

## **Population Composition**

Among various elements of population composition, Sex composition, Age composition and Economic composition are the important components of the population scenario of any place. The spatial spread or in other words the distribution and density of population is not uniform. There are wide regional contrasts for e.g. on one hand we have unpopulated lofty mountains on the other hand we have densely populated river valleys, plains and deltas which have extremely high population. This uneven distribution of population is because of many factors like: Soil fertility, Climate, Types of landforms, Resource availability and Job opportunities, etc.

### **Sex-Ratio**

Sex ratio in India is defined as no. of females per 1000 males. According to the 2011 census, there are 940 females per 1000 males in India. The uneven composition of sex ratio is because of the practice of female infanticide, sex-selective female abortions and neglect of the girl child. The sex composition in some states for e.g. Punjab, Haryana is a matter of concern.

Kerala has a sex ratio of 1084, followed by Tamil Nadu 995 Andhra Pradesh 992. In comparison, Haryana and Punjab, Jammu and Kashmir has a sex ratio lower than 900.

In spite of the sex ratio of India being lower than developed countries, it is gradually increasing and most states have shown an improvement.

The sex ratio in India is characterized by the differences in its rural-urban components. The rural sex-ratio of India according to 2011 census is 946 and the urban sex-ratio is 900. The urban-rural difference in the sex-ratio of India is the product of sex selective migration from rural areas to urban areas. More males move from rural areas to urban areas in India.

### **Age Composition**

Age composition is the description of the age structure which refers to the number of people in different age groups. Generally the population is categorized into these three broad age groups.

1. The young (0-14)
  2. The adults (15-59)
  3. The old (60 and above).
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The larger size of population in the age group of (15-59) indicates the chances of having a larger working population, on the other hand if the children (0-14) and the old (60 and above) are more then the dependency ratio will be high.

The population scenario of India looks bright because more than 58% of its population falls in the 15-59 years age group which means India has a large work force if channelized properly. More than 34% of its population falls in the 0-14 category. Even though it is a dependent population but if this age group is nurtured well i.e., (good education, health, skills etc.) the future of the nation is secure and safe.

Around 8% of the Indian population falls under the age group of 60 and above. A majority of the Indian population falling in this age group is in rural areas. Thus India faces a major challenge because to provide service delivery to remote rural areas is difficult.

### **Population Distribution**

Population distribution represents the total number of people living in a particular area. India according to the 2011 census has a total human population of 1,210,854,977 persons. In its distribution, the majority of the Indian population lives in rural areas. More than 70% of the Indian population lives in its villages.

In spite of being the second most populous country in the world, the population has a very uneven distribution, the productive plains and the urban areas have high concentration of population whereas the inaccessible mighty mountains with harsh climate condition have little or no permanent population. Similarly the forested areas, deserts, arid regions have less population.

Uttar Pradesh with nearly 199.5 million population is the most populous state followed by Maharashtra 112 million, Bihar 103 million, West Bengal and Andhra Pradesh. Sikkim with a population of 6,07,688 persons is the least populous state.

India's economy continues to be agricultural; the factors that govern population distribution are those that promote good agriculture. The availability of cultivable land, fertile soil, availability of water etc. has traditionally guided the distributional pattern. Industrial development, job availability, accessibility have also played an important role in the distribution of population.

### **Density of Population**

The total number of persons living per unit area is described as the density. According to the 2011 census the population density of India is 382 persons per sq.km.

The alluvial belt of U.P, Bihar, Haryana, West Bengal etc. have high density of population.

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The metropolitan cities and major urban areas like Delhi, Mumbai, Chennai also have high population density. Delhi has a population density of 11297 persons per sq.km.

The dry central heartland of Madhya Pradesh, Eastern Maharashtra, Orissa, Andhra Pradesh and Rajasthan, mountainous areas of northern and north eastern areas of India, Rann of Kutch, have low population density because of harsh living conditions.

### **Population Growth**

Growth of population refers to the change in the number of people during a particular time period. The population of India has increased more than four-folds since the beginning of the 20th century.

There has generally been an increase in the growth rate of population of India. However in 1911-1921 and 2001-2011 are the exception years when the growth rate has been negative which means that lesser percentage of people have been added to the Indian population as

compared to the other decades. In fact the percentage decadal growth during 2001-2011 has registered the sharpest decline since independence. A decrease of 3.90 percentage points from 21.54 to 17.64%.

The population of India since 1951 has on an average shown a growth rate of 2% per annum. Such unprecedented increase in the country's population is attributed to large scale developmental activities, better food supply, medical services, check in epidemics etc.

