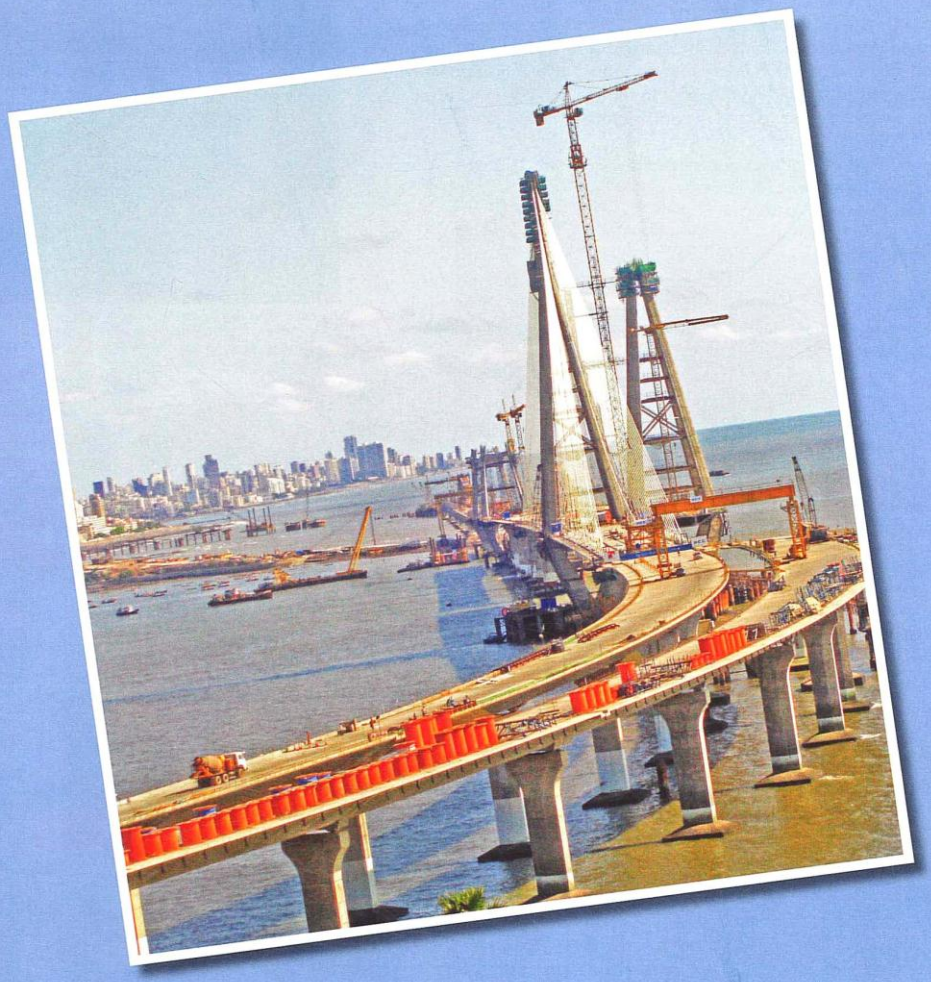
Physical Resource at National Level (India)



INDIA THEMATIC

CLIMATE

India is probably the only country in the world where almost every type of climate prevails, almost simultaneously, ranging from extreme dryness in one region, heavy precipitation in another, to tundra-like conditions in yet another. Large latitudinal extent, nearness to the sea and physiographical variations are factors that have largely contributed to India's climatic variations.

However, most part of the country experiences four distinct seasons:

1. Winter – December to February
2. Summer – March to May
3. South-West Monsoon – June to September
4. North-East Monsoon – October to November

India hosts a variety of climatic subtypes ranging from arid desert in the west, to alpine tundra and glaciers in the north, to humid tropical regions supporting rainforests in the south-west and the island territories. Many regions have strikingly different microclimates.

The formation of the Himalayas during the early Eocene, some 52 million years ago, was a key factor in determining India's modern-day climate; the global climate and ocean chemistry may also have been impacted.

CLIMATIC REGIONS

According to Koppen's classification, India has eight major climatic regions as shown in the map here.

Aw: *Tropical savanna (winter dry)*
The temperature remains high year round; most of the rainfall is received during the south-west monsoon season.

As^{1}: *Tropical savanna (summer dry)*
The temperature is generally high as in Aw regions; however, the region receives most of its rainfall in winter.

Amw: *Tropical rainforest*
Heavy monsoonal rains support luxuriant vegetation; the winter season is dry.

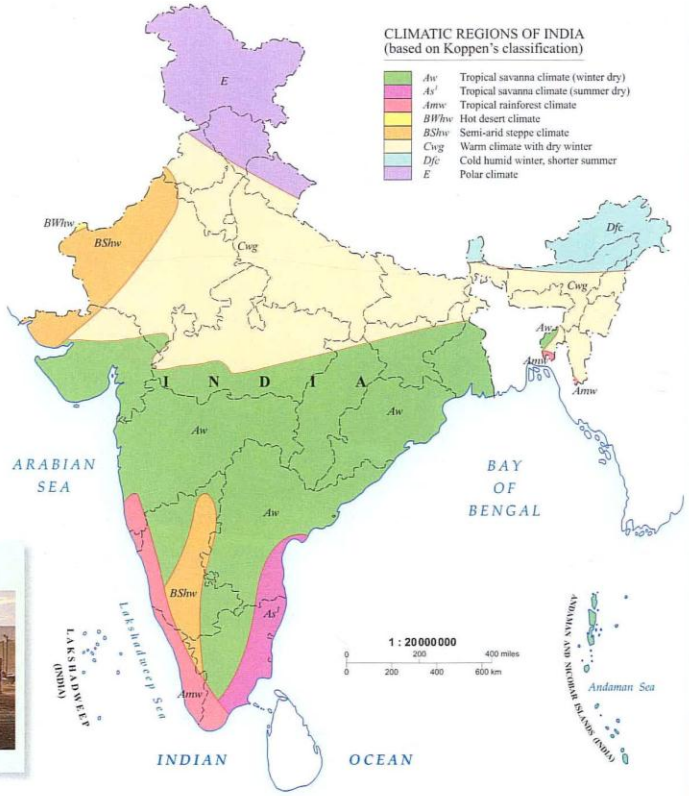
BWhw: *Hot desert*
A sub-tropical desert that falls in the belt of the trade winds. Winds are light, which allows for the evaporation of moisture in the desert.

BShw: *Semi-arid steppe climate*
The area is hot and experiences drought in winter.

Cwg: *Warm climate with dry winter*

Dfc: *Cold humid winter, shorter summer*

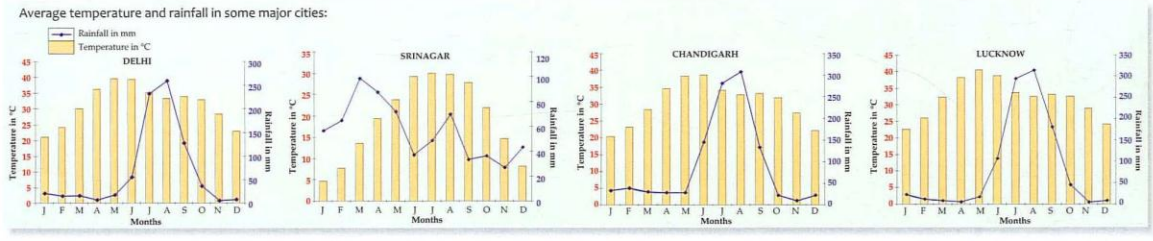
E: *Polar climate*
The winter season is long and severe. There is a mild season, but not a true summer season.



LOO

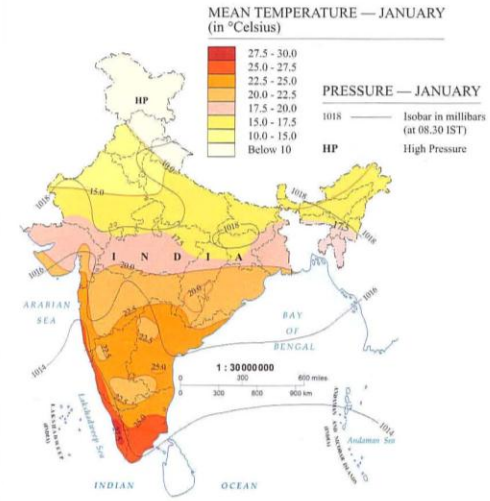
The loo is a hot and dry wind that blows in the summer months across Gujarat, Rajasthan, Haryana, Punjab, Uttar Pradesh and parts of Madhya Pradesh. It blows from the west and south-west direction and is strongest in the afternoon. The *loo* occurs due to convective air movement resulting from the intense heating of the earth's surface and the rapid decrease in temperature with height. Many people suffer sunstroke due to this wind.

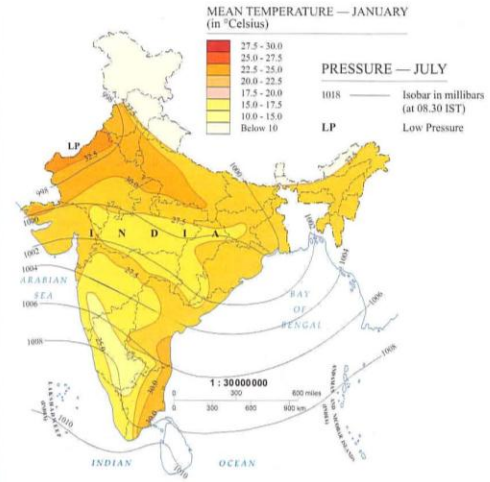
Average temperature and rainfall in some major cities:

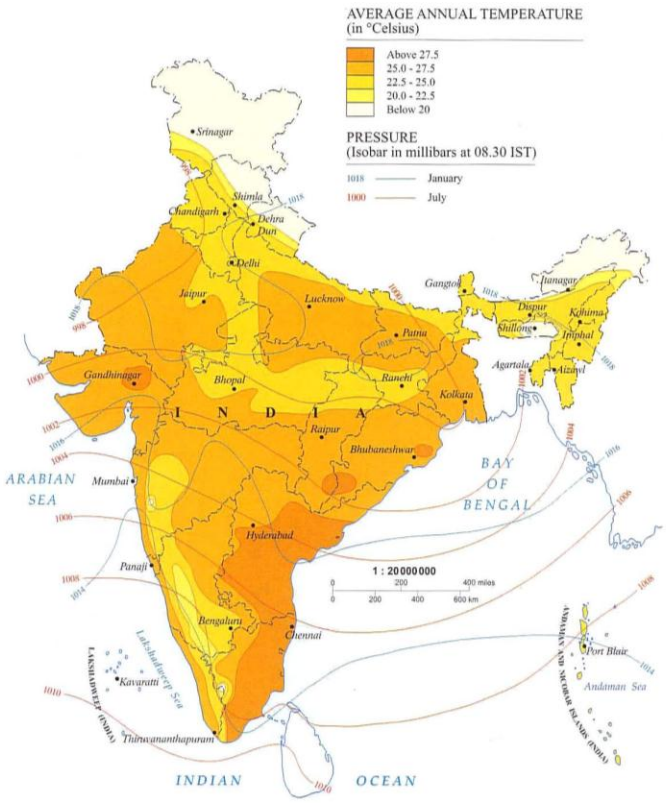


Temperature and Pressure

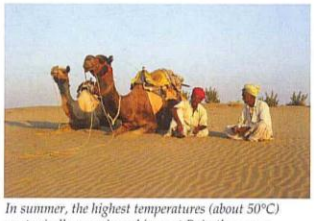
In India, the northern parts experience greater extremes of temperature than the southern parts. In most part of the country, summer lasts between the months of March and June. The maximum temperature in the northern regions is around 40°C but in the Thar Desert, the temperature can rise up to 50°C. The low pressure created by the desert is responsible for attracting monsoon clouds. The coastal regions experience high levels of humidity and the temperature is around 30°C. In winter, the Indian peninsula registers mild to warm days and cool nights. The temperature drops gradually towards the north. The mercury falls below freezing level in some parts of the Indian plains.





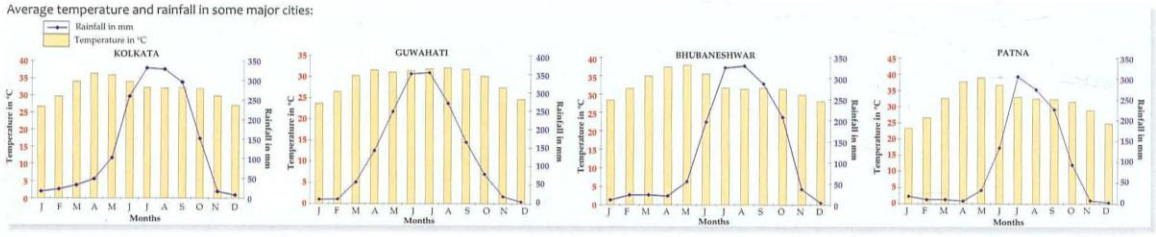


The lowest temperature recorded in India is reportedly -45°C, which was recorded in Dras in Jammu & Kashmir.



In summer, the highest temperatures (about 50°C) are typically experienced in west Rajasthan, over the Great Indian Desert.

Average temperature and rainfall in some major cities:



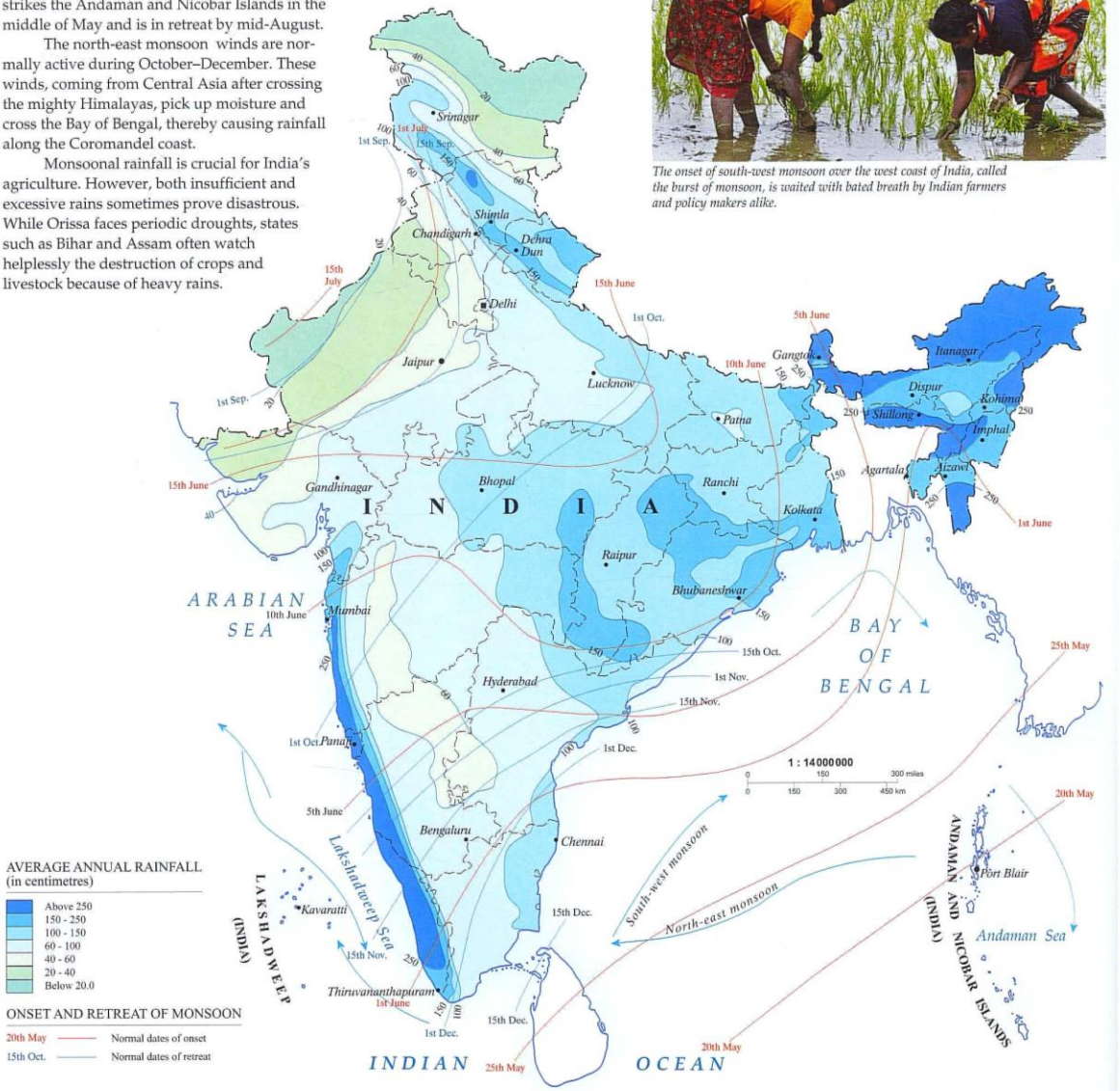
RAINFALL AND WINDS

India receives nearly 90 per cent of its rainfall from the south-west monsoon, which arrives in the country in two branches—the far stronger Arabian Sea branch and the Bay of Bengal branch. The Arabian Sea branch strikes the Kerala coast around the first week of June and starts to retreat from the country by the beginning of October. The Bay of Bengal branch strikes the Andaman and Nicobar Islands in the middle of May and is in retreat by mid-August.

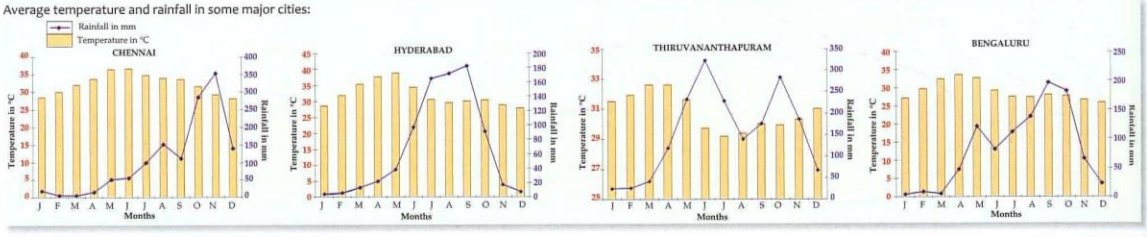
The north-east monsoon winds are normally active during October–December. These winds, coming from Central Asia after crossing the mighty Himalayas, pick up moisture and cross the Bay of Bengal, thereby causing rainfall along the Coromandel coast.

Monsoonal rainfall is crucial for India's agriculture. However, both insufficient and excessive rains sometimes prove disastrous. While Orissa faces periodic droughts, states such as Bihar and Assam often watch helplessly the destruction of crops and livestock because of heavy rains.

The onset of south-west monsoon over the west coast of India, called the burst of monsoon, is waited with bated breath by Indian farmers and policy makers alike.

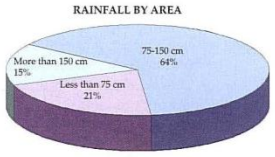


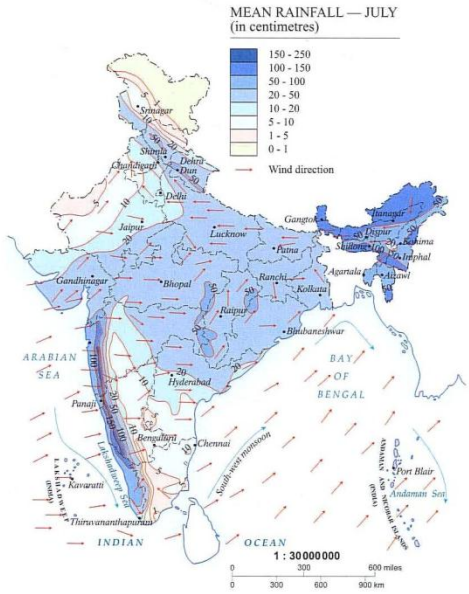
Average temperature and rainfall in some major cities:

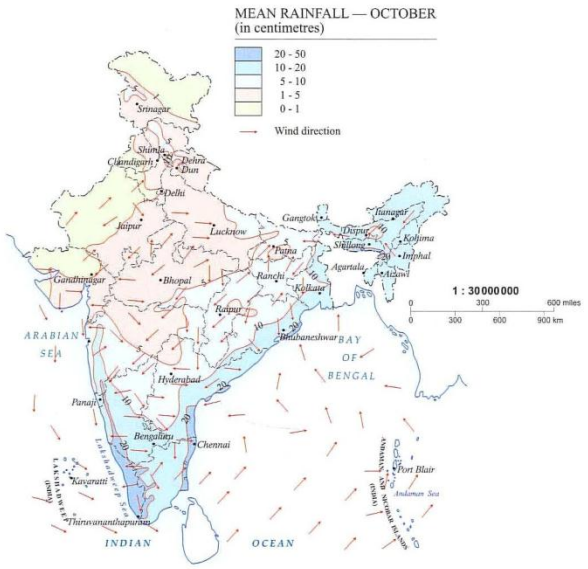


Rainfall Distribution in India

The rainfall in India shows great variations. It is known for its unequal seasonal and geographical distribution and frequent departures from the normal. As much as 21 per cent of the country receives less than 75 cm of rain annually while 15 per cent receives rainfall in excess of 150 cm. The rainfall generally exceeds 100 cm in areas to the east of the 78°E longitude. It is about 250 cm along almost the entire west coast and over most of Assam and sub-Himalayan West Bengal. Some areas in Gujarat and western Rajasthan receive less than 15 cm of rainfall.



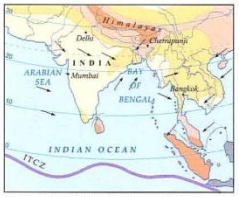




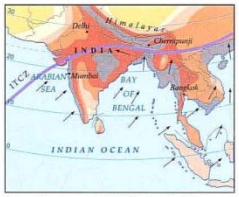
ITCZ and Monsoonal Rainfall in India

The Intertropical Convergence Zone or ITCZ, the low pressure zone near the equator where the north-east and south-west trade winds meet, has considerable influence on the south-west monsoonal rainfall in the Indian subcontinent. The northward movement of the thermal equator and the ITCZ during the summer draws warm, moist air over the Indian Ocean towards the low pressure zone in the northern parts of the subcontinent.

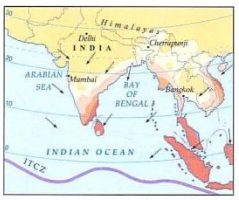
At first, the moist air moves northwards and then because of the effect of the Coriolis force (generated by Earth's rotation) takes a north-eastward direction. It begins to rise and cool owing to convection and the meeting of the trade winds, eventually shedding its moisture as rain.



