What are the different factors of distribution and density of population?
Q4.Why are some areas sparsely populated?
Q5. Why are some areas densely populated?
Q6. Discuss the Role of topography, climate and soil on spatial distribution and density of population in India

Concept of Overpopulation

Definition

Overpopulation refers to a population which exceeds its sustainable size within a particular environment or habitat. Overpopulation results from an increased birth rate, decreased death rate, the immigration to a new ecological niche with fewer predators, or the sudden decline in available resources. Therefore, overpopulation describes a situation in which a population in a given ecosystem limit the resources available for survival.

The term 'overpopulation' means too great a population for a given region to support. There may be two causes: (i) population growth exceeds the existing resource base; (ii) existing resources have been depleted.

Overpopulation mainly found in developing countries like **India, Bangladesh, Pakistan, Mayanmar, Srilanka etc.**

Types of overpopulation:

1. Absolute overpopulation: where the absolute limit of production has been attained but standards of living remain low.
2. Relative overpopulation: where present production does not support the population but the production can be augmented.

Causes of Overpopulation

1. **An increased birth rate** will result in population growth, which can lead to the overpopulation of a species if such growth exceeds the resources within a particular geographic area.
2. **Decreased mortality rates** can result in the overpopulation of a species if the increased lifespan of a species results in limiting the available resources within an ecological niche.
3. **A reduction in available resources** can result in overpopulation if the amount of available resources cannot sustain the population within that region. Some examples include desert environments or times of drought which make crops and other sources of food scarce.
4. **Rapid increase of rural population,**
5. **Skewed distribution of agricultural land,**
6. **Agricultural mechanisation,**
7. **Lack of development of non- agricultural sector**
8. **Low agricultural yield,**
9. **Lack of social development, and**
10. **Non-resilience of the agricultural sector.**

Effect of overpopulation:

1. Population explosion
2. Unemployment
3. Poverty
4. Food crisis
5. Shortage of land
6. Shortage of house
7. Malnutrition
8. Social unrest
9. Low quality of life
10. Resistance in economic development
11. Shortage of existing resources
12. Shortage of drinking water
13. Low educational attainment

Solution for overpopulation

1. Population control
2. Generate employment
3. Generate new resources
4. Sustainable use of existing resources
5. Generate new industry on agricultural goods

UNDERPOPUALTION

- Underpopulation occurs when there are far more resources in an area/country (food, energy & minerals etc) than can be used by the total population living there.

- Canada and Australia are good examples of countries that are underpopulated. Both have surplus amounts of food, energy and mineral resources that are exported. Their populations have high incomes, good living conditions, high levels of technology and immigration.
- Standards of living would probably rise further if populations increased, as greater volumes of resources would be produced and exploited!

Concept of Optimum Population

The economists like Carr Saunders considered ‘optimum population’ as that which produces maximum welfare. On the other hand, Prof. Cannan defined this theory in terms of ‘return to labour’. He remarked, “Knowledge and circumstances remaining the same, there is what may be called maximum return when the amount of labour is such that both an increase and decrease in it would diminish proportionate return.” Similarly, Bounding has rightly observed, “Optimum population is that at which standard of living is maximum.

Optimum Population Theory

Propounder: Edwin Cannan and Carr Saunders; next modified by Dalton

Statement of the Theory: The founders of the theory state it as "Given the natural resources, stock of capital and the state of technical knowledge, there will be a definite size of population with the per capita income. The population which has the highest per capita income is known as optimum population".

$$M = \frac{A - O}{O}$$

where :

M — Maladjustment or deviation from optimum population.
A — Actual population
O — Optimum population

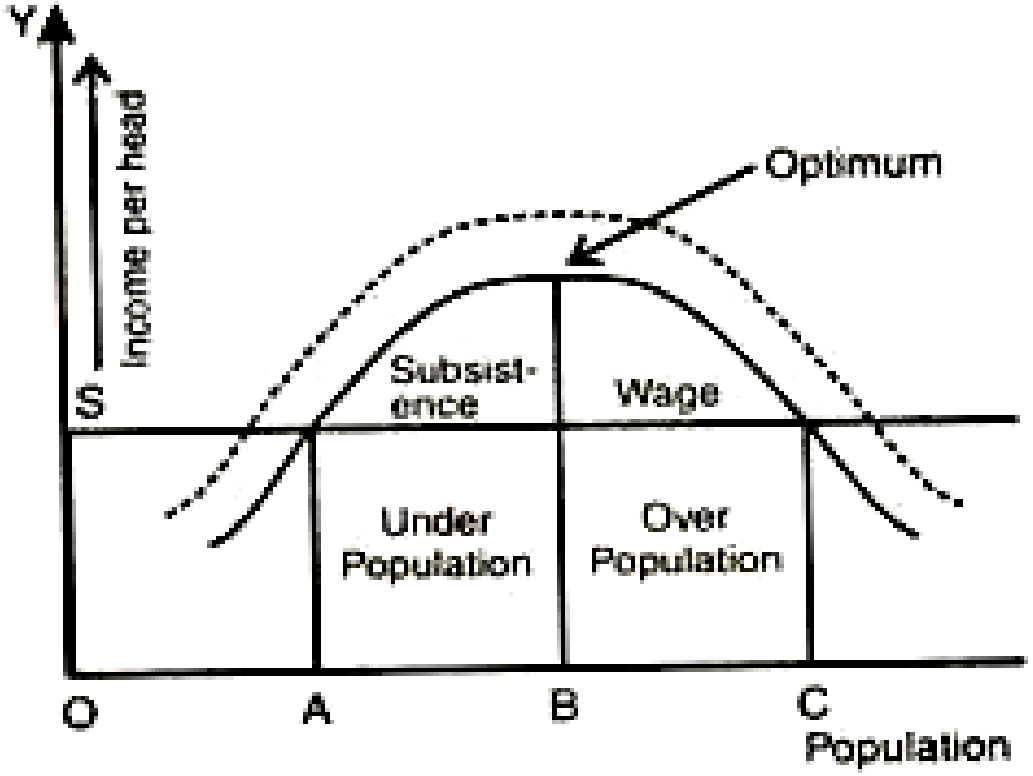


Fig. 1

Thank You