### **Characteristics of Indian Agriculture**

Agriculture is the backbone of Indian economy. In India around 70% of the population earns its livelihood from agriculture. It fulfills the basic need of human beings and animals. It is an important source of raw material for many agro-based industries. India's geographical condition is unique for agriculture because it provides many favorable conditions. Apart from unique geographical conditions, India has been consistently making innovative efforts by using science and technology to increase production. Following are some of the broad features of the Indian agriculture:

1. Indian agriculture is subsistent type of agriculture whose prime aim is to meet the food and other requirements of its vast population. Farmers select the crops with major objective of meeting their domestic needs rather than generating surplus for national and international markets.
  2. Indian agriculture is characterized by heavy population pressure. About 70 per cent of the country's population derives its livelihood from agriculture and allied occupations. Since India's population is growing at a faster rate, the availability of agricultural land has declined. This puts enormous pressure on agriculture.
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3. Indian agriculture has the predominance of the cultivation of food grains which occupy 76% of the total cropped area and account for 80% of the total agricultural production of the country. These cereals include rice, wheat, millet, gram, maize and pulses which are grown to meet the food requirements of India's vast population.
4. The agriculture shows diversity of crops. Sometimes four-five crops are grown simultaneously in the same field. This is done to ensure some agricultural production during unfavorable weather conditions. This mixed cropping reduces the agricultural output and per hectare yield.
5. India has the highest percentage (53%) of its geographical area under cultivation in comparison to many countries (USA 16.3%, China 11.8%, Japan 14.9%, Canada 4.3%, etc.) of the world. The climatic conditions especially temperature helps in providing a long growing season throughout the year.
6. Due to physical, economic and social factors the landholdings are tiny, fragmented and unsuitable for modern methods of agriculture.
7. Indian agriculture utilizes a number of draught animals like bullocks, he buffaloes, camels etc. in agricultural work. It is also labor based enterprise where all agricultural operations like tilling, sowing, weeding, sprinkling of insecticides/ pesticides, harvesting, threshing etc. are carried by human hands. Although the use of agricultural machinery is replacing animal and human power but the pace of progress is very slow and confined to rich sections of the cultivators.
9. Indian agriculture is mostly dependent on rainfall whose variability in time and place has adverse effect on agricultural output. It is really a matter of concern that despite five decades of constant endeavor only 41.2% of the total cropped area has been brought under irrigation. Rest is at the mercy of rain-god. If the entire agricultural area is brought under irrigation agricultural production may be easily doubled.
10. Indian agriculture puts minimum attention on fodder crops (4% of cropped area). This together with lack of good pastures has detrimental effect over the development of dairy farming. India has the largest number of cattle but it occupies an insignificant place in respect of cattle products in the world.
11. Indian agriculture suffers from numerous problems, i.e. small land holdings, unscientific method of farming, less irrigational facilities, less use of chemical and natural fertilizers, greater vulnerability to pests and diseases, poverty amongst and lack of infrastructural facilities etc.

### **Rice Production and Distribution**

Rice is the most important food crop of India. and its growth area stretches from 8°N to 34°N latitudes. Rice is also grown in areas below sea level as in the Kuttanad region of Kerela. Covering about one

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fourth of the total cropped area and providing food to about half of the Indian population . This is the staple food of the people living in the eastern and southern parts of the country. India is the second largest producer of rice in the world, next only to china. Conditions of Growth:For its successful growth, it requires a temperature of 20°C -22°C at the time of sowing, 23°C to 25°C during its growth and 25°C to 30°C at the harvesting time. The average annual rainfall should be 150cms. Deep fertile clayey or loamy soils are best suited for the successful growth of the rice crop. Production: India is the second largest producer and consumer of rice in the world and

accounts for 17.95 % of the world's total rice production. India produced 106.3 million tonnes in 2013-14 with a yield of 2429kg /ha.

### **Distribution:**

1. West Bengal :Rice in west Bengal accounts for more than 60% of the sown area in every district. The winter crop (aman paddy) is the most important accounting for over two thirds of the states production. It produces about 14.33% of the total production from 12.8% of rice producing area of the country and is the largest rice producing state in India.
2. Punjab: Punjab has emerged the second most important rice producing state in India contributing about 12% of the total rice production in the country. Major Rice producing districts are Patiala, Firozpur, Ludhiana, sangrur etc.
3. UP: In UP , the rice cultivation is confined to Saharanpur , Deoria, Gonda , Basti, Rai Barelli, Lucknow, Varanasi and Gorukhpur. The crop is extensively grown in the eastern and north (north-eastern parts). It produces about 11% to the national output of rice with 11% of total acreage under rice in India.
4. Andhra Pradesh : In Andra Pradesh , the deltas of Krishna and Godawari and the adjoining coastal plains form one of the most important rice tracts in the country. It produces about 10% of the total output of rice in the country.
5. Tamil Nadu: In Tamil Nadu north Arcot and Thanjavur districts in the Cauvery delta account for 60% of the state's production. Tamil Nadu produces about 8% of total production of rice in the country.