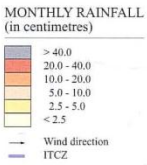
March — Start of the hot, dry season. The ITCZ is over the southern Indian Ocean.



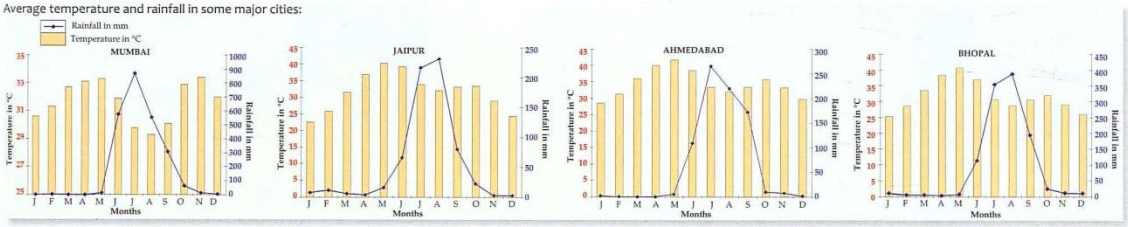
July — The rainy season. The ITCZ has migrated northwards; winds blow onshore.



November — The ITCZ has returned south. The offshore winds are cool and dry.



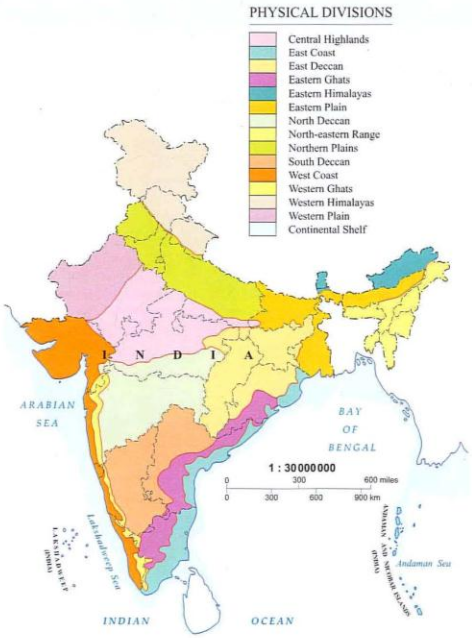
Average temperature and rainfall in some major cities:



LANDSCAPE

The geography of India is diverse, with features ranging from snow-capped mountain ranges to deserts, plains, rainforests, hills and plateaus. A large part of the country lies on a peninsula in southern Asia, which protrudes into the Indian Ocean.

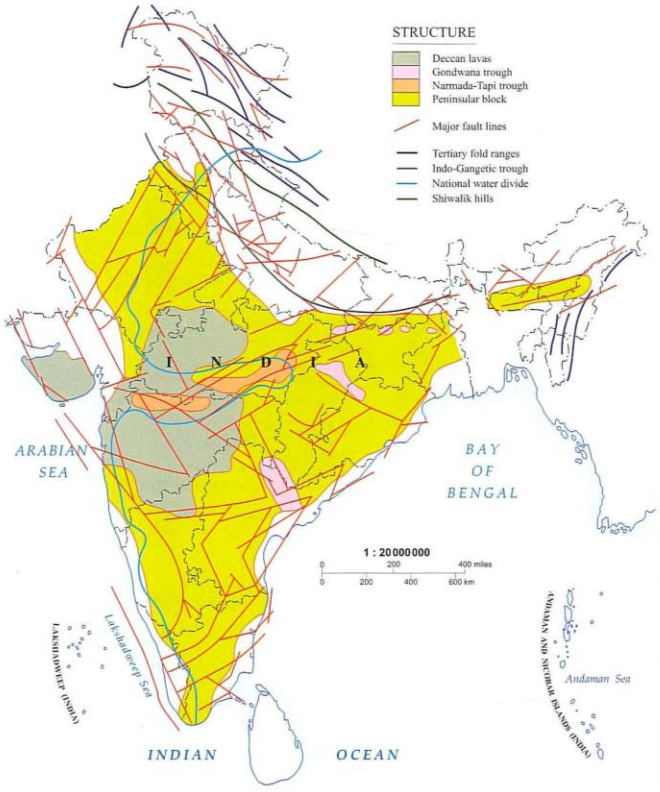
The Indian landmass has a varied structure spanning the entire spectrum of the geological time period. It is believed that about 90 million years ago, in the late Cretaceous Period, the Indian Plate (a minor tectonic plate) split from Madagascar off the east coast of Africa and began moving north. Its collision with the Eurasian Plate began between 50 and 55 million years ago, in the Cenozoic Era. The Himalayas are a result of the collision between the Indian Plate and the Eurasian Plate. Their continued convergence raises the height of the Himalayas by one centimetre each year.



PHYSIOGRAPHY

Great mountains, rivers, wide plateaus and plains, and lengthy coastlines constitute the topography of India, which is the largest landmass in the Indian subcontinent. To the north of the country lies the chain of Himalayan ranges with the world's highest peaks. Further south, the Vindhya Range cuts across the country, from west to east, and forms a boundary between north and south India.

Lying to the south of the Himalayas, the Great Northern Plains consist of the Indus Basin, the Ganga-Brahmaputra Basin, and the tributaries of these mighty river systems. To the south of the Great Plains lies the Peninsular Plateau of India. The western coastal plains lie between the Western Ghats and the Arabian Sea while the eastern coastal plains lie between the Eastern Ghats and the Bay of Bengal. In addition to these major physiographic divisons, India also includes two groups of islands—the Andaman and Nicobar Islands in the Bay of Bengal, and the Lakshadweep Islands in the Arabian Sea.



STRUCTURE

Most geologists hold the view that the tectonic evolution of the Indian continental crust passed through two main stages—**geosynclinal** and **platformal**. The age of folding is widely accepted as the culmination of the geosynclinal stage of evolution, and is considered as the main criterion while outlining the major tectonic divisions of India. The three major cycles of folding that have been distinguished are Archaean, Proterozoic and Cenozoic.

The platformal stage of evolution is believed to have begun with the consolidation of the geosynclinal area with the basement of the platform. The Indian platform is characterized by the folded basement of Archaean and Proterozoic rocks. The great sedimentary basins (Cuddapah, Vindhyan and Pakhal), Gondwana basins, Tertiary basins and the Deccan and Rajmahal volcanic areas are largely platformal.

DEVASTATING TSUNAMI

The devastating earthquake off the coast of Sumatra, Indonesia, on 26 December 2004 occurred when the Indian Plate slid under the Burma Plate. This triggered the Indian Ocean tsunami, which killed more than a quarter million people. Countries like Indonesia, Sri Lanka, India and Thailand were hit hardest.

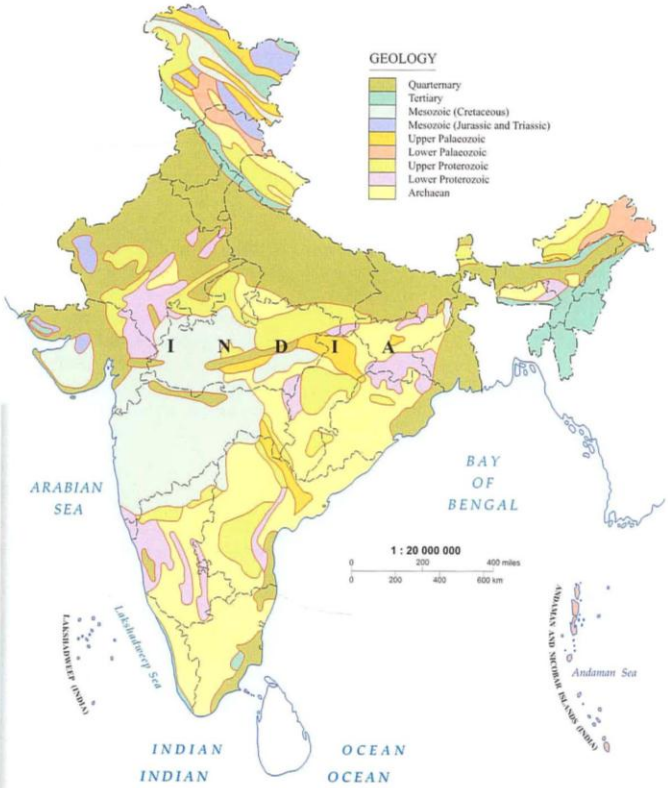
GEOLOGY OF INDIA

The geology of the three physiographic units of India—the peninsula, the Himalayan regions and the Indo-Gangetic alluvial plains—differs radically from one another.

In stratigraphy, the peninsula is primarily made up of ancient rocks of Archaean and Pre-Cambrian age. The Archaean rocks have been metamorphosed to varying degrees. The peninsula also has the Deccan Traps and the Rajmahal lava-flows of Jurassic to Eocene age. The post-Cambrian sedimentary rocks occur in the Gondwana basin as well as parts of the coastal tracts.

The Himalayan mountains are primarily made up of sedimentary formations ranging in age from Cambrian to Pleistocene. However, the core of these mountains are made up of granitic rocks, possibly of the Tertiary age.

The Indo-Gangetic alluvial plains came into being only during the Quarternary era. These plains are made up of sand, clay and peat beds.



THE PENINSULA

The peninsula is a very ancient tableland, which has undergone erosion since the time of its formation. It has not been affected by the tectonic revolutions of post-Cambrian age. Signs of post-Cambrian diastrophism here have been limited to the development of faults and occasional advancement or retreat of the sea along the coasts.

GEOLOGICAL FORMATIONS

CHIEF FOSSILS	MAJOR FORMATIONS	ROCKS	MINERALS	PERIOD / EPOCH	ERA / GROUP
Living animals	Recent alluvia, coral reef, sand dunes, soil	Sedimentary	Heavy minerals, placer gold, tin, diamond, etc.	RECENT	QUARTERNARY
Human beings appear. Many mammals die during glacial periods.	Older alluvia, karewas of Kashmir, Pleistocene river terraces			PLEISTOCENE (Million years ago: 1)	
Mammals, mollusca and flowering plants are dominant.	Shiwalik, Irrawadi and Manchhar systems, Cuddalore, Warkilli and Rajamahendri sandstones	Sedimentary	Petroleum, natural gas, bauxite, kaolin	MIO-PLIOCENE (26)	KAINOZOIC
	Murre and pegu systems, Nari and Gaj series, Kasauli and Dagshai beds			OLIGO-MIOCENE (37)	
	Ranikot-Laki-Kirthar-Chharat series, Eocene of Burma			EOCENE (65)	
Giant reptiles and ammonities disappear at the end. Flowering plants become numerous.	Deccan traps and inter-trappeans, Giumal and Chikkim series, Umia beds	Igneous	Coal, lignite	CRETACEOUS (140)	MESOZOIC
Ammonities are abundant. First birds, flowering plants and sea urchins appear.	Kioto limestones and Spiti shales, Kota-Rajmahal and Jabalpur series	Igneous	Coal, lignite	JURASSIC (200)	
Ammonities, reptiles and amphibians are abundant.	Lilang system including Kioto limestone, Mahadeva and Panchet series	Sedimentary	Coal, lignite	TRIASSIC (240)	
Trilobites disappear at the end.	Kulling system, Damuda system	Sedimentary	Coal, gypsum, rock salt	PERMIAN (280)	PALAEOZOIC (UPPER)
Many non-flowering plants and first reptiles appear.	Lipak and Po series, Talchir series			CARBONIFEROUS (345)	
Corals, Brachiopoda, first amphibians, and lung fishes are abundant.	Muth quartzite			DEVONIAN (395)	
Graptolites disappear at the end. First fishes and probably first land plants appear.	Silurian of Burma and Himalayas			SILURIAN (430)	PALAEOZOIC (LOWER)
Abundance of trilobites and graptolites	Ordovician of Burma and Himalayas			ORDOVICIAN (500)	
Abundance of trilobites	Haimanta series, Garbyang series			CAMBRIAN (605)	
Soft-bodied animals and plants	Vindhyan systems, Darjiling series, Daling series, Dogra and Simla slates	Igneous	Building stones, kaolin, iron, limestone, uranium	UPPER	PROTEROZOIC
	Cuddappah systems, Delhi systems, Shillong series, Mortoli series	Sedimentary		LOWER (2500)	
Lifeless	Dharwar and Aravalli systems, Salkhala, Jutogh and Chail series, gneisses, etc.	Metamorphic	Gold, silver, iron, nickel, chromite, copper, tungsten, lead, zinc, titanium, mica, manganese, tin, asbestos, diamond, kyanite, graphite, sillimanite	4600	ARCHAEAN

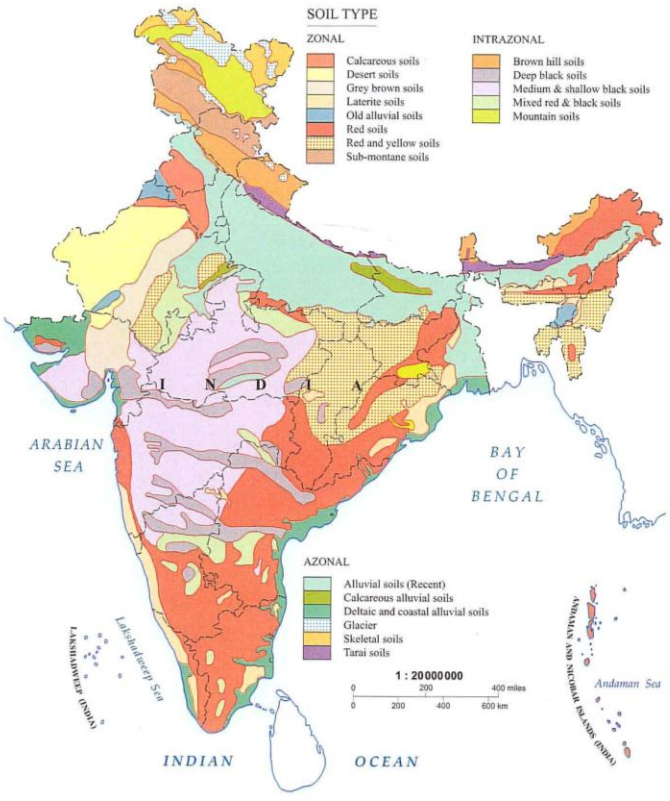
SOIL AND VEGETATION

The critical importance of Indian soil can be well understood from the fact that about two-thirds of the Indian population is still engaged in agriculture and allied activities for livelihood. Soil is one of the major factors (besides climate and topography) affecting the Indian farmer as it determines the intensity and extent of cultivation. For example, the presence of a vast tract of *regur* or black soil with moisture-retentive characteristics in the northern parts of the Deccan Plateau has given rise to cotton cultivation on a large scale.

India's natural vegetation ranges from the tropical rainforests of the Andaman Islands, Western Ghats and north-east India, to the coniferous forests of the Himalayas. The different types of vegetation found in India have had an important impact on the socio-economic life of the country over the ages. In a move aimed at saving the rapidly depleting forest cover, India initiated moves such as the Joint Management of Forest (JFM) and large-scale plantation of trees along national highways and railway lines a few years ago. Today, nearly 20 per cent of the country's total geographical area is under forest.

SOIL FORMATION

Soils differ from their parent materials—rocks and minerals—in their morphological, physical, chemical and biological properties. They also differ among themselves in properties, depending on the differences in genetic and environmental factors. The kind and intensity of weathering and the processes of soil formation determine the degree of soil development. Thus, owing to the varying circumstances of their formation, soils in India are diverse and differ from area to area. Nineteen major soil types have been recognized and marked in the map below.



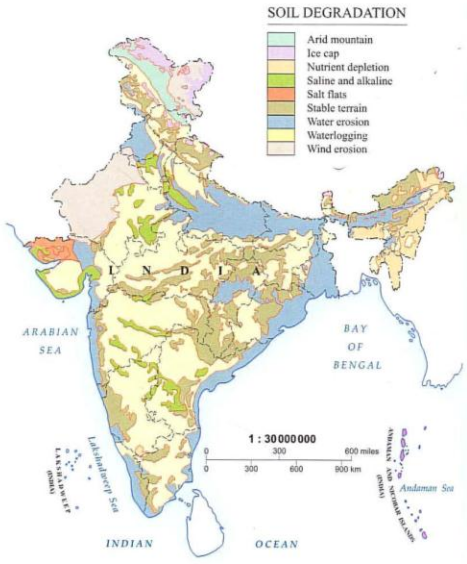
CROPS AND FAVOURABLE SOIL TYPES

Crops	Favourable soil types
Rice	Alluvial friable loams with sub-soil of clay
Wheat	Clay loam soils or fertile silt
Maize	Sandy, deep and well-watered soil
Jowar	Black soil, mixed red and black soil
Bajra	Sandy loams, shallow soils
Gram	Alluvial soil
Coconut	Sandy soil that is loose and porous, along the coast. Alluvial flats exposed to mild sea breezes
Groundnut	Light sandy soils which are friable
Sugar cane	Rich alluvial or lava soil
Tea	Light and friable loam with porous sub-soil which will allow water to percolate. Sandy loam best. Iron in the soil beneficial. Stagnant water harmful, so mountain slopes preferred
Coffee	Weathered volcanic soil (deep loamy soil formed from lava) on well-drained hillsides from 450–1800 metres. There should be humus in the soil
Cocoa	Well-drained deep and porous soil
Tobacco	Sandy loams with sandy clay soils
Rubber	Alluvial soil from which virgin forest has been cleared
Cotton	Light limestone soil or black lava soil. The Deccan black lava soil (regur) has the quality of retaining moisture
Jute	Alluvial soil found in the flood plains and deltas of rivers
Flax	Rich alluvial soil
Pepper	Alluvial soil and heavy rainfall
Cardamom	Well-drained soil, rich in humus
Turmeric	Sandy loams

SOIL DEGRADATION

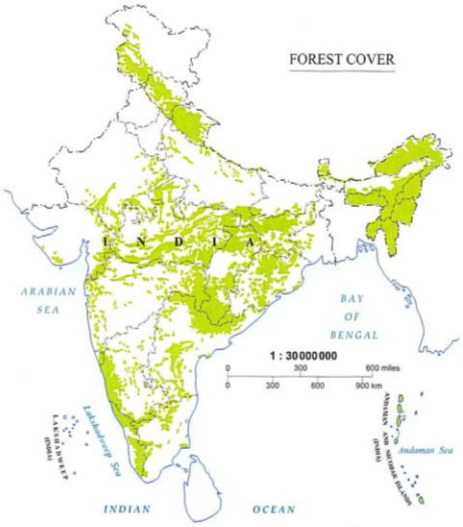
Soil degradation results from the removal or loss of the physical components of soil through acidification, salinity, organic depletion, compaction, nutrient depletion, chemical contamination, landslides and erosion. Soil degradation can be brought about by inappropriate land-use practices, which can restrict production.

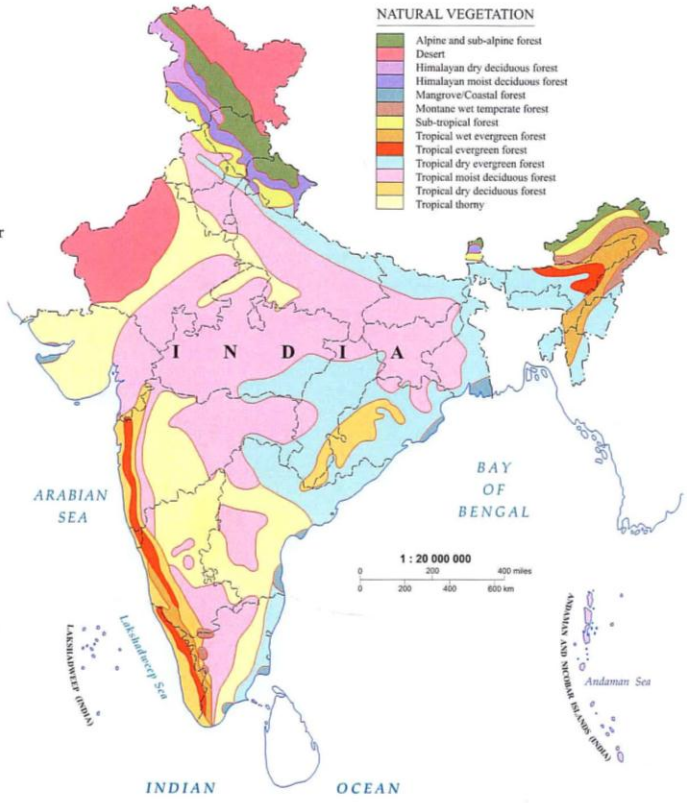
Soil degradation is widespread in India, affecting about 188 million hectares or 57 per cent of the total area of the country. Of this, about 162 million hectares are affected by soil erosion and 25 million hectares are affected by in-situ degradation (waterlogging, salinization and nutrient depletion).



NATURAL VEGETATION

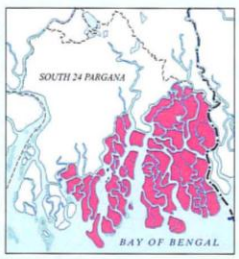
Forests in India may be broadly divided into four major groups--tropical, sub-tropical, temperate and alpine. Each of these may be further divided into different sub-groups. The forest cover of the country is estimated to be 677,088 sq. km, which is 21.67 per cent of the total geographical area. Very dense forest, moderately dense forest, open forest and scrub constitute 1.66 per cent, 10.12 per cent, 8.82 per cent and 1.17 per cent of the geographical area respectively. Among the states, Madhya Pradesh accounts for 11.23 per cent of the forest cover of the country, followed by Arunachal Pradesh with 10.01 per cent, Chhattisgarh with 8.25 per cent, Orissa with 7.14 per cent, Maharashtra with 7.01 per cent and Andhra Pradesh with 6.55 per cent.



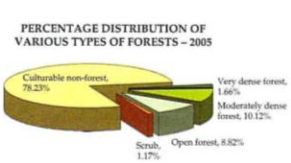


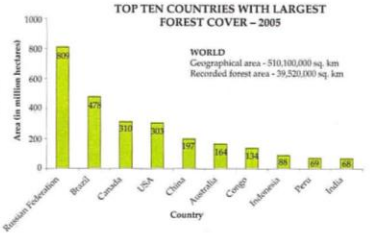
Mangroves are salt-tolerant forest ecosystems found mainly in tropical and sub-tropical inter-tidal regions of the world. Mangroves in India account for about 5 per cent of the world's mangrove vegetation and are spread over an area of about 4,461 sq. km along the coastal states and union territories of the country.

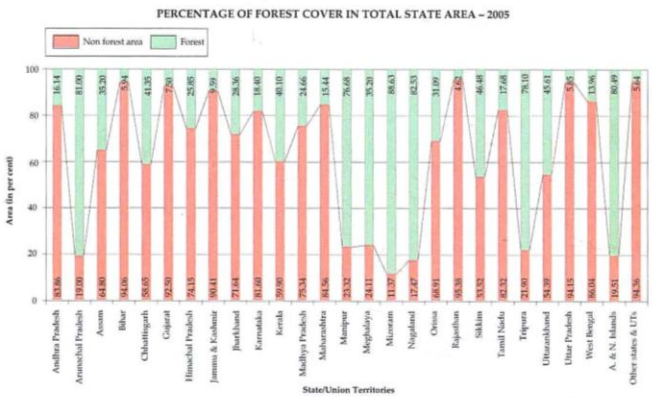
The littoral forests of the Sunderbans in West Bengal are characterized by high salinity, lack of soil erosion and daily inundation by high tides. They account for almost half of the total area under mangroves in India.



SUNDERBANS (West Bengal)





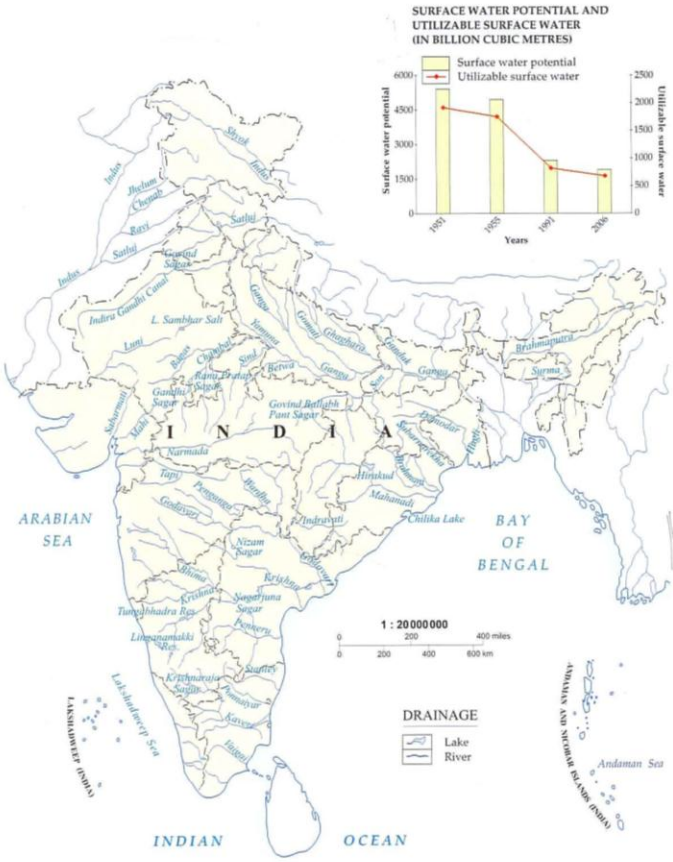


WATER RESOURCES

India receives an annual precipitation of about 4,000 billion cubic metres (BCM). The rainfall in India shows very high spatial and temporal variability. For example, Mawsynram near Cherrapunji, which receives the highest rainfall in the world, also faces a shortage of water during the dry season, almost every year. The total average annual flow of Indian rivers is estimated to be 1,869 BCM, of which only 690 BCM is utilizable for a variety of reasons—erratic rainfall, topographical and geological limitations, etc.

The total annual replenishable groundwater potential is assessed at 433 BCM, including recharge due to canal irrigation. However, the net annual groundwater availability is estimated to be only 399 BCM.

In Rajasthan, johads or earthen dams have been used for thousands of years to conserve the meagre rainwater for drinking and irrigation.



SURFACE WATER POTENTIAL AND UTILIZABLE SURFACE WATER (IN BILLION CUBIC METRES)

WATER AVAILABILITY AND CONSUMPTION

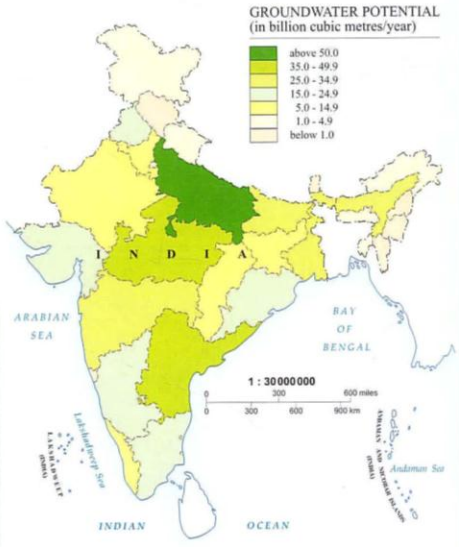
The annual per capita availability of water in the country fell from around 5,410 cubic metres in 1951 to 1,880 cubic metres in the year 2006-07. India is the second largest water consuming country in the world, after China. India and China together account for almost 56 per cent of the world's total water consumption but India's per capita water consumption is less than the world average by 7.6 per cent. With increasing population and depleting water resources, the per capita water consumption in India is expected to decrease.

GROUNDWATER

According to the Central Groundwater Board, Ministry of Water Resources, Government of India, the country is utilizing only 231 billion cubic metres of groundwater out of the net available 399 billion cubic metres. About 213 billion cubic metres of the groundwater is being used for irrigation and 18 billion cubic metres for domestic, industrial and other uses.

Groundwater supplies four-fifths of domestic water (supply) in rural areas, and about half of the total water requirement of urban and industrial areas.

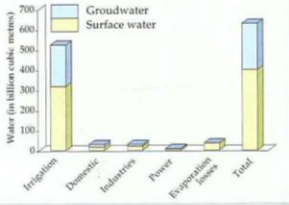
GROUNDWATER POTENTIAL (in billion cubic metres/year)



UTILIZABLE WATER RESOURCES

Agriculture has the greatest share in annual water allocation in India. According to the Ministry of Water Resources (MoWR), Government of India, more than 80 per cent of India's utilizable water is allotted to this sector, mostly for irrigation. The demand from the domestic sector has remained low and accounts for only 5 per cent of the annual freshwater withdrawals in India. The industrial sector, which accounts for 6 per cent of utilizable water, is the second highest user of water after agriculture.

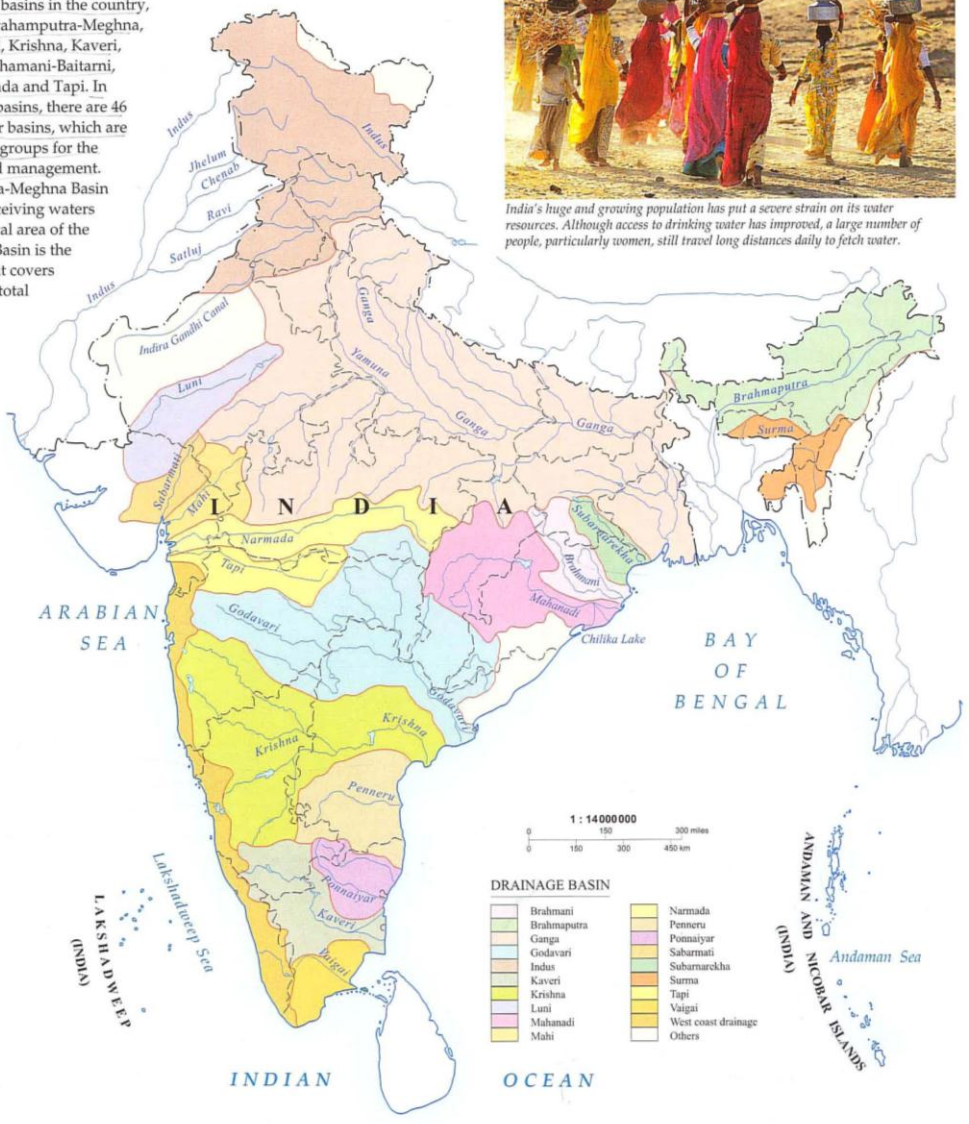
ANNUAL WATER REQUIREMENT FOR DIFFERENT USES (IN BILLION CUBIC METRES)



RIVER BASINS

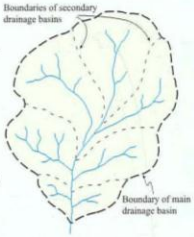
There are 13 major river basins in the country, namely Indus, Ganga-Brahamputra-Meghna, Subarnarekha, Godavari, Krishna, Kaveri, Mahanadi, Penneru, Brahamani-Baitarni, Sabarmati, Mahi, Narmada and Tapi. In addition to these major basins, there are 46 medium and minor river basins, which are divided suitably into 11 groups for the purpose of planning and management. The Ganga-Brahmaputra-Meghna Basin is the largest in India receiving waters from one-third of the total area of the country. The Godavari Basin is the second largest in India; it covers about 10 per cent of the total area of the country.

India's huge and growing population has put a severe strain on its water resources. Although access to drinking water has improved, a large number of people, particularly women, still travel long distances daily to fetch water.



RIVER BASINS

All rivers are joined by smaller rivers or streams, which are called its tributaries. The area drained by a river and its tributaries is known as its basin and its boundary is formed by the crest line of the surrounding highland. This boundary forms the main watershed of the basin.



MAJOR RIVER BASINS OF THE COUNTRY

Sl. No.	Name of the river	Origin	Length (km)	Basin (sq. km)
1	Baitarani	Keonjhar (Orissa)	365	12,789
2	Brahmani	Ranchi (Jharkhand)	799	39,033
3	Brahmaputra	Kailash Range (Tibet)	916 (2,900)	194,413 (580,000)
4	Ganga	Gangotri (Uttarakhand)	2,525	861,452 (1,386,000)
5	Godavari	Nasik (Maharashtra)	1,465	312,812
6	Indus	Mansarovar (Tibet)	1,114 (2,880)	321,289 (1,165,500)
7	Kaveri	Coorg (Karnataka)	800	81,155
8	Krishna	Mahabaleshwar (Maharashtra)	1,401	258,948
9	Mahanadi	Nazri town (Madhya Pradesh)	851	141,589
10	Mahi	Dhar (Madhya Pradesh)	583	34,842
11	Narmada	Amarkantak (Madhya Pradesh)	1,312	98,796
12	Palar (including its tributary Cheyyar)	Kolar (Karnataka)	348	17,871
13	Penneru	Kolar (Karnataka)	597	55,213
14	Ponnaiyar	Kolar (Karnataka)	396	14,130
15	Sabarmati	Aravalli Hills (Rajasthan)	371	21,674
16	Subarnarekha	Nagri, Ranchi (Jharkhand)	395	19,296
17	Tapi	Betul (Madhya Pradesh)	724	65,145
18	Vamsadhara	Kalahandi (Orissa)	221	10,830
		Total		2,602,000

Source: Central Water Commission (W.M. Directorate)

MINERAL RESOURCES

India's rich and varied mineral resources, have been critical for its growth. The country produces 86 minerals, out of which four are fuel minerals, 10 metallic, 46 non-metallic, three atomic and 23 minor minerals (including building and other materials).

The total value of mineral production (excluding atomic minerals) was Rs 1,160 billion in 2008-09, an increase of around 7.1 per cent over the previous year's production. Iron ore, copper ore, chromite, zinc concentrates, gold, manganese ore, bauxite, lead concentrates and silver are the major metallic minerals. Amongst the non-metallic minerals, 92 per cent of the aggregate value is shared by limestone, magnesite, dolomite, barytes, kaolin, gypsum, apatite & phosphorite, steatite and fluorite. More than 80 per cent of the mineral production comes from open-cast mines.

India has a well-developed mining sector with over 20,000 known mineral deposits. The discovery of huge bauxite deposits, particularly in the east coast, has made the country the third largest producer of bauxite in the world. India also has the largest reserves of manganese in the world and is the fifth largest producer of this mineral.

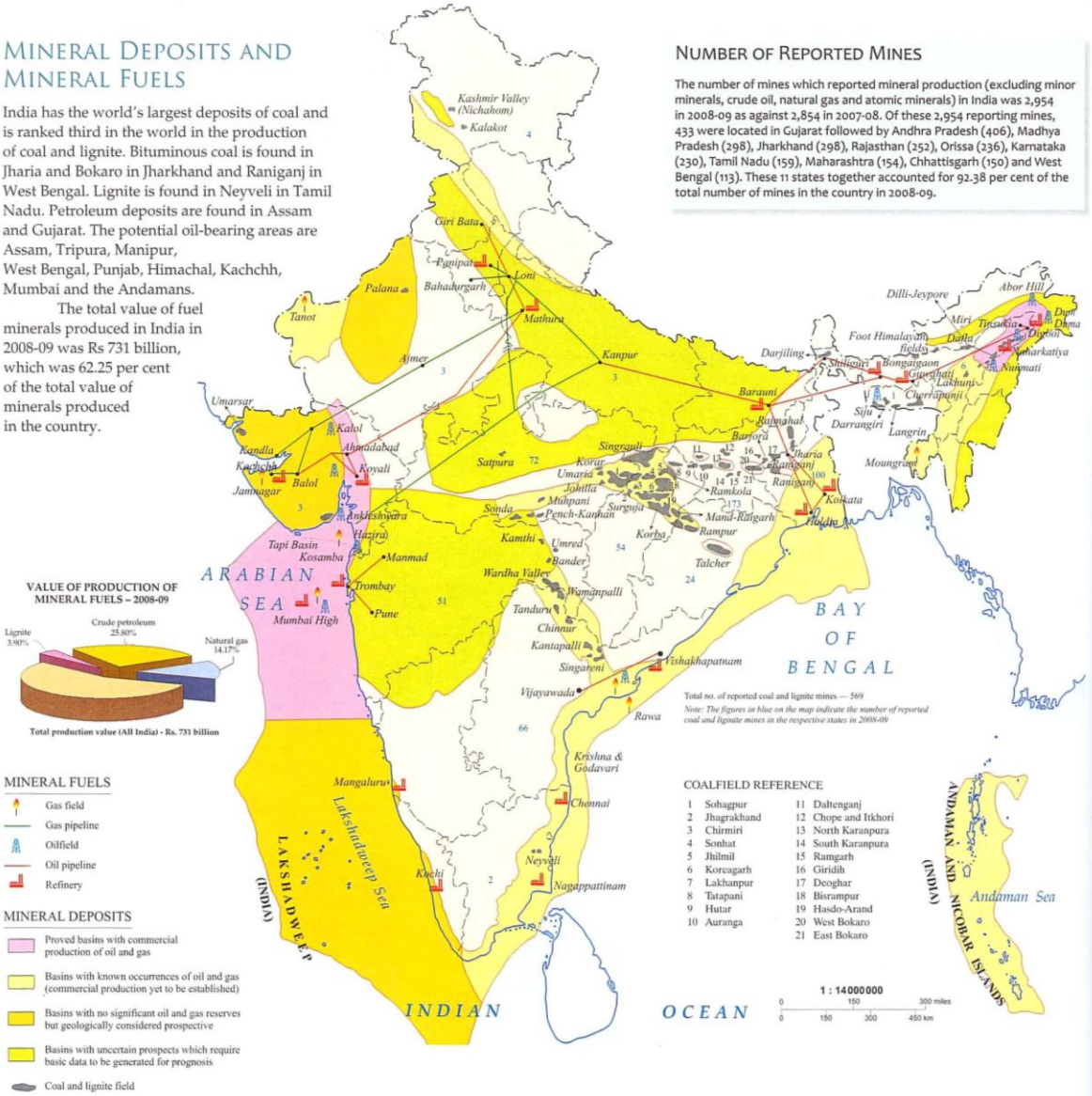
MINERAL DEPOSITS AND MINERAL FUELS

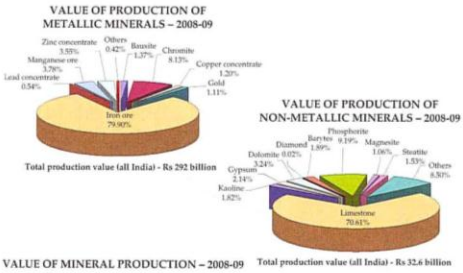
India has the world's largest deposits of coal and is ranked third in the world in the production of coal and lignite. Bituminous coal is found in Jharia and Bokaro in Jharkhand and Raniganj in West Bengal. Lignite is found in Neyveli in Tamil Nadu. Petroleum deposits are found in Assam and Gujarat. The potential oil-bearing areas are Assam, Tripura, Manipur, West Bengal, Punjab, Himachal, Kachchh, Mumbai and the Andamans.

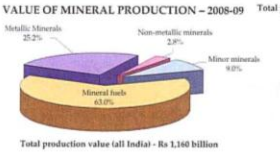
The total value of fuel minerals produced in India in 2008-09 was Rs 731 billion, which was 62.25 per cent of the total value of minerals produced in the country.

NUMBER OF REPORTED MINES

The number of mines which reported mineral production (excluding minor minerals, crude oil, natural gas and atomic minerals) in India was 2,954 in 2008-09 as against 2,854 in 2007-08. Of these 2,954 reporting mines, 433 were located in Gujarat followed by Andhra Pradesh (406), Madhya Pradesh (298), Jharkhand (298), Rajasthan (252), Orissa (236), Karnataka (230), Tamil Nadu (159), Maharashtra (154), Chhattisgarh (150) and West Bengal (113). These 11 states together accounted for 92.38 per cent of the total number of mines in the country in 2008-09.





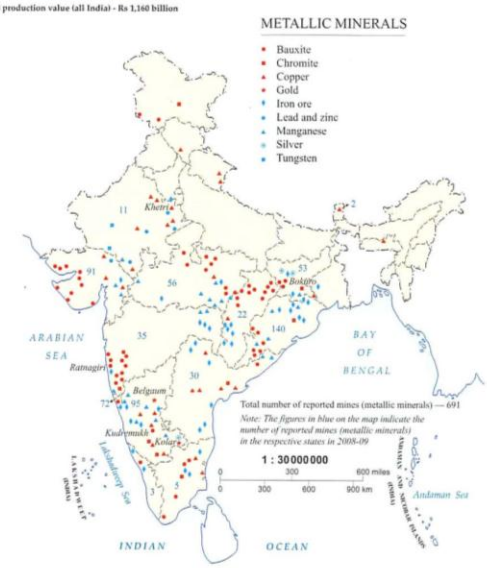


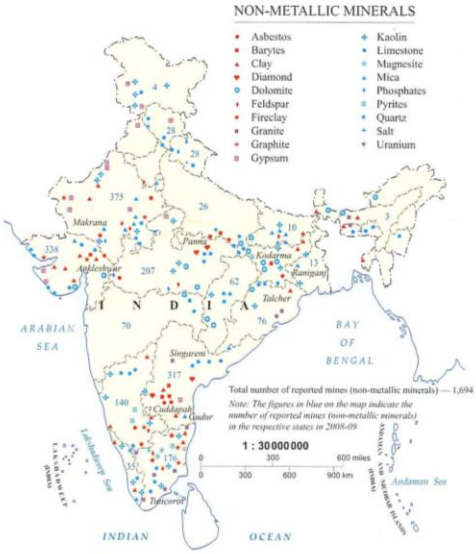
METALLIC AND NON-METALLIC MINERALS

India is the world's largest producer of mica blocks and mica splitting. Besides, India ranks third in the production of chromite, coal and lignite, and barytes, fourth in iron ore, sixth in bauxite and manganese ore, eighth in aluminium and 11th in crude steel in the world.

The total value of metallic minerals production in 2008-09 was Rs 292 billion, which was 25.17 per cent of the total value of mineral production in the country while the value of non-metallic minerals including minor minerals was Rs 137 billion, which was 11.84 per cent of the total value of mineral production.

During 2008-09, mineral production was reported from 23 states and union territories; the bulk of the production of about 78.99 per cent was confined to eight states (including offshore areas) only. The offshore areas continued to be in the leading position in terms of the value of mineral production in the country and had the share of 19.36 per cent in the national output. Next in the total value of mineral production was Orissa with a share of 14.70 per cent followed by Chhattisgarh (11.61 per cent), Jharkhand (8.94 per cent), Madhya Pradesh (7.83 per cent), Andhra Pradesh (6.46 per cent), Gujarat (5.09 per cent), Karnataka (5.00 per cent), Maharashtra (4.39 per cent), Goa (3.35 per cent), Assam (3.14 per cent) and West Bengal (3.11 per cent). The rest of the states/union territories, with individual shares of less than 3 per cent, together produced 7.02 per cent of the total value during the year.