### **Wheat**

Wheat is the most important food grain of India after rice and is the staple food of millions of Indians, particularly in the northern and north-western parts of the country. It is rich in proteins, vitamins and carbohydrates and provides balanced food.

Conditions of Growth: wheat is primarily a crop of mid-latitude grasslands and requires a cool climate with moderate rainfall. The ideal wheat climate has winter temperature of 10°C to 15°C and summer

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temperature varying from 21°C to 26°C. Wheat thrives well in areas receiving an annual rainfall of about 75cms. annual rainfall of 100cms is the highest limit of wheat cultivation. Well drained fertile friable loams and clay loams are the best

suited soils for wheat cultivation. It also grows well in the black soil of the Deccan plateau.

**Production:** after China India is the largest producer of wheat in the world and accounts for 12.39% of the total production of wheat in the world. Wheat is grown on 14% of the cropped area of India. India produced about 92.46 million tonnes of wheat during 2013-14 with the yield of 3118kg/ha.

**Distribution:**

1. Uttar Pradesh: UP is the largest wheat producing state of India accounting for about one third of area and production of wheat of the country. In 2012-13 UP produced about 30.3million tonnes of wheat. It is mostly cultivated in the „Ganga – Ghaghra doab” and Ganga –Yamuna Doab.
2. Punjab: Punjab accounts for about 17.42% of the wheat production and 11.8 % of wheat area in India. in 2012-13 Punjab produced 16.11 million tonnes of wheat with the yield of 4577kg per ha , which is highest in the country. It is produced in Jalandar , Ludhiana, Sangrur,Bhatinda, Amritsar, Ferozpur, Faridkot etc.
3. Madhya pradesh: it is the third largest wheat producing state and accounts for 14% of the total production of India. Important wheat producing districts are Sagar,Vidisha,Tikangarh, Sehore, Gwalior etc
4. Haryana: it accounts for about 8.43% of the wheat area of India and produces over 12% of the total wheat of the country. Karnal , Kurukshetra , Ambala, Kaithal , Panipat, Sonipat, Rohtak etc are important wheat producing districts.
5. Rajasthan: Rajasthan accounts for 9.68% of the total wheat production and 9.51/5 of wheat area of India.

**Green Revolution- Achievements and Causes**

The Indian economy traditionally was an agricultural economy. Most of the food produced in the village was consumed by the farmers themselves. However India was prone to periodic famines which lead to considerable human loss and suffering. In 1943 i.e. 4 years short of Indian independence 4 million people died in British ruled India because of the famine of Bengal.

So in 1947 food security was of paramount concern on free Indian agenda.

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This concern led to the Green Revolution is applied to the period from 1967 to 1978. Between 1947 and 1967 efforts at achieving food self-sufficiency were not entirely successful.

The term Green Revolution is a general one that is applied to successful agricultural experiments. It is not specific to India. But it was most successful in India.

There were three basic elements in the methods of Green Revolution:

- Continued expansion of farming.
- Double-cropping.
- Using seeds with improved genetics.

#### **Achievements:**

The Green Revolution resulted in a record grain output of 131 million tons in 1978-79. This established India as one of the world's biggest agricultural producer. No other country in the world which attempted the Green Revolution recorded such level of success.

1. India became an exporter of food grains around that time.
2. Yield per unit of farmland improved by more than 30% between 1947 and 1979.
3. The crop area under HYV grew from 7% to 22% of the total cultivated area during the 10 years of Green Revolution.
4. The increase in irrigation created new dams. The water stored used to create hydro-electric power. This in turn boosted industrial growth, created jobs and improved the quality of life in the villages.
5. India paid back all loans it had taken from World Bank.

#### **Concerns:**

- The Green Revolution howsoever impressive has not succeeded in making India totally and permanently self-sufficient in food. 1979 and 1987- India faced severe drought conditions and had to import food.
  - Small farmers had to bear the burden of Green Revolution because many farmers have difficulty paying for expensive technology and seeds, especially in case of a bad harvest.
  - The excessive use of chemical fertilizers decreased soil fertility and the use of electric tube wells decreased groundwater table in water logged areas the salinity of soil has also increased especially certain areas of Punjab and Haryana are becoming uncondusive for agriculture.
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- Since Green Revolution was introduced in traditionally prosperous states like Punjab, Haryana and western U.P in the north, Tamil Nadu etc. but it has not made much of an impact on Bihar, West Bengal, Madhya Pradesh, J and K etc. thus causing wide regional disparities.
  - The sub-continent has lost many indigenous varieties of seeds that were traditionally grown to the H.Y varieties of seed.
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