CONTRIBUTION AND RANK OF INDIA IN WORLD PRODUCTION OF PRINCIPAL MINERALS AND METALS IN 2007

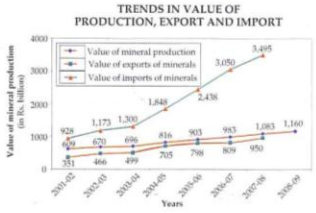
Commodity	Contribution (in per cent)	India's rank (quantum of production)
Mineral fuels		
Coal and lignite	7.7	3rd
Crude petroleum	0.9	24th
Minerals		
Bauxite	10.8	3rd
Chromite	20.0	2nd
Iron ore	10.0	4th
Manganese ore	7.5	5th
Barytes	13.2	2nd
Magnesite	1.0	11th
Talc/steatite/pyrophllite	12.0	2nd
Mica	1.5	11th
Metals		
Aluminium	3.2	8th
Copper (refined)	2.4	11th
Steel (crude)	4.0	5th
Lead (refined)	0.7	25th
Zinc (slab)	4.0	7th

SHARE OF MINING AND MINERAL INDUSTRY IN MERCHANDISE EXPORTS AND IMPORTS

Exports

Minerals in both raw and processed forms contribute significantly to India's exports. The value of exports of ores and minerals during 2007-08 was Rs.950 billion. The share of mineral exports to the total merchandise exports from the country in 2007-08 was 17.6 per cent.

Diamond (mostly cut) continued to be the largest constituent in the exports with a share of 60.0 per cent of the mineral exports. It was followed by iron ore (24.6 per cent), granite (4.51 per cent), zinc ore and concentrates (1.35 per cent), chromite (1.29 per cent), bauxite (1.24 per cent) and alumina (1.07 per cent). The individual share of other ores and minerals was less than one per cent.



Imports

The value of imports of ores and minerals during 2007-08 was Rs.3,495 billion. In 2007-08 imports of ores and minerals accounted for 21 per cent of all merchandise imported in India. Petroleum (crude oil) emerged as the largest constituent with a share of 73.66 per cent of mineral imports, followed by diamond (uncut) with 8.92 per cent. Coal, natural gas, coke, copper ores and concentrates, rock phosphates, sulphur, etc. were the other important minerals imported during 2007-08.

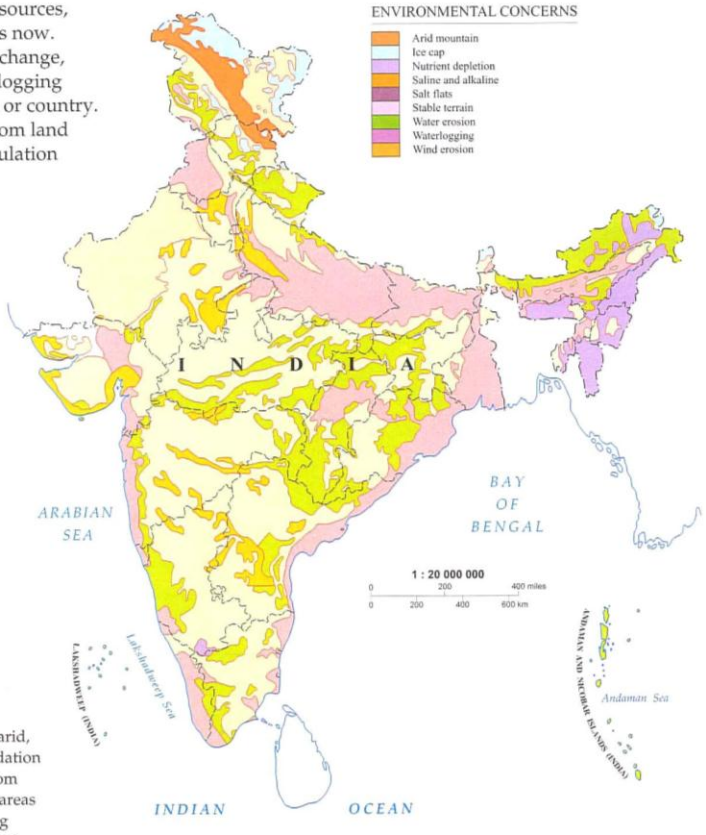
ENVIRONMENTAL CONCERNS

Environmental problems, most of which have originated because of unsustainable methods of using natural resources, have affected almost all parts of the world for decades now. Some problems, such as global warming and climate change, have global ramifications while others, such as waterlogging and soil salinity, affect only a small area, say a region or country. India is particularly affected by problems resulting from land and soil degradation as a large percentage of the population is engaged in agriculture and allied activities.

Land degradation resulting from wind erosion, water erosion and waterlogging significantly lowers foodgrain production.

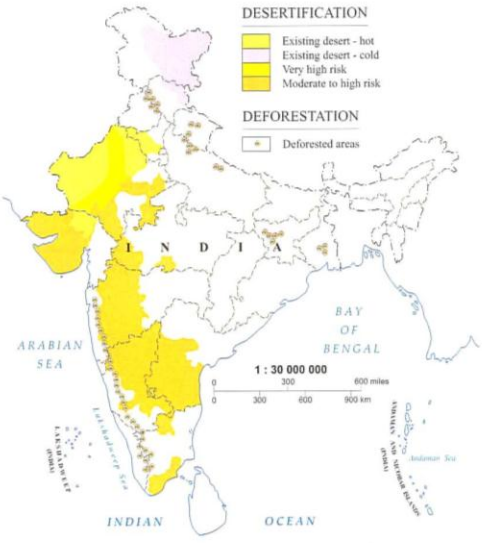
LAND DEGRADATION

Degradation problems	Area (million hectares)
1. Area subject to water and wind erosion	141.3
2. Waterlogged area	8.5
3. Alkali soil	3.6
4. Acid soil	4.5
5. Saline soil including coastal sandy areas	5.5
6. Ravines & gullies	4.0
7. Area subject to shifting cultivation	4.9
8. Riverine & torrents	2.7
Total area prone to degradation	*175.0*
Total geographical area of the country	328.7



DESERTIFICATION

In India, the drylands, occupying about 223 million hectares in arid, semi-arid and dry sub-humid regions, are more prone to degradation because of a variety of factors—climatic constraints, demand from human and animal populations, industrialization, etc. The arid areas are the worst affected, especially in western Rajasthan, including the Thar Desert, as well in arid Gujarat. The dumping of mine and industrial waste also contributes to desertification.



DEFORESTATION

Excessive logging, intensive agricultural practices, urbanization and industrialization, cattle farming, slash-and-burn agriculture, etc. have led to the loss of forest in the country.

The National Forest Policy, 1988 stipulates that 33 per cent of India's total geographical area should be under forest cover. However, at present, the official figure for the geographical area under forest cover is only 67.7 million hectares, which is about 20.60 per cent of the total geographical area. This shortfall has led to imbalances that have rendered the natural environment unsustainable.

JOINT FOREST MANAGEMENT

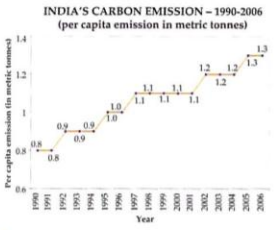
Joint Forest Management (JFM), initiated in India through the National Forest Policy, 1988, owes its success to a large extent to the involvement of local rural communities living in close proximity to forests. These communities are permitted access to forest produce to meet their basic needs of fodder, fuel wood, etc. They, in turn, help in patrolling to protect forests from illegal logging.

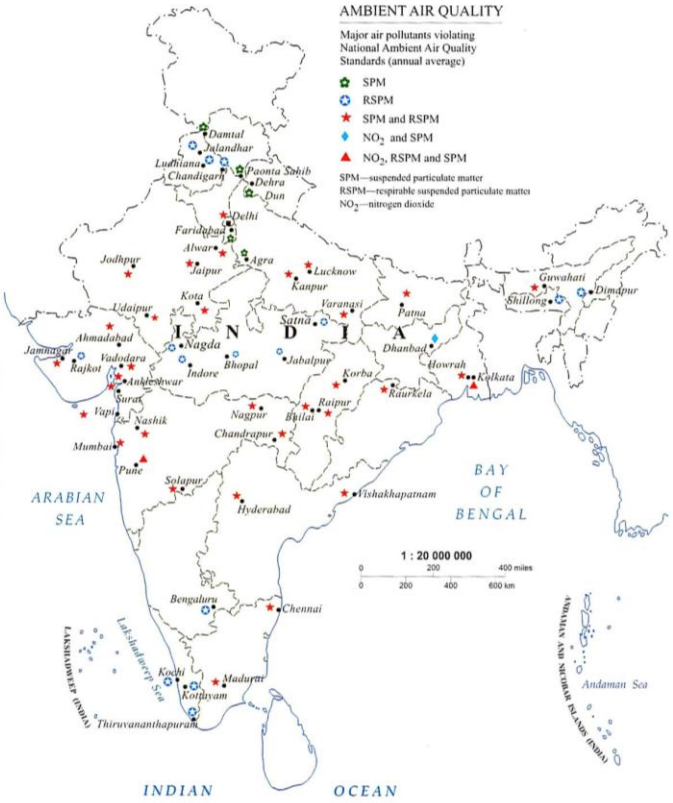
AIR POLLUTION

Air pollution in the country has been aggravated by phenomena associated with urbanzation and industrialization: growing cities, increasing traffic, higher levels of energy consumption, etc. Vehicular emissions are particularly hazardous because these ground-level sources have the maximum impact on the general population.

The major polluters are refineries, chemical factories, iron and steel and other metallic units, and thermal power plants. Small-scale industries have also been found to be major sources of pollution in several urban areas.

The cycle rickshaw, the only non-polluting mode of urban transport in India, has run into trouble. The authorities in the national capital blame the three-wheeled vehicle for causing traffic congestion and have decided to ban it from plying in some parts of the city. Ironically, cities such as Berlin, Paris and Tokyo are steadily switching over to the usage of cycle rickshaws. Cycle rickshaws now ply in Oxford, London, Paris and Singapore. In fact, London is considering introducing a system of licensing for cycle rickshaws.

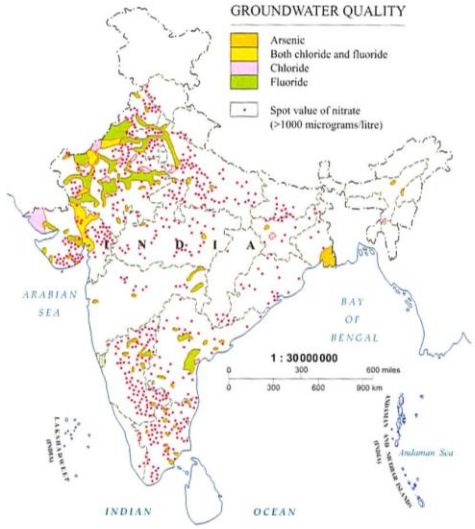


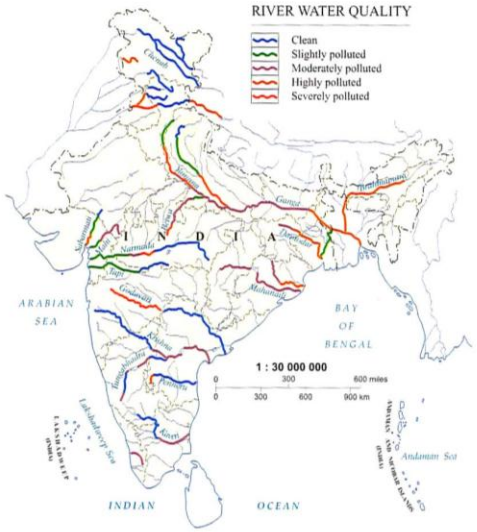


WATER POLLUTION

The major sources of groundwater pollution are the discharge of domestic sewage and industrial effluents, which contains organic pollutants and chemicals and heavy metals, and run-off from agriculture and mining. The discharge of industrial and domestic wastes has also resulted in heavy pollution of other water bodies such as lakes, rivers and coastal waters.

High levels of fecal coliform bacteria suggesting an elevated risk of water-borne gastroenteritis were found in the rivers of Uttar Pradesh, Gujarat, Tamil Nadu and Assam a few years ago. As far as chemical pollution of water bodies is concerned, Gujarat tops the list followed by Maharashtra, Andhra Pradesh, Tamil Nadu, Uttar Pradesh and Punjab.



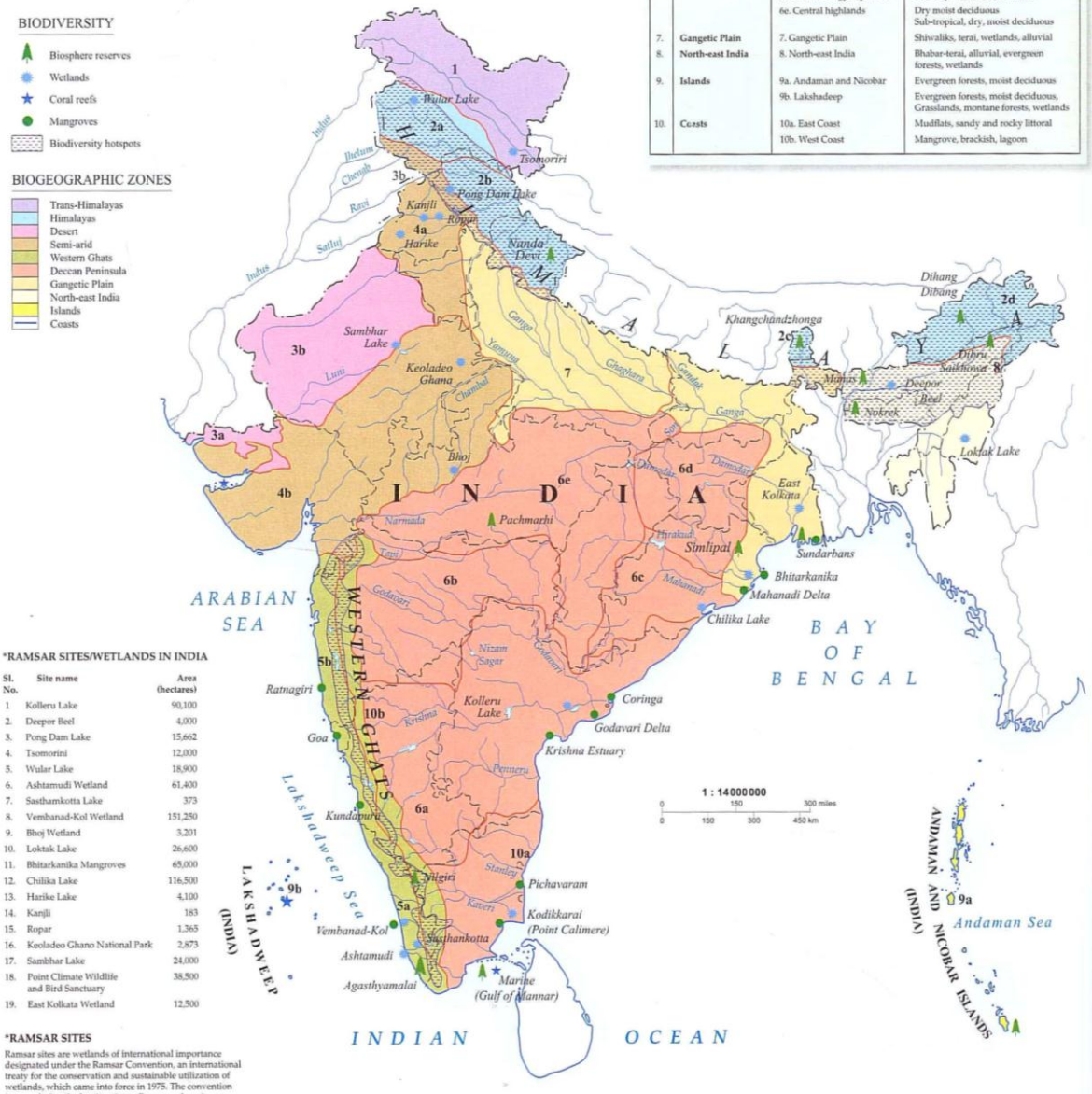


BIODIVERSITY

India's biodiversity is rich and varied owing to its geographical location and physiography. According to the Global Biodiversity Assessment completed under the auspices of the United Nations Environment Programme (UNEP) in 1995, India possesses about 8 per cent of the number of species discovered so far though it occupies only 2.4 per cent of the world's land area.

However, this biodiversity is dwindling because of a variety of reasons—habitat destruction, poaching, extension of agriculture, filling up of wetlands, conversion of biodiversity-rich sites for human settlement and industrial growth, etc. According to the 2008 Red List of the International Union for the Conservation of Nature and Natural Resources (IUCN), more than 650 0f India's plant and animal species are threatened.

Sl. No.	Biogeographic zones	Biotic provinces	Biomes
1	Trans-Himalayas	1. Trans-Himalayan	Tundra, lakes and marsh
2.	Himalayas	2a. North-western Himalaya	Alpine
		2b. Western Himalaya	Temperate coniferous
		2c. Central Himalaya	Temperate broadleaf
		2d. Eastern Himalaya	Alpine, sub-alpine
3.	Desert	3a. Kachchh	Saltflats, scrublands
		3b. Thar	Saltflats, scrublands
4.	Semi-arid	4a. Semi-arid–Punjab	Scrublands, wetlands
		4b. Semi-arid–Gujarat-Rajwara	Dry deciduous, hilly, thorny, scrublands
5.	Western Ghats	5a. Malabar tropical forests	Evergreen, moist deciduous, wetlands
		5b. Western Ghat mountains	Evergreen, moist deciduous, grasslands, montane forests, wetlands
6.	Deccan Peninsula	6a. South Deccan plateau	Evergreen, moist deciduous, wetlands
		6b. Central plateau	Sub-tropical, dry, moist deciduous,
		6c. Eastern plateau	Wetlands
		6d. Chhota Nagpur plateau	Sub-tropical, moist deciduous
		6e. Central highlands	Dry moist deciduous Sub-tropical, dry, moist deciduous
7.	Gangetic Plain	7. Gangetic Plain	Shiwaliks, terai, wetlands, alluvial
8.	North-east India	8. North-east India	Bhabar-terai, alluvial, evergreen forests, wetlands
9.	Islands	9a. Andaman and Nicobar	Evergreen forests, moist deciduous
		9b. Lakshadeep	Evergreen forests, moist deciduous, Grasslands, montane forests, wetlands
10.	Coasts	10a. East Coast	Mudflats, sandy and rocky littoral
		10b. West Coast	Mangrove, brackish, lagoon



*RAMSAR SITES/WETLANDS IN INDIA

Sl. No.	Site name	Area (hectares)
1	Kolleru Lake	90,100
2.	Deepor Beel	4,000
3.	Pong Dam Lake	15,662
4.	Tsomorini	12,000
5.	Wular Lake	18,900
6.	Ashtamudi Wetland	61,400
7.	Sasthamkotta Lake	373
8.	Vembanad-Kol Wetland	151,250
9.	Bhoj Wetland	3,201
10.	Loktak Lake	26,600
11.	Bhitarkanika Mangroves	65,000
12.	Chilika Lake	116,500
13.	Harike Lake	4,100
14.	Kanjli	183
15.	Ropar	1,365
16.	Keoladeo Ghano National Park	2,873
17.	Sambhar Lake	24,000
18.	Point Climate Wildlife and Bird Sanctuary	38,500
19.	East Kolkata Wetland	12,500

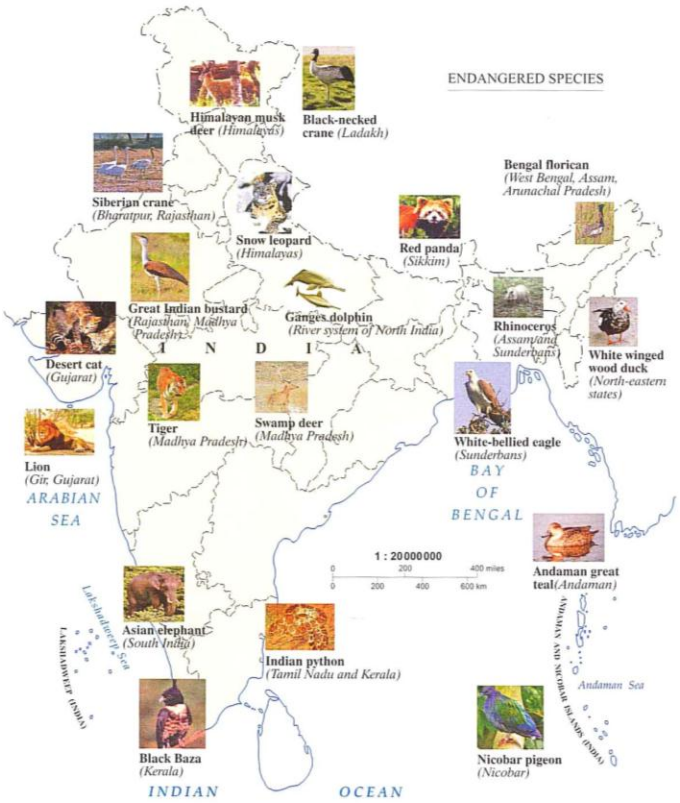
*RAMSAR SITES

Ramsar sites are wetlands of international importance designated under the Ramsar Convention, an international treaty for the conservation and sustainable utilization of wetlands, which came into force in 1975. The convention is named after the Iranian city or Ramsar, where it was adopted on 2 February 1971 by the participating nations.

Endangered Species

In India, the native animal species are under tremendous threat due to habitat loss, poaching, pollution, etc. According to the IUCN 2008 Red List, about 96 mammal species in India are threatened. This number is the second highest figure in South and South-east Asia. Also, the total of 659 species threatened in India is the third highest number in South and South-east Asia. The leopard, highly poached for its skin, has moved from the least-concern to near-threatened category and the Asiatic wild ass has moved from the vulnerable to endangered category. However, there are some positive signs too. For example, the Indian rhinoceros has moved from the endangered to the vulnerable category.

The loss of habitat as well as the pressure of human population on wildlife reserves in India is a matter of concern for the red panda population in India.



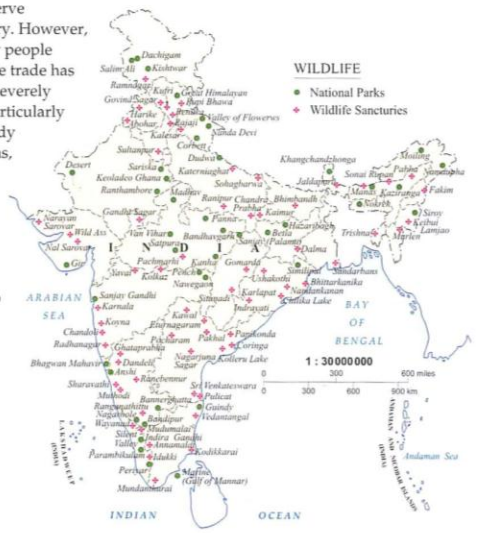
Sacred Groves

A traditional means of biodiversity conservation, the sacred groves of India are an ancient equivalent of natural sanctuaries where all forms of living beings are given protection by a deity. Such sacred groves represent native vegetation in a natural or near-natural state and are rich in biodiversity and harbour many rare species of plants and animals.

Sacred groves are, however, under threat because of increasing population, over-grazing and excessive fuel-wood collection. The decline of sacred groves can be attributed to the change in social values and religious beliefs as a result of modernization and urbanization. The expansion of the market economy, which places heavy demand on resources, such as timber, is another major cause.

National Parks and Wildlife Sanctuaries

Around 96 national parks, 500 wildlife sanctuaries and 14 biosphere reserves have been set up to conserve biodiversity in the country. However, hunting and poaching by people engaged in illegal wildlife trade has left many of these areas severely depleted. Animals are particularly affected because their body parts—bones, horns, skins, teeth, etc. fetch good money. The inadequate security cover provided to India's national parks and sanctuaries and the poor conviction rate in wildlife cases are the two major reasons for this illegal wildlife trade.



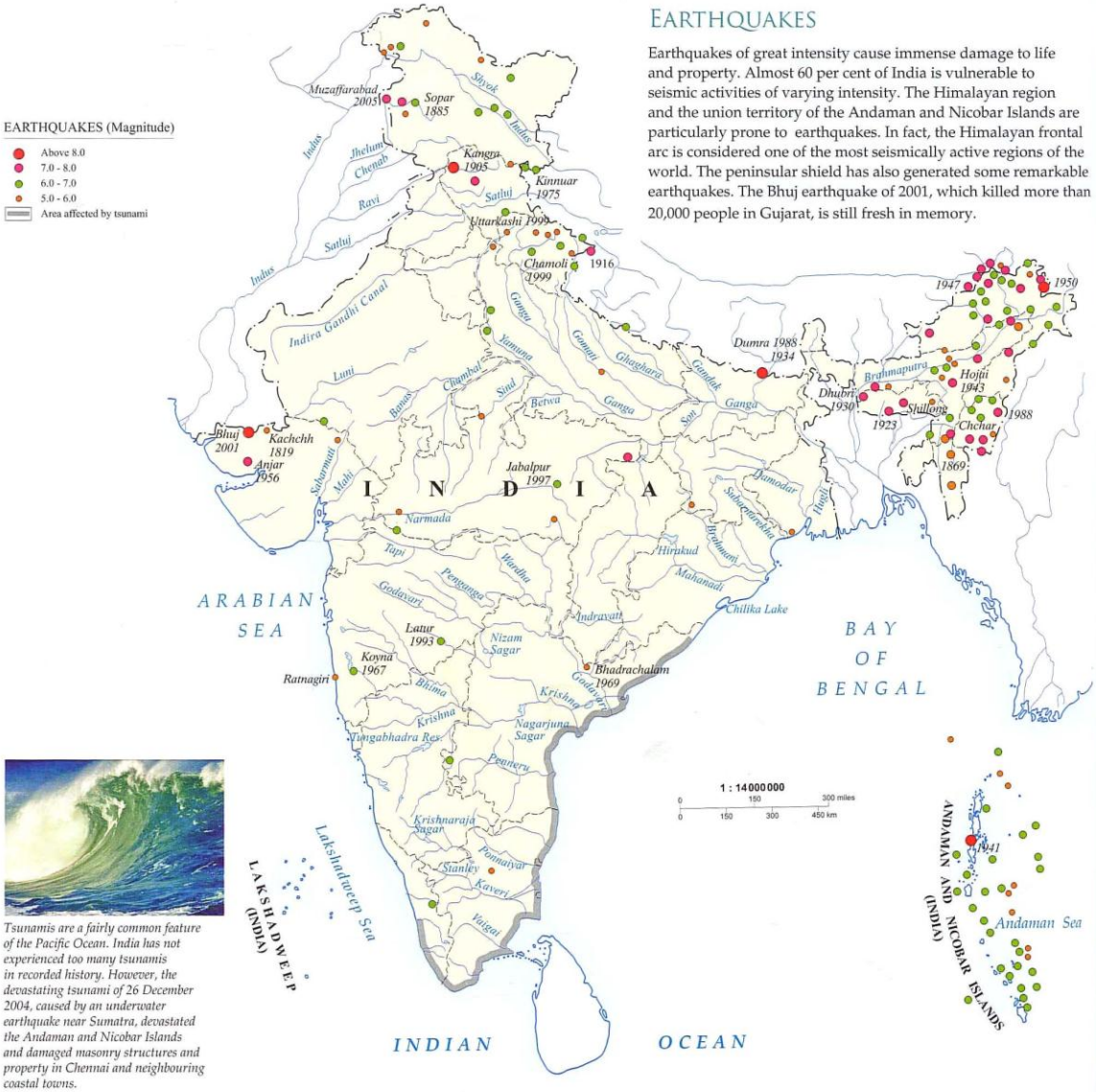
NATURAL HAZARDS

Owing to its varied geological and climatic conditions, India is exposed to a large number of natural hazards—droughts, flash floods, earthquakes and cyclones. Droughts and floods significantly impact a large part of India though they mostly affect the north-western and eastern regions respectively. Geophysical hazards, such as earthquakes and landslides, generally affect the Himalayan region in the north and the north-eastern regions of the country. Although cyclones influence a relatively small area of the country, they rank high on the list of disasters with high death tolls and a distressing impact on the country's GDP.

The Indian government is now proactive and has shifted its attention from post-disaster management to preparedness and mitigation because such an approach has tremendous potential to mitigate devastation.

EARTHQUAKES

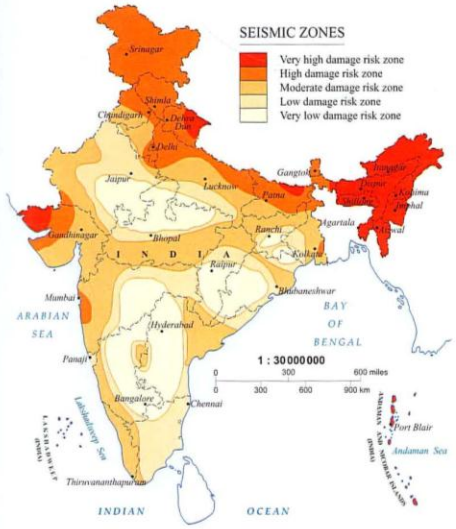
Earthquakes of great intensity cause immense damage to life and property. Almost 60 per cent of India is vulnerable to seismic activities of varying intensity. The Himalayan region and the union territory of the Andaman and Nicobar Islands are particularly prone to earthquakes. In fact, the Himalayan frontal arc is considered one of the most seismically active regions of the world. The peninsular shield has also generated some remarkable earthquakes. The Bhuj earthquake of 2001, which killed more than 20,000 people in Gujarat, is still fresh in memory.



Tsunamis are a fairly common feature of the Pacific Ocean. India has not experienced too many tsunamis in recorded history. However, the devastating tsunami of 26 December 2004, caused by an underwater earthquake near Sumatra, devastated the Andaman and Nicobar Islands and damaged masonry structures and property in Chennai and neighbouring coastal towns.

Seismic Zones

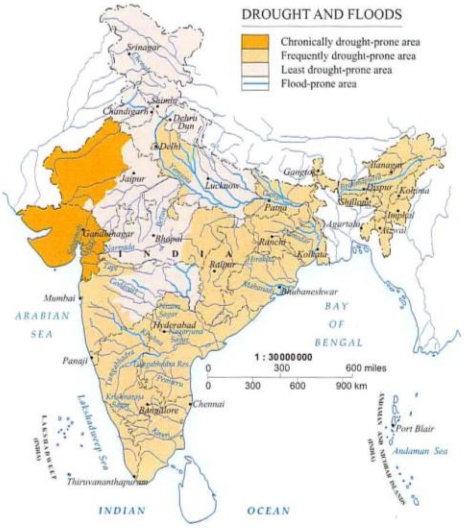
India is divided into five seismic zones on the basis of the severity of earthquakes. Of these five zones, Zone 5 is the seismically most active, where earthquakes of magnitude 8 or more can occur. Zone 1 is the seismically least active region.



Droughts and Floods

About 68 per cent of India is vulnerable to drought. The 'chronically drought-prone areas' of India receive less than 750 mm of rainfall, while the 'drought-prone' areas receive rainfall in the range of 750–1125 mm. These areas of the country are confined to peninsular and western India—primarily arid, semi-arid and sub-humid regions.

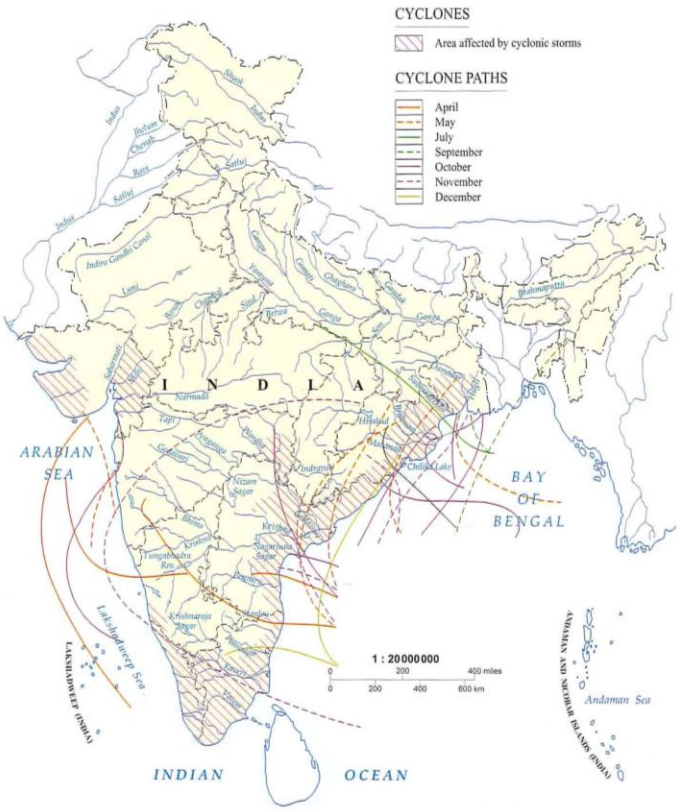
Floods, including seasonal floods, flash floods and urban floods, are the most common climate-related disasters in the country. The heavy south-west monsoon rains cause the Brahmaputra, the Ganga and other rivers to inundate large areas in their catchment areas.

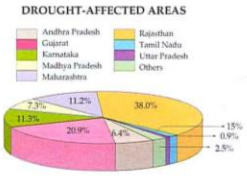


Cyclones

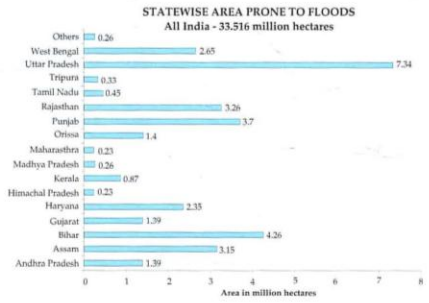
Cyclones are caused by intense low-pressure systems toward which winds travel at tremendous speed. In India, the eastern coastal areas bordering the Bay of Bengal are particularly prone to cyclonic activities during summer. The western coast bordering the Arabian Sea rarely experiences cyclones.

Cyclones have caused widespread death and destruction in the coastal areas of Andhra Pradesh, Orissa, Tamil Nadu and West Bengal in the recent past. The supercyclone that struck Orissa in 1999 is considered the worst in the last 25 years. It killed over 9,000 people and left more than 2 million people homeless.





Floods destroy life, property and standing crops. Famine-like conditions after a flood are also common in India.

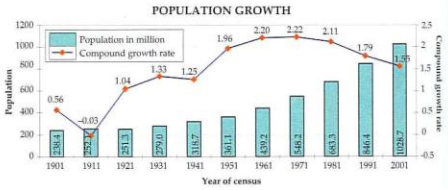


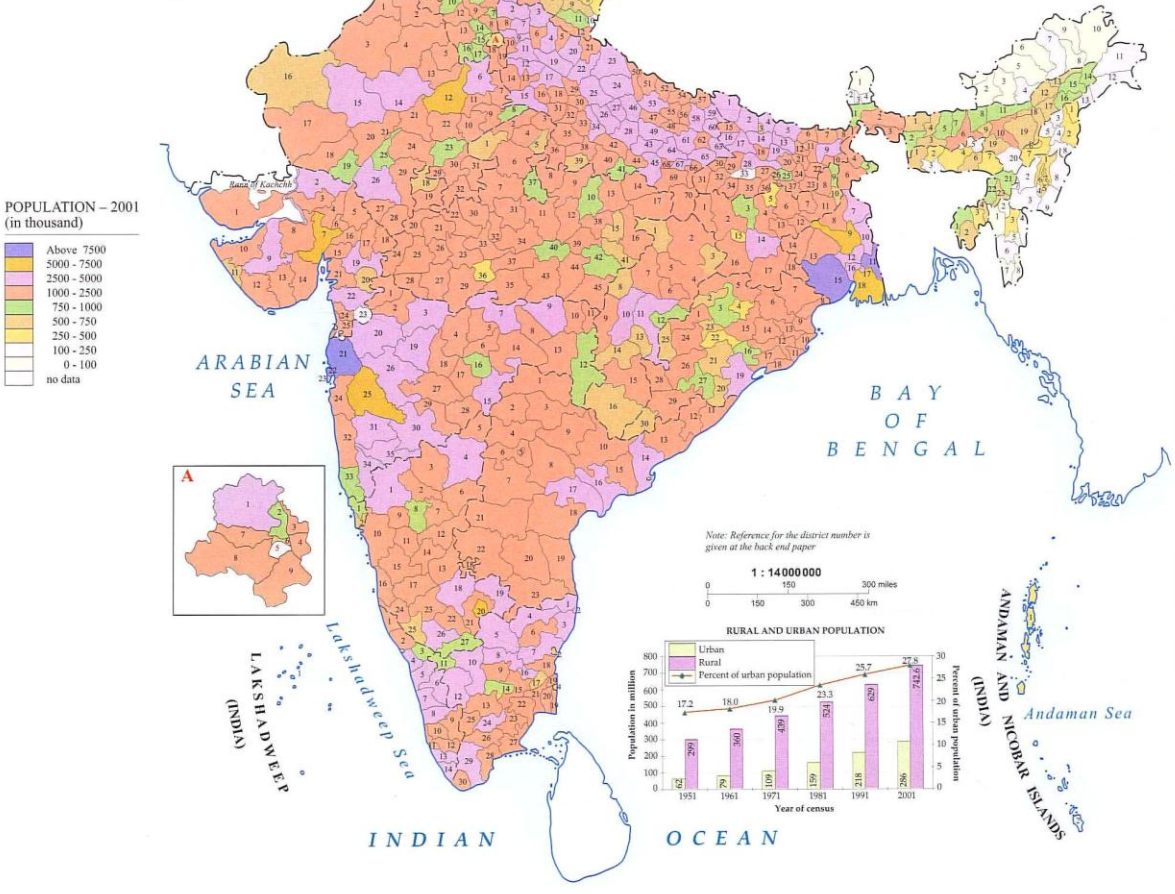
POPULATION

As per the 2001 Census, India's population is 1.02 billion, which is expected to reach 1.6 billion by 2050. Uttar Pradesh is the most populated state of the country with around 166 million people. The location of the state in the fertile upper Gangetic plains is the main reason for the large population of the state. A major part of the population in the state is engaged in agriculture. Sikkim, with only 540,000 people, has the lowest population amongst the states in the country. The population of this Himalayan state, with one of the smallest state areas, is unevenly distributed over 452 villages and four districts. Amongst the union territories, Delhi has the highest population while Lakshadweep has the lowest. Medinipur (West Bengal) is the most populated district (9.6 million people) in the country while Yanam (Puducherry), the least populated (31,394 persons).

India has made tremendous progress since Independence. The life expectancy has doubled from about 32–33 years in 1947 to about 63 years, while literacy has gone up from about 18 per cent to about 65 per cent. However, the benefits of development have not reached all sections of the population and the country continues to suffer from a wide variety of socio-economic disparities.

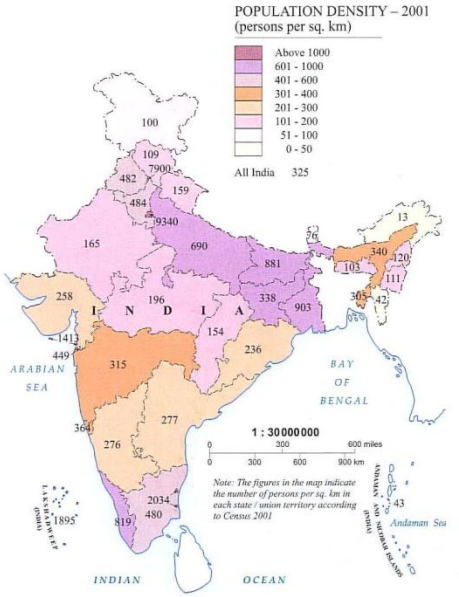
India accounts for only 2.4 per cent of the world's surface area but supports and sustains a whopping 16.7 per cent of the world's population. The country's population is projected to surpass that of China by 2030.





Density of Population

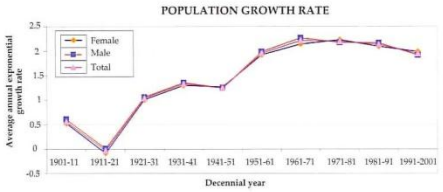
According to the 2001 Census, the population density of India is 325 persons/sq. km with West Bengal having the highest number of people per sq. km (903 persons per sq. km), closely followed by Bihar (881 persons per sq. km). The lowest population density has been recorded in Arunachal Pradesh (13 persons per sq. km). Lahaul & Spiti (Himachal Pradesh) is the most scarcely populated region of the country with just two persons per sq. km. In general, all areas having extreme climate and inaccessible terrain have low population densities.

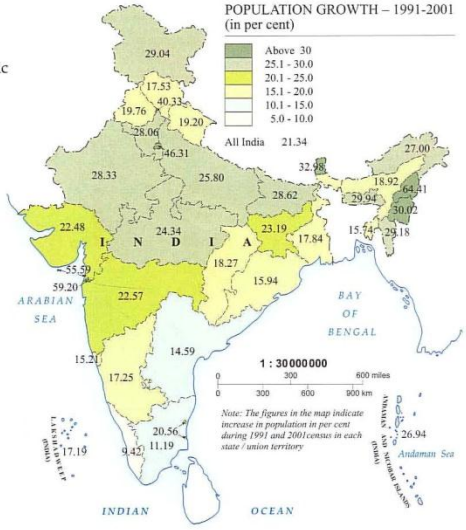


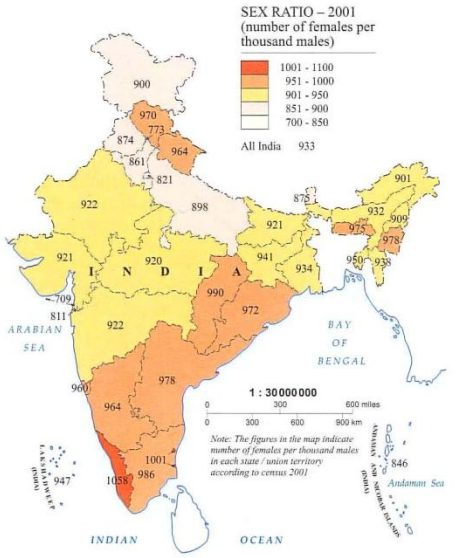
Population Growth

The population of India in 1991 was 846,302, 688. It grew by 21.34 per cent by 2001 to cross the one-billion mark. Although nearly 72 per cent of the Indian population lives in rural areas, it is the urban population that registered a higher growth rate in the decade 1991–2001. The urban population grew by 31.5 per cent as against the 18 per cent rise in rural population. According to the 2001 Census, Kerala recorded the lowest population growth rate of 9.42 per cent, followed by Tamil Nadu (11.19 per cent) and Andhra Pradesh (14.59 per cent). Nagaland recorded the highest population growth rate of 64.41 per cent, followed by Sikkim (32.98 per cent) and Meghalaya (29.94 per cent).

The rapid growth of population puts excessive pressure on the socio-economic infrastructure of the country. Agricultural and industrial activities get intensified to support the large population, often posing a danger to natural resources and the environment.



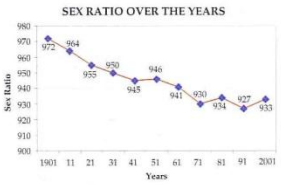




Sex Ratio

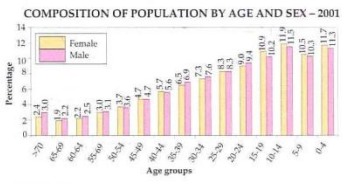
India's sex ratio stands at 933 females per thousand males. The urban areas of the country have a lower sex ratio than their rural counterparts. According to the 2001 Census, the urban areas have just 900 females per thousand males as compared to 946 females per thousand males in rural areas.

States with high literacy rates also have better sex ratios. For instance, females outnumber males in Kerala, which has the highest sex ratio in the country (1,058 females per thousand males).



Population by Age and Sex

Around seven per cent of the Indian population is 60 years of age or above with the youth comprising a major part. According to the 2001 Census, around 69.1 per cent of the Indian population is 34 years of age or below. Such a demographic position gives the country an important economic advantage. China's predominant youth population in the 1980s is said to have been responsible for its present economic prosperity. India's young population could bring about a similar economic boom provided they have access to proper health facilities and education and are given employment opportunities, especially in the rural areas. The failure to provide opportunities to the youth in country could result in a grave socio-economic crisis.



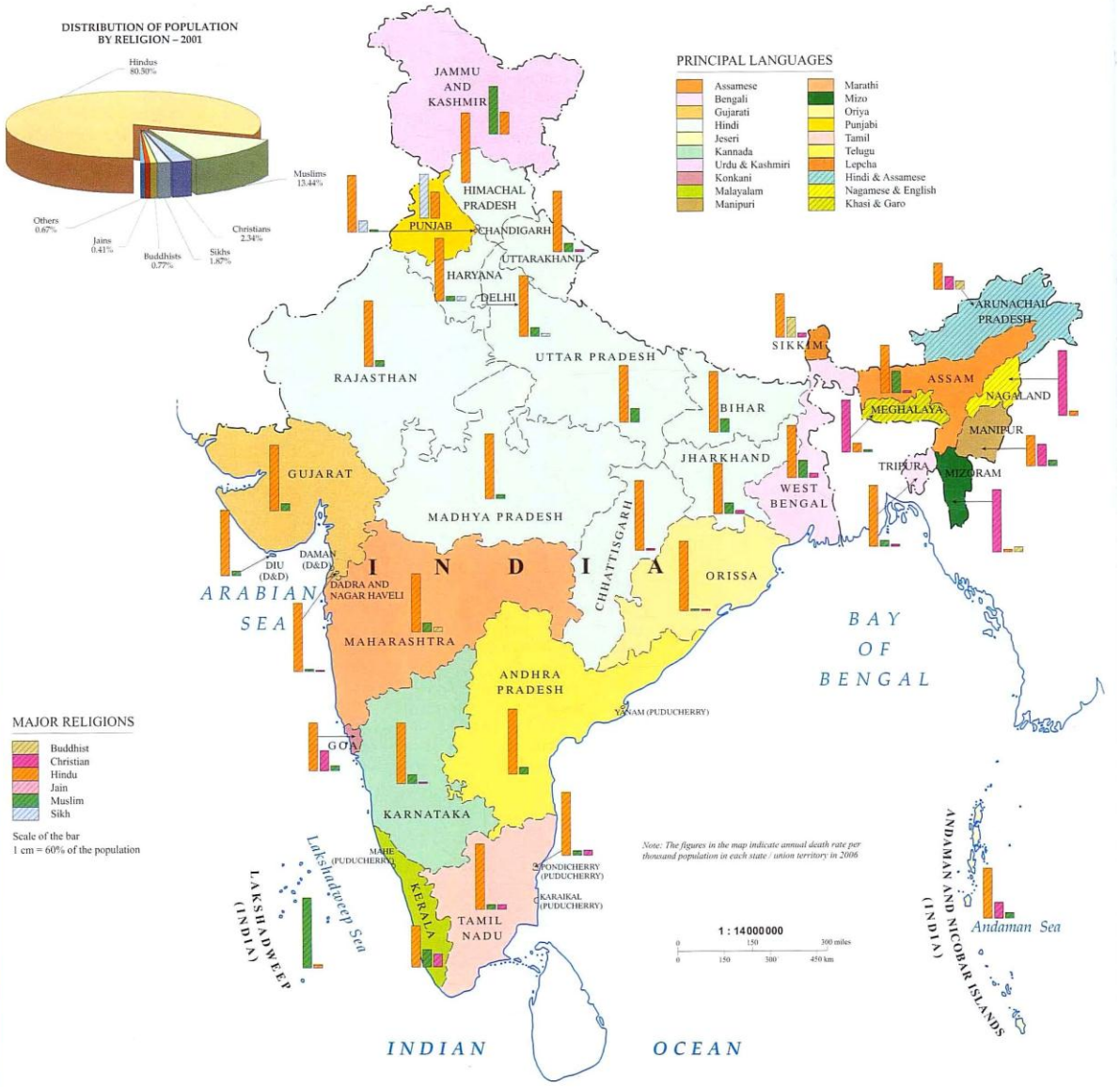
Population By Languages and Religions

Around 41 per cent of the people in India speak Hindi as their mother tongue. It is the most important language in Bihar, Jharkhand, Uttar Pradesh, Uttarakhand, Chandigarh, Delhi, Haryana, Himachal Pradesh, Madhya Pradesh, Chhattisgarh and Rajasthan. These states of north and central India together form the Hindi heartland.

The percentage of people that speak each of the other scheduled languages as their mother tongue is less than 10 per cent. Bengali (8 per cent), Telugu (7 per cent), Marathi (7 per cent), Tamil (6 per cent) and Urdu (5 per cent) are the other major languages in this category.

India exhibits an impressive religious diversity. The country finds representation of almost all the major religions of the world, many of which have originated here. The different religions are further divided into various sects and traditions. The Hindus comprise the majority (over 80 per cent) of the Indian population. Although the followers of Islam constitute only 13.4 per cent of the population, India is home to one of the largest Muslim populations in the world.

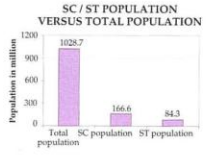
Sikhism, founded in the 15th century in India, is one of the youngest religions of the world. Sikhs make up about 2 per cent of the country's population. The majority of the Sikh population is concentrated in and around Punjab. Christians, Buddhists and Jains are the other important religious communities of the country. Buddhism and Jainism are two of the ancient religions in the world that originated in India. But today, only a small part (less than one per cent) of the Indian population follows these religions. However, these religions have prospered outside the country, especially in South-east and East Asia.

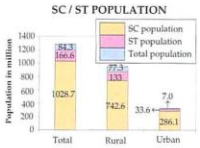


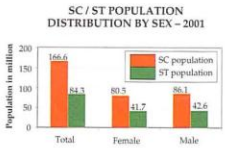
SC AND ST POPULATION

Schedule castes (SCs) and schedule tribes (STs) comprise 16.2 per cent and 8.2 per cent of the Indian population respectively. These communities have suffered centuries of socio-economic deprivation. The Constitution of India guarantees equal status to these communities.

Punjab has the highest proportion of SC population (28.9 per cent) among all the states and union territories. A major part of the SC population in the state lives in the rural areas. The state has 37 notified schedule castes, dominated by the Mazhabi community. Mizoram has the highest proportion of the ST population (94.5 per cent) in the country with 14 communities notified as STs. Any Mizo (Lushai) tribes constitute about 77 per cent of the ST population in the state.







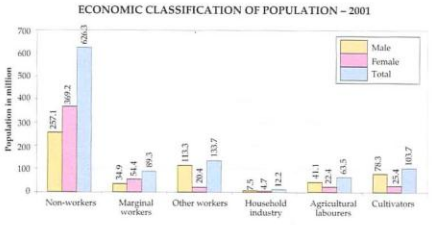
POPULATION BY EMPLOYMENT

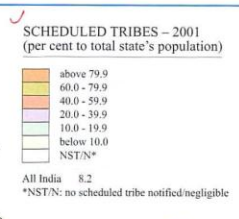
According to the 2001 Census, there are around 63.5 million agriculture labourers in India. A major proportion of these labourers come from the three states of Andhra Pradesh (9.8 million), Bihar (9.0 million) and Uttar Pradesh (6.0 million).

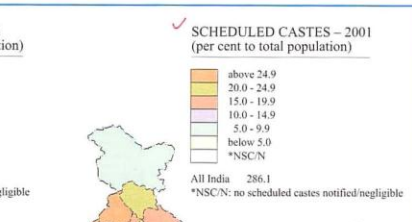
There are around 103.6 million cultivators (people who work their own, leased or mortgaged land for themselves) in India. Uttar Pradesh has the highest number of cultivators (18.4 million), followed by Maharashtra (10.1 million), Rajasthan (9.6 million) and Madhya Pradesh (8.9 million).

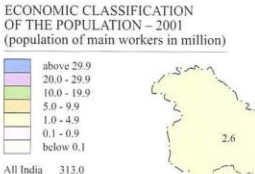
According to the 2001 Census, around 146 million persons are employed in different government and private organizations, and household industries. About 8.4 per cent of them or 12.2 million persons are involved in household industries, which are an important source of income for rural women in the country. Uttar Pradesh has the highest number (14.9 million) of employed persons.

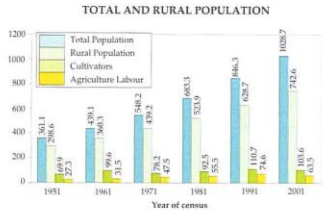
Marginal workers (people who work for less than six months) mainly work in sectors that require extra workforce only in a particular season. There are around 89.2 million marginal workers in India as per the 2001 Census and a majority (almost 61 per cent) of them are women. The number of female labourers, as a percentage of the total workforce, is the highest (76.4 per cent) in Gujarat.

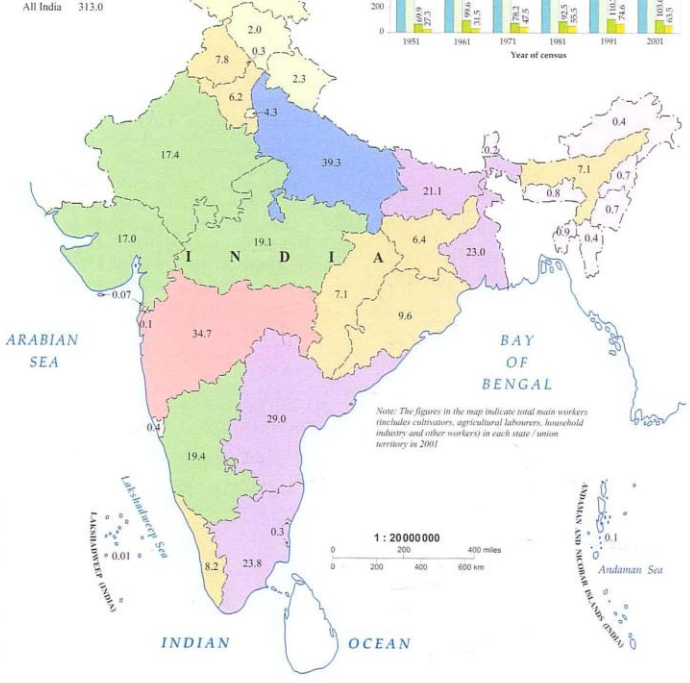






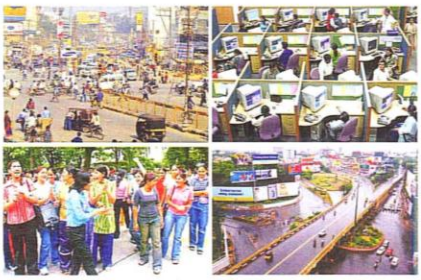






URBANIZATION

India is predominantly rural and almost 72 per cent population resides in rural areas. In India, around 30 per cent of the net urban growth is due to the influx of people from villages and similar areas. The urban population in the country has been growing at a steady rate as a result of the drop in mortality rates. The conversion of rural areas into small towns and cities is another important way in which the urban population has increased.



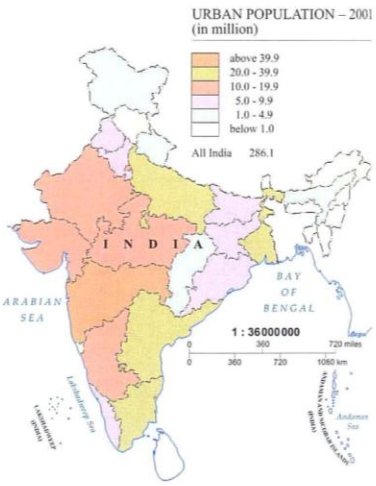
Although less than one-third of the Indian population lives in towns and cities, these areas contribute about two-thirds of the country's GDP.

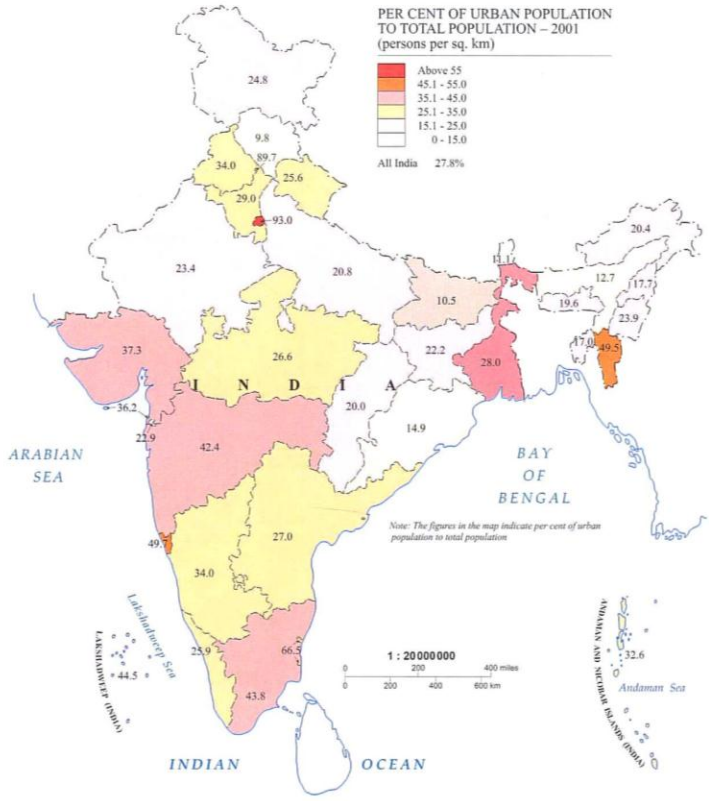
The educated and skilled workforce employed in various industrial and service sector organizations constitutes an important part of the urban population and is central to the country's rapidly growing economy.

Urban Population

As per the 2001 Census, the number of people living in urban areas is 286 million. There are over 35 cities in the country whose population has crossed the one million mark. Maharashtra has the highest urban population in the country (41.1 million); Uttar Pradesh, Tamil Nadu and Andhra Pradesh are the other states with a considerably high number of people (above 20 million) residing in towns and cities. It is estimated that by 2030, around 41 per cent of the country's population would live in urban areas.

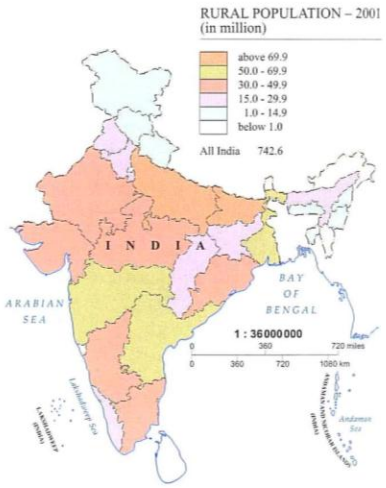
The net urban population has increased significantly (about 70 million between 1991 and 2001); however the rate of urbanization is still below the average of other Asian countries.

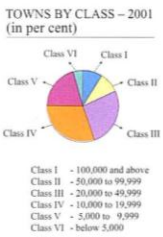


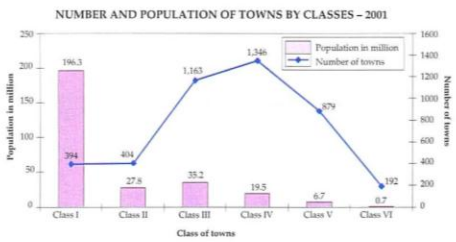


Rural Population

According to the 2001 Census, the rural population of the country is 742.6 million. Uttar Pradesh has the largest rural population in the country (over 131 million), followed by Bihar (74 million). West Bengal, Andhra Pradesh, Maharashtra, Madhya Pradesh and Rajasthan are the other states with large (over 40 million) rural populations.







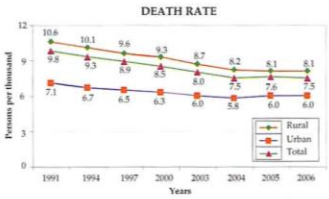
Birth and Death Rates—Rural and Urban

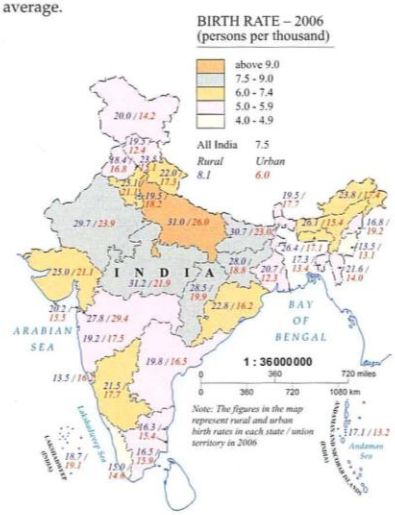
Both birth and death rates are higher in rural areas than in urban areas. Consequently, both birth and death rates are higher in states that have higher percentage of rural populations such as Bihar, Uttar Pradesh, Madhya Pradesh, Rajasthan and Jharkhand. Though the over-all birth rate in Orissa is lower than the national average, its death rate is much higher than the national average. This can be attributed to lack of nutrition amongst a large section of its population.

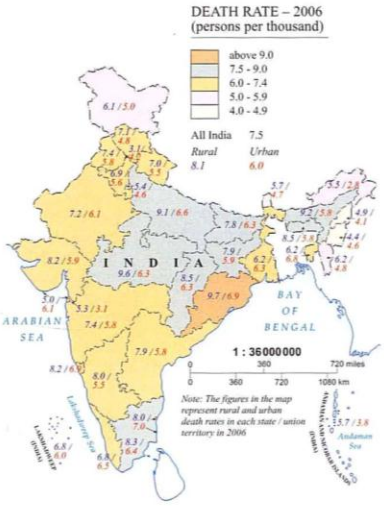
The birth rate in the southern states of Karnataka, Andhra Pradesh, Kerala and Tamil Nadu is much below the national average. High literacy in these states has played an important role in checking the birth rate. The death rate in these states is more or less near the national average.

Lack of awareness about contraceptive measures is a major reason behind high birth rates in rural areas.

Malnutrition is a major cause for the death of infants and children in India.



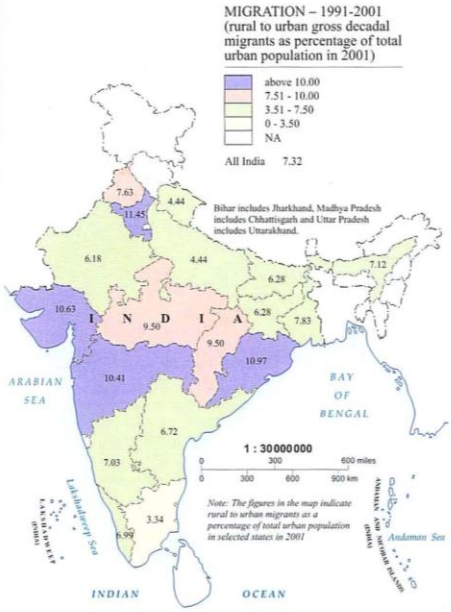


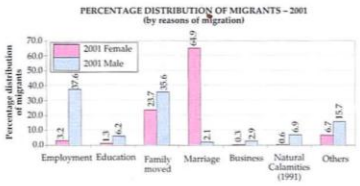


MIGRATION

Rural-to-urban migration takes place mostly on account of limited resources available in rural areas and the wide variety of employment, educational and other opportunities available in cities and town. This mobility towards urban areas has been the most important factor in urbanization in India.

At 11.45 per cent, Haryana has the highest percentage of rural migrants in its urban population. This is followed by Orissa (10.97 per cent), Gujarat (10.63 per cent), Maharashtra (10.41 per cent) and Madhya Pradesh (9.5 per cent). Most of these migrants comprise small landholders and non-and non agricultural workers.





PERCENTAGE DISTRIBUTION OF MIGRANTS IN DIFFERENT MIGRATION STREAMS

Sex	Year	Rural to urban	Urban to urban	Urban to rural	Rural to rural
Female	1961	9.7	5.8	3.2	81.3
	1971	10.5	6.7	5.1	77.7
	1981	12.5	8.7	5.5	73.3
	1991	13.5	8.8	5.5	72.2
	2001	13.6	9.7	5.6	71.1
Male	1961	25.7	13.0	4.6	56.7
	1971	26.0	14.0	6.5	53.5
	1981	30.0	17.4	7.0	45.6
	1991	31.6	17.8	7.2	43.4
	2001	27.1	18.3	8.6	46.0

AGRICULTURE

Although the contribution of agriculture in India's GDP has been steadily on the decline, it still provides livelihood to a very large segment of the country's population, particularly in rural areas. India ranks second in the world in total farm produce. It is the chief producer of milk, tea, cashew nuts, coconuts and a few spices. India is the second largest producer of wheat, rice and sugar and is also the third largest producer of tobacco. It also produces significant quantities of fruits. In addition it also has the world's largest cattle population (approximately 193 million).

Though yields per unit area of all crops went up after the country's independence, mainly because of the Green Revolution, they are still far below the world average. General socio-economic backwardness, small land holdings, lack of adequate irrigation facilities and absence of modern agricultural practices continue to affect a significant number of farmers and other workers employed in this sector.

CROPS SEASONS IN INDIA

Different climatic conditions support the growth of different varieties of crops. Kharif and rabi are the two primary crop seasons in India. The crops grown in these seasons are called kharif and rabi crops respectively. The kharif season, or the season of summer/monsoon crops, begins with the arrival of the monsoon rains. It extends from July to October. The south-west monsoons supply the much needed water for irrigation during this season. The kharif crops are harvested in winter. Paddy (rice) is the most important kharif crop. Millets, maize, cotton, sugar cane are some of the other important crops produced during this season. The rabi season (or the season of winter crops) starts in autumn, around October. The crops grown in this season are harvested in the spring season, around April. Wheat, barley, linseed, mustard and pulses are some of the important rabi crops.

Delayed monsoon rains severely impact the kharif produce in the country. At the same time, unseasonal torrential rains cause great damage to rabi crops, particularly during the harvest season.

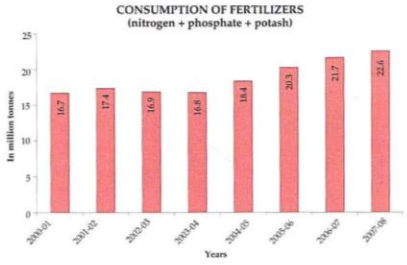
AGRO-CLIMATIC REGIONS

The division of agricultural regions on the basis of climatic conditions and subsequent cropping plans enhanced crop yield. The two have helped in optimizing the use of regional resources to meet the requirements of food, fibre, fodder and fuel wood. The Planning Commission of India has broadly divided the country into 15 agricultural regions based on agro-climatic features such as soil type, temperature, rainfall and its variation, and water resources availability as under:

1. Western Himalayan region
2. Eastern Himalayan region
3. Lower Gangetic plains region
4. Middle Gangetic plains region
5. Upper Gangetic plains region
6. Trans Gangetic plains region
7. Eastern plateau & hills region
8. Central plateau & hills region
9. Western plateau & hills region
10. Southern plateau & hills region
11. East coast plains & hills region
12. West coast plains & ghats region
13. Gujarat plains & hills region
14. Western dry region
15. The islands region

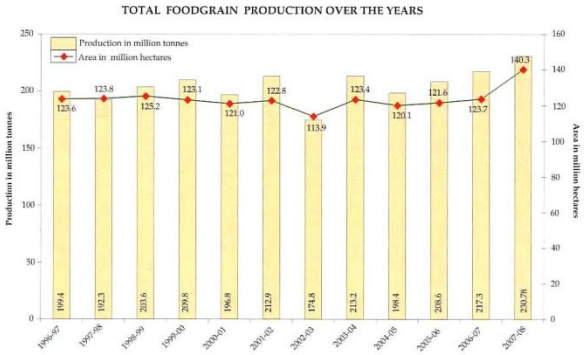
FERTILIZER CONSUMPTION

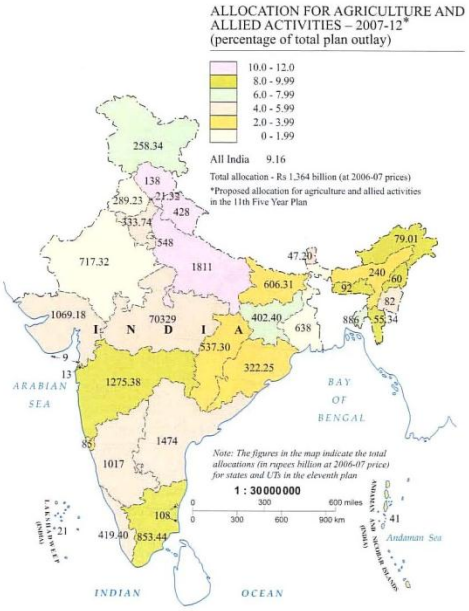
The importance of chemical fertilizers in sustaining and increasing agricultural production cannot be undermined. These fertilizers played a key role in the Green Revolution and in achieving self-reliance in food production in India. The annual consumption of chemical fertilizers (nitrogenous, phosphatic and potash) in India stood at 22.6 million tonnes in 2007-08. A great deal of variability exists in fertilizer consumption among the states. On one side are the states like Punjab, Andhra Pradesh, Tamil Nadu and West Bengal where the consumption is more than 125 kg per hectare while on the other, there are states such as Rajasthan, Orissa and Madhya Pradesh where it is less than 50 kg per hectare. In fact, the consumption is less than 5 kg per hectare in certain north-eastern states.



Production Trends

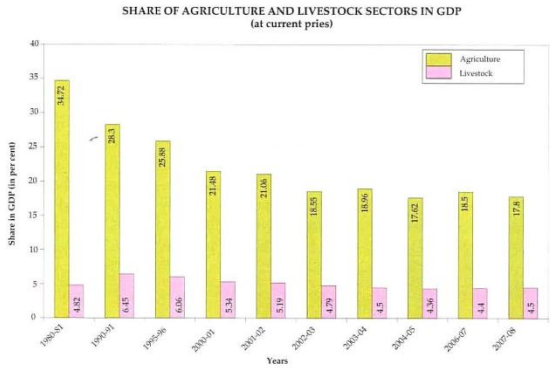
With about 50 million tonnes of net foodgrain production, India was by and large an import-dependent country at the time of independence. However, since then India has emerged as a food surplus country. Wheat production has increased about 12 times during the last 60 years and rice production about five times. This success can be attributed to efforts made during the Five Year Plans to increase crop yields in the country by increasing the irrigation potential. These efforts, together with the Green Revolution, have helped India to become self-reliant in food production. In fact, today India is an exporter of several agricultural products.





Agricultural Economy

The contribution of the agricultural sector to the country's economy has been steadily decreasing. Its share reduced from 36.4 per cent in 1982-83 to 17.8 per cent in 2007-08. However, the overall agriculture production has experienced a significant revival in recent times. During 2007-08, the net foodgrain production reached an all time high of 230.78 million tonnes. The production of other agricultural products, such as fruits and vegetables, have also grown significantly. The agricultural sector recorded a growth of 3.8 per cent in 2006-07 and 4.9 per cent in 2007-08, a major improvement from 2.5 per cent annual average growth during the 10th Five Year Plan. The impressive performance of this sector has been made possible by increased public and private sector involvement in agricultural activities.



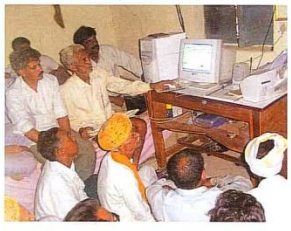
Rashtriya Krishi Vikas Yojana

Rashtriya Krishi Vikas Yojana was launched by the Government of India in 2007 with a view to accelerating the growth in agriculture and allied sectors. The plan seeks to achieve 4 per cent annual growth during the 11th Five Year Plan period. The following are some of the important objectives of this plan:

- to provide appropriate incentives to different states in order to improve public investment in agriculture and allied activities
- to ensure necessary autonomy to the states to carry out various agricultural plans and reforms efficiently
- to ensure proper analysis of agro-climate conditions, availability of natural resources and technology in the states while formulating plans related to agriculture and allied sectors
- to reduce the yield gaps in case of important crops
- to improve the condition of farmers by ensuring returns to them

e-Choupal

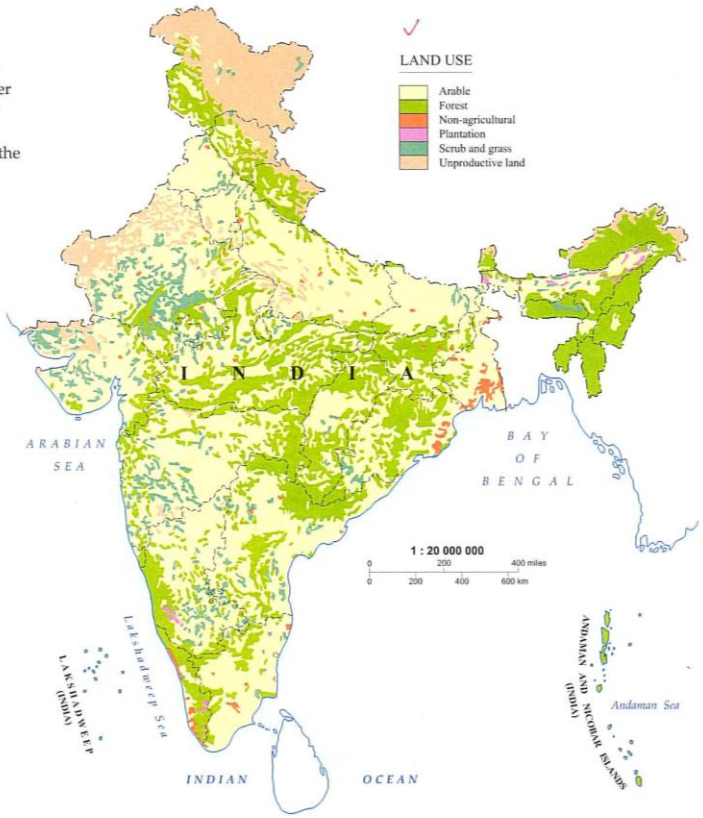
e-Choupal is an initiative of ITC Limited (a large Indian business conglomerate whose interests span tobacco, foods, hotels and apparel) to develop its agricultural business by empowering the small Indian farmer, who is its major supplier. Launched in 2000, e-Choupal makes use of village Internet kiosks, managed by farmers called Sanchalaks, to provide ready information to farmers in their local language on weather, market prices, scientific farm practices, etc. These Internet kiosks also serve as procurement and purchase points, allowing farmers not only to sell their produce directly to ITC, but also buy agricultural inputs and consumer goods for daily household use. This initiative seems to have come as a boon to farmers as it reduces their dependence on middlemen and informal creditors.



LAND USE

Of the total geographical area of India (328.73 million hectares), about 58.7 per cent is utilized for agriculture. The National Policy on Agriculture and Land Use seeks to bring unutilized lands under cultivated land wherever possible. The Waste Land Development Programme of the Government of India is very important in this regard as this programme seeks to develop watersheds all across the country for proper utilization of land and water resources.

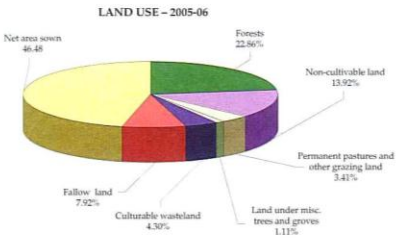
Most farmers in India still depend on rainfall for irrigation. Therefore, the excess or shortage of rain severely affects crop production in the country.



Patterns of Land Use

The total available land in the country is divided into forests (69.8 million hectares), non-cultivable land (42.5 million hectares), permanent pastures and other grazing land (10.4 million hectares), land under miscellaneous trees and groves (3.4 million hectares), culturable wasteland (13.1 million hectares), fallow land (24.2 million hectares) and net sown area (141.9 million hectares).

Out of 328.73 million hectares of the country's area, the reporting area for land utilization statistics is only 305.27 million hectares.

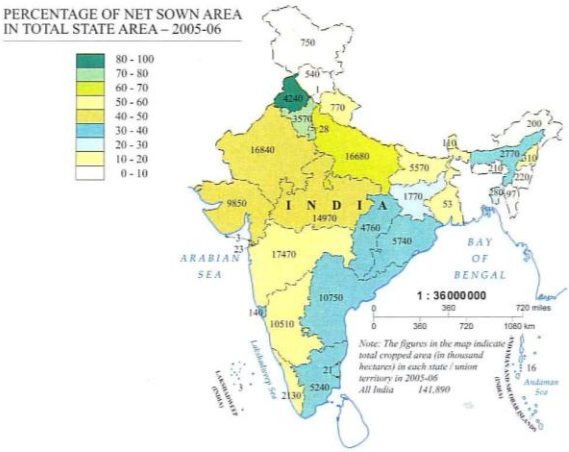


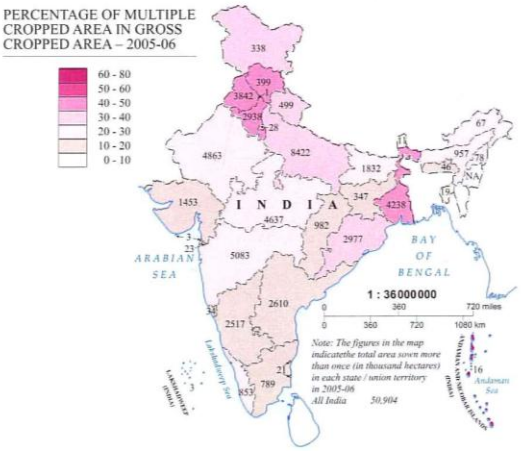
Net Sown Area and Gross Cropped Area

Net sown area is the total area sown with crops and orchards. Any area sown more than once in a year is counted only once. The net sown area in India, as mentioned above, is 141.9 million hectares. Gross cropped area is the sum total of areas covered with all the individual crops. Areas sown with crops more than once during the year are counted as seperate areas for each crop while calculating the gross cropped area.

The gross cropped area in India stands at 193.7 million hectares. Uttar Pradesh has the largest cropped area (25.1 million hectares). It is followed by Maharashtra (22.6 million hectares), Rajasthan (21.7 million hectares) and Madhya Pradesh (19.6 million hectares).

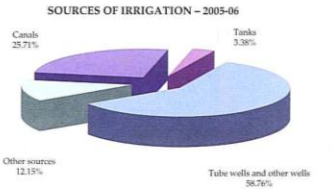
Growing only one variety of crop repeatedly on a piece of land can permanently exhaust the soil of certain vital nutrients. Therefore, farmers often grow a combination of different crops (a major crop along with some minor ones) or even different varieties of the same crop to ensure optimal production. In some regions, such as the Deccan Plateau, the choice of crop combination is made keeping in mind the dietary requirements of the people. A combination of crops ensures the supply of most nutrients to people and fodder to cattle.

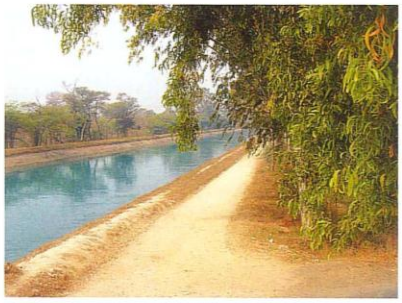




IRRIGATION

Owing to the unpredictable nature of monsoonal rainfall in India, irrigation facilities are extremely critical to crop productivity. Though a large number of irrigation projects have been launched in the country since independence, many have remained incomplete due to a variety of reasons and Indian farmers are still largely dependent on rainfall for water for their crops. The Accelerated Irrigation Benefits Programme of the central government, which was launched in 1996-97 to provide financial assistance to the states to complete their irrigation projects, has met with limited success.

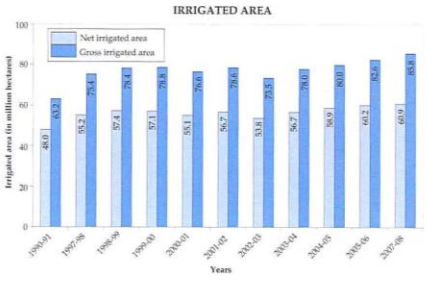


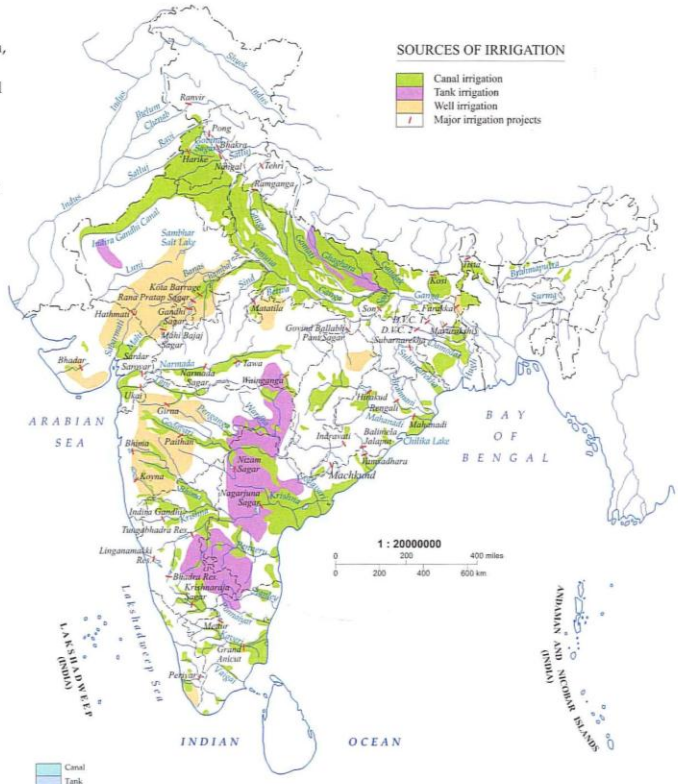


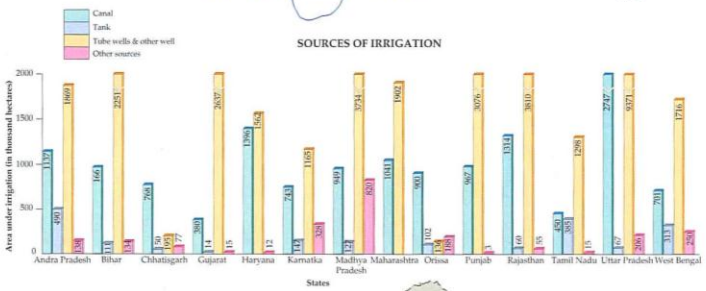
The 650-km long Indira Gandhi Canal is one of the biggest canals in India. It starts from the Harike Barrage, a few kilometers below the confluence of the Sutlej and Beas in Punjab and terminates near Jaisalmer in Rajasthan. The main objective behind building the canal is to convert the Thar Desert into a agriculturally productive area.

Net and Gross Irrigated Area

The rate at which irrigation potential was created in the country decreased from 3 per cent per annum during 1950-51 to 1.8 per cent in the 10th Five Year Plan. The net area under irrigation in the country was 60.9 million hectares in 2007-08, while the gross irrigated area was 85.8 million hectares, with a cropping intensity of 138 per cent.







PERCENTAGE NET IRRIGATED AREA IN TOTAL STATE AREA – 2005-06 (in thousand hectares)

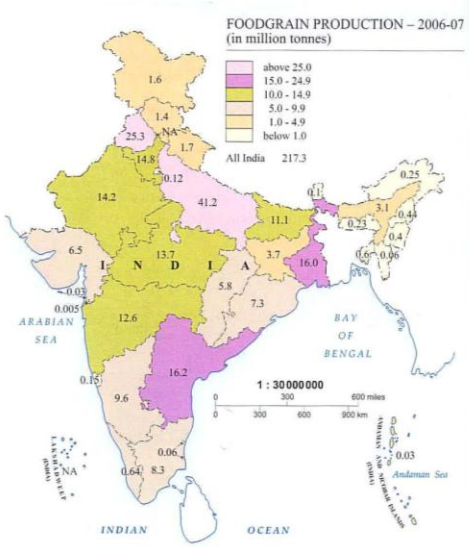
above 10000	
5000 - 10000	
2500 - 5000	
1500 - 2500	
500 - 1500	
100 - 500	
50 - 100	
25 - 50	
0 - 25	
All India	60,196

THE PRODUCE: FOOD AND NON-FOOD CROPS

The total production of foodgrains was 217.73 million tonnes in 2006-07, an increase of 4.2 per cent over 2005-06, when the production was 208.6 million tonnes. Uttar Pradesh registered the highest production of 41.2 million tonnes, followed by Punjab, Andhra Pradesh, West Bengal, Rajasthan, Madhya Pradesh, Maharashtra and Bihar.

The production of non-food crops increased from 229.5 million tonnes in 2005-06 to 234.7 million tonnes in 2006-07. The production of food crops is primarily meant to meet the demand of the country's population. However, foodgrains are also an important export item. Cash crops with high commercial value are particularly important.

Besides climatic conditions, fertilizers, proper irrigation facilities, high quality seeds, credit and support price schemes for farmers are the other important requirements to sustain and increase the growth of crop production in the country.

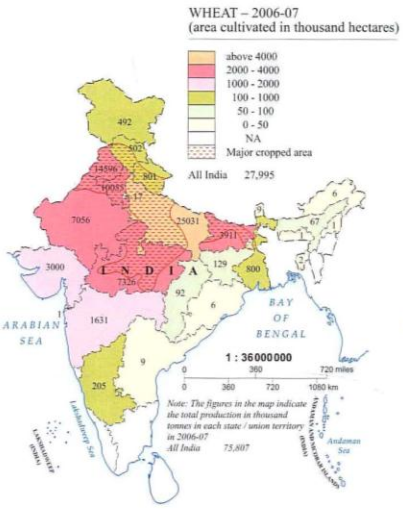


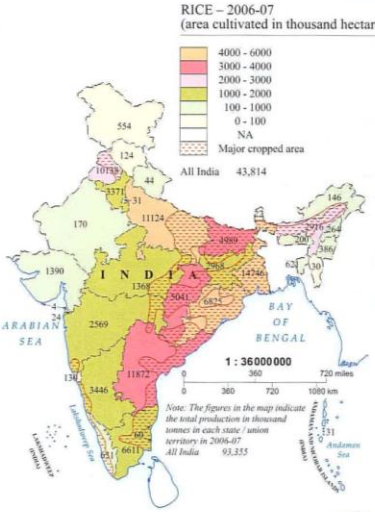
STAPLE FOOD: WHEAT AND RICE

Wheat and rice are the staple foodgrains in the country and are consumed in every region, in some form or the other. These crops have maximum subsidy under government schemes and hence enjoy greater public distribution and consumption than other food crops.

Around 75.8 million tonnes of wheat was produced in the country in 2006-07 over a cropped area of 28 million hectares. Uttar Pradesh, Punjab and Haryana together produce about 70 per cent of the total wheat produce in the country.

India accounts for around 20 per cent of the world's total rice production, the second highest after China. It produced 93.5 million tonnes of rice over a cultivated area of 43.8 million hectares in 2006-07. Uttar Pradesh, Bihar, West Bengal, Madhya Pradesh and Orissa produce almost half of the total rice produced in the country.

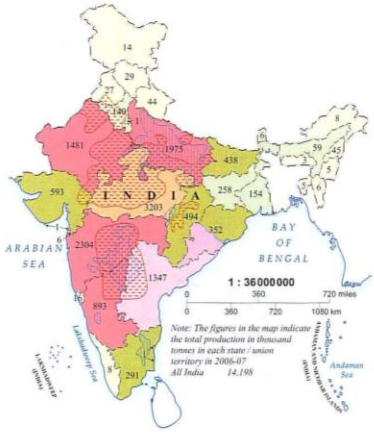




Food sufficiency is independent India's most spectacular success. From being a famine-prone country under British rule, it has emerged as a major producer of foodgrains in the world. However, making food affordable to the weakest section of the population is a major challenge before the Indian government.

PULSES

India is one of the largest producers, consumers and also the importers of pulses in the world. The major supply of protein in the diet of the poor comes from pulses. The total pulses output in 2006-07, cultivated over an area of 23.2 million hectares, stood at 14.2 million tonnes. Frosty climates (particularly in north India), pests and diseases are primary causes of poor output and crop failure in many cases. Pulses grow best in light clay. Temperature between 15°C and 20°C and rainfall between 20 and 40 inches are important physical conditions for pulses. The main pulses grown in India are moong, urad, tur, gram, peas and masoor. Of these, the first three are kharif crops while the latter are grown in the rabi season.

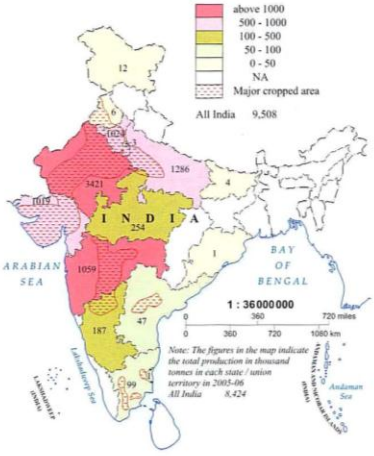


OTHER CEREALS

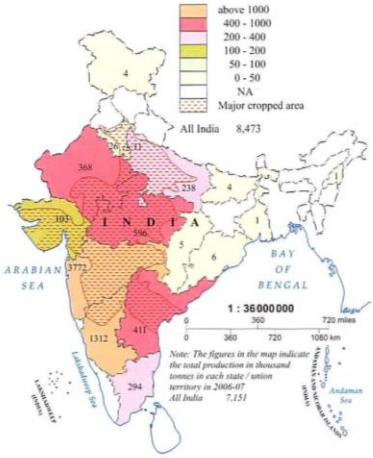
India produced a total of 195.2 million tonnes of cereals in 2006-07, including 8.4 million tonnes of bajra (over 9.5 million hectares), 7.2 million tonnes of jowar (over 8.5 million hectares), 1.3 million tonnes of barley (over 0.6 million hectares) and 15 million tonnes of maize (over 7.9 million hectares). Bangladesh, Sri Lanka, Benin and Thailand are the important export destinations of the country's cereal produce.

Bajra cultivation is done in dry or desert regions on sandy loam. Temperature between 25°C and 35°C and rainfall between 10 and 40 inches are ideal for its cultivation. Jowar is grown on medium and deep black soil in regions with temperature between 27°C and 32°C and rainfall between 12 and 40 inches. Maize can be grown on a variety of soils ranging from light and sandy soil to deep heavy clays. It is an important cereal for the poor population of the country. Barley is cultivated on light, sandy and dry soil in regions where the temperature is between 15°C and 25°C and rainfall between 25 and 40 inches.

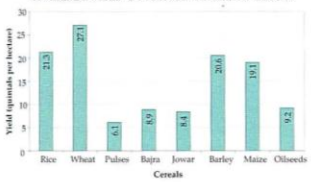
BAJRA – 2006-07
(area cultivated in thousand hectares)



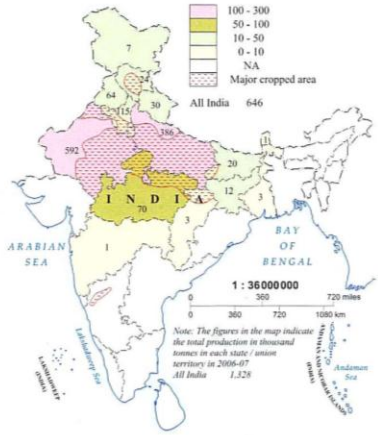
JOWAR – 2006-07
(area cultivated in thousand hectares)



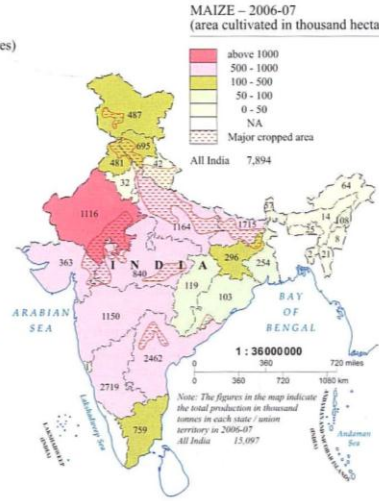
AVERAGE YIELD OF PRINCIPAL CROPS – 2006-07

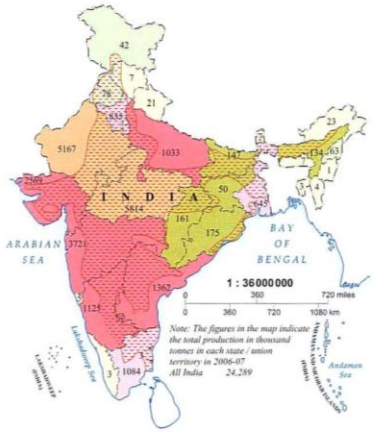


BARLEY – 2006-07
(area cultivated in thousand hectares)



MAIZE – 2006-07
(area cultivated in thousand hectares)



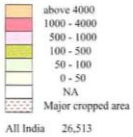


OILSEEDS

India is one of the leading producers of oilseeds in the world. Oilseeds are an important source of edible oil. The government has initiated several programmes in order to increase the output of oilseeds in the country and make it self-sufficient.

The net oilseed production in 2006-07, over an area of 26.5 million hectares, was around 24.3 million tonnes, including 8.13 million tonnes of rapeseed and mustard, 8 million tonnes of groundnut and 0.9 million tonnes of castor seed among others. Oilseeds can grow under diverse agro-climatic conditions in different parts of the country, particularly on small farms.

OILSEEDS – 2006-07
(area cultivated in thousand hectares)



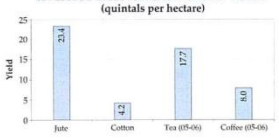
For R.G. Macro Planners Pvt. Ltd.

Director.....

CASH CROPS

Unlike subsistence crops that are cultivated for domestic consumption, cash crops are grown for commercial purposes. Jute and sugar cane are the two most profit-yielding cash crops in the country. These crops are generally priced to meet the competition and demand in global markets.

AVERAGE YIELD OR CASH CROPS – 2006-07
(quintals per hectare)

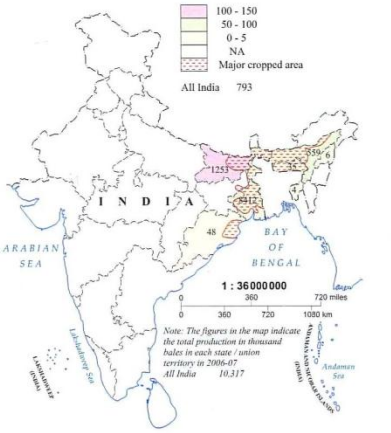


Jute and Cotton

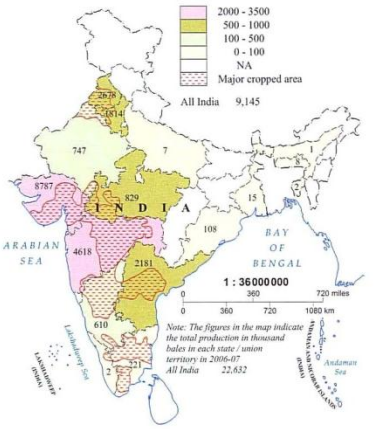
Jute is a highly versatile material and is used in making strings, ropes, bags, upholstery and so on. Jute cultivation has to compete with rice cultivation as both crops demand similar soil and climatic conditions. In 2006-07, India produced 10.3 million bales of jute over an area of 0.79 million hectares.

Cotton is a much preferred raw material for cloth manufacturers. The strength and absorbing capacity of cotton fabric make it highly popular across the world. Around 22.6 million bales were produced in India in 2006-07, over 9.2 million hectares of cultivated land.

JUTE – 2006-07
(area cultivated in thousand hectares)



COTTON – 2006-07
(area cultivated in thousand hectares)

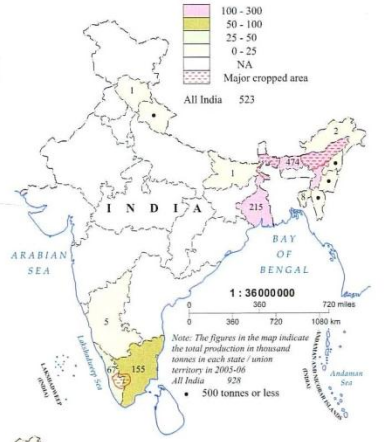


Tea and Coffee

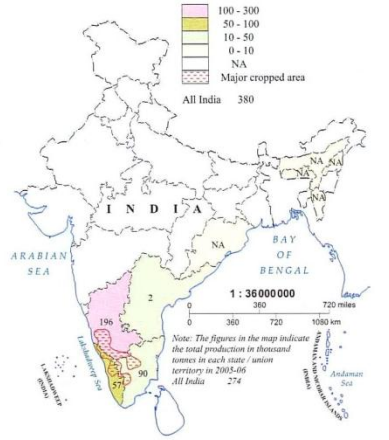
Tea is the most popular beverage in India. The country produces distinct varieties of tea, which are known by the names of the regions where they are grown. A total of 0.92 million tonnes of tea was produced in 2005-06 over an area of 0.52 million hectares.

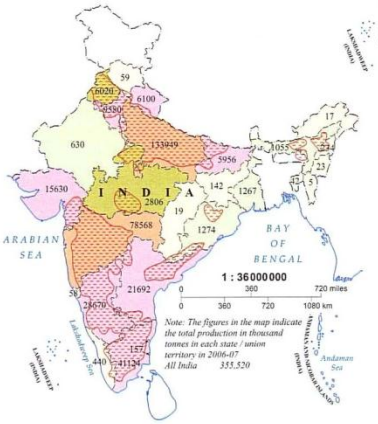
Indian coffee has a special demand in the international market despite its small output (4 per cent of the total world output). The production of coffee in the country increased to 0.29 million tonnes in 2006-07 from 0.27 million tonnes in 2005-06.

TEA – 2005-06
(area cultivated in thousand hectares)

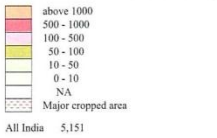


COFFEE – 2005-06
(area cultivated in thousand hectares)





SUGAR CANE – 2006-07
(area cultivated in thousand hectares)

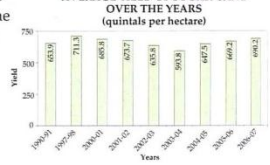


Sugar Cane

Besides sugar and ethanol, sugar cane is also used to produce jaggery in India. Brazil and India are the leading producers of sugar cane in the world. The hot tropical weather of India is appropriate for sugar cane. The production of this crop in the country has more than doubled in the last 65 years.

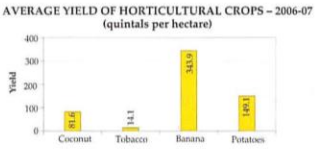
India produced 355.5 million tonnes of sugar cane over an area of 5.1 million hectares in 2006-07.

AVERAGE YIELD OF SUGAR CANE OVER THE YEARS
(quintals per hectare)



HORTICULTURE

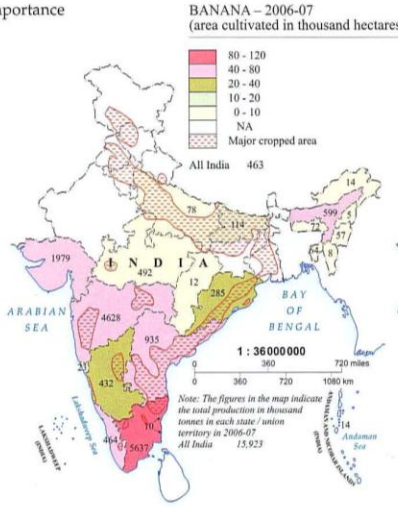
India, with its diversity of soil and climate, grows a variety of horticultural crops such as fruits, vegetables, spices and plantation crops such as cashew, coconut, etc. About 11 per cent of the cultivated land in India is under horticulture, which contributes more than 25 per cent of the total value of agricultural produce. About 191.66 million tonnes of horticultural crops was produced in 2006-07. India is also home to diverse plant species with unique medicinal and aromatic properties. About 95,000 such plant species have been categorized for their importance to the pharmaceutical industry.

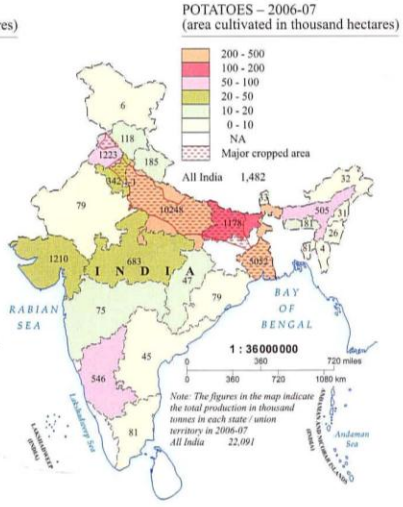


Fruits and Vegetables

India is the second largest producer of fruits and vegetables in the world. About 10 per cent of the global fruit production comes from India. It is the largest producer of mango, banana, sapota (chiku) and acid lime.

India is one of the largest producers of cauliflower, onion, cabbage and potato.

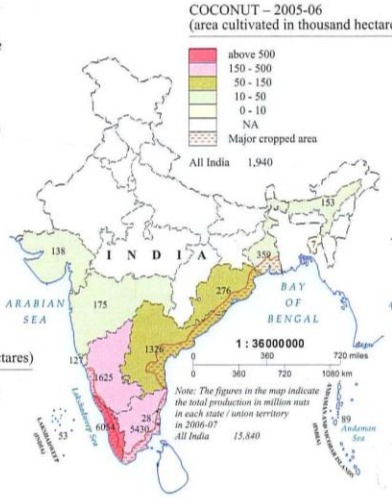


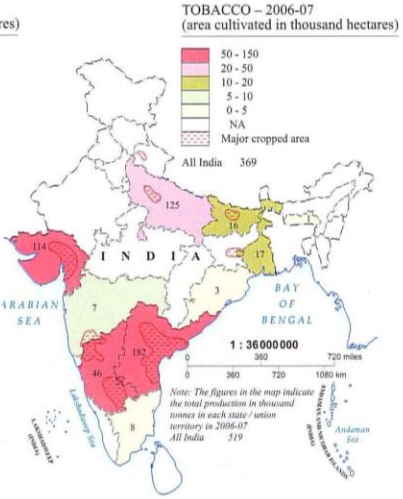


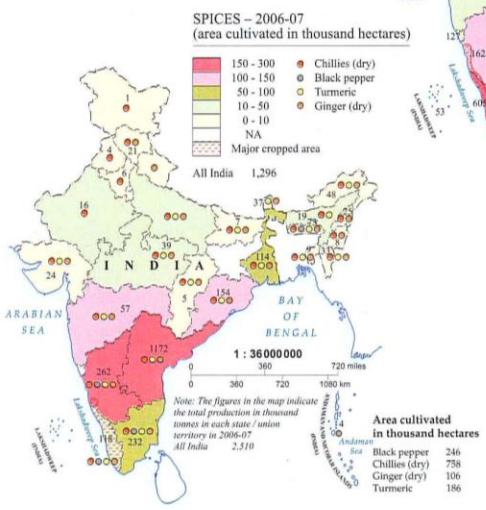
COCONUT AND TOBACCO

India is the largest producer of coconut in the world. It produced 15.8 million tonnes of coconut over a cultivated area of 1.9 million hectares in 2006-07. The coconut shell can be used as a fuel and the fibre has great commercial value.

India is the third largest producer of tobacco. The country produced 0.52 million tonnes of tobacco over an area of 0.37 million hectares in 2006-07. In order to discourage the practice of smoking, higher taxes (12.5 per cent increase in VAT and 6 per cent increase in excise in 2007) were levied on the sale of tobacco. As a result, the production of tobacco registered a decline of 0.03 million tonnes in 2006-07 over the previous year's output.

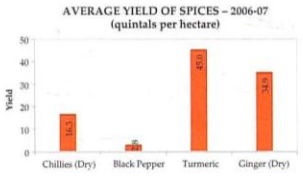






SPICES

Since antiquity, India has been known as the land of exotic and useful spices. The country is the highest producer, consumer and exporter of spices in the world. Today, Indian spices have nearly half the share (by volume) in the international market. Dry chillies, black pepper, turmeric and dry ginger are some of the most popular spices in India. Almost all the states and union territories of the country produce some spices.

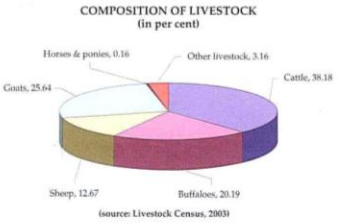


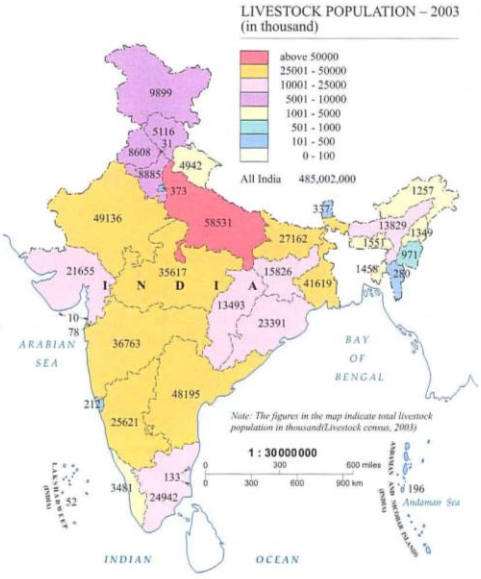
LIVESTOCK AND DAIRY

The livestock sector is the chief source of livelihood in arid and semi-arid regions. This sector contributes over 4 per cent to the total GDP of India. About one-fourth of the net earnings from agriculture and related activities comes from this sector. India leads the world in milk production. The unorganized sector is the major contributor (about 80 per cent) to the total milk produced in the country. Apart from being a source of meat, eggs and hides, livestock animals are also an important asset for people engaged in this sector.

Livestock

The total livestock population (as per the 17th Livestock Census, 2003) stood at 485 millions, which included 185 million cattles, 98 million buffaloes, 61.5 million sheep, 124.4 million goats, 0.75 million horses and 15.3 million other livestock. In 2006-07, this sector produced about 2.3 million tonnes of meat. About 57 million cattle and buffaloes are used only for work.

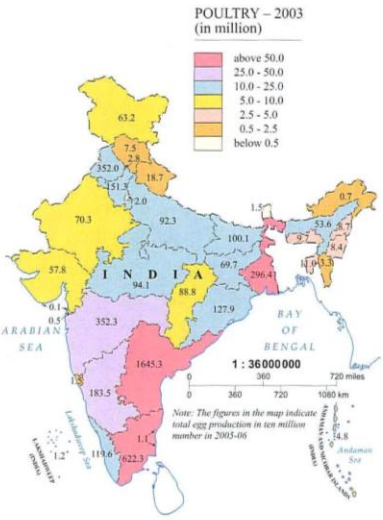


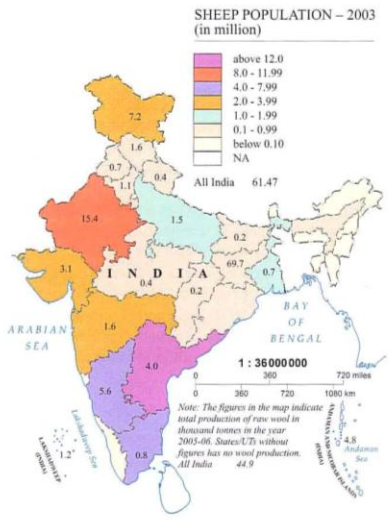


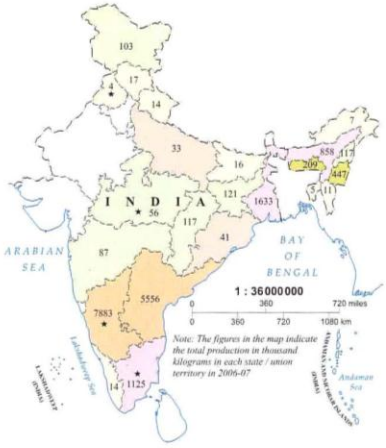
Poultry and Sheep Population

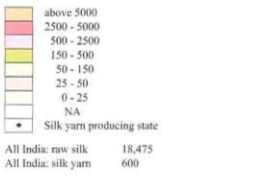
The export of poultry products in 2006-07 reached Rs 3.16 billion. In spite of the large-scale scare and spread of bird flu in 2007, the poultry sector sustained its production. The per capita per year consumption of poultry products was 42 eggs and 1.6 kg chicken. There is a great scope for improvement in this statistics if the availability and cost of maize for birds is taken care of.

As mentioned earlier, the total sheep population in India was 61.5 million. They are an important source of meat and wool. In 2005-06, 44.9 thousand tonnes of wool were produced in the country.



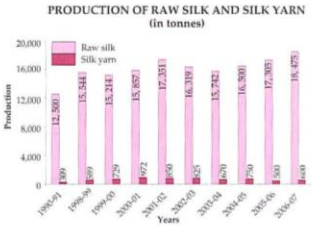






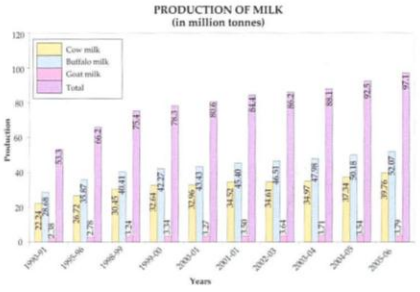
SERICULTURE

Sericulture refers to the raising of silk-worms for raw silk. After China, India is the largest producer of silk in the world. It is an important rural industry. The silk industry in India has registered phenomenal growth in recent years. The production of raw silk has increased from 12,560 tonnes in 1990-91 to 18,475 tonnes in 2006-07. There is a huge demand across the world for the high quality silk fabrics produced in India. Indian silk is exported to over 90 countries, mostly in the form of natural silk yarns, fabrics and upholstery. The exports reached Rs. 33.4 billion in 2006-07.

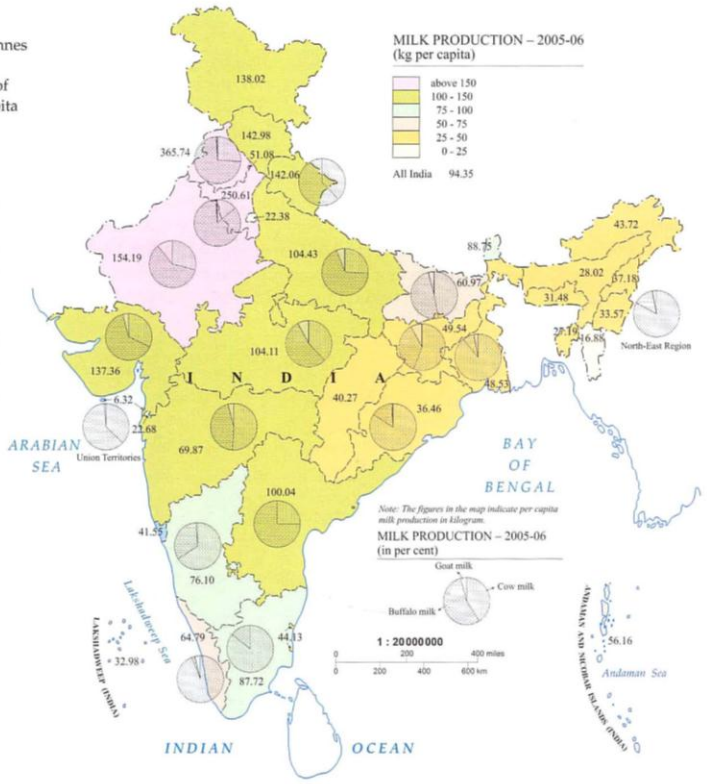


MILK PRODUCTION

Milk production in the country increased from 17 million tonnes in 1950-51 to 97 million tonnes in 2005-06. The production included 39.8 million tonnes of cow milk, 52 million tonnes of buffalo milk and 3.8 million tonnes of goat milk. The per capita availability of milk stood at 94.35 kg per year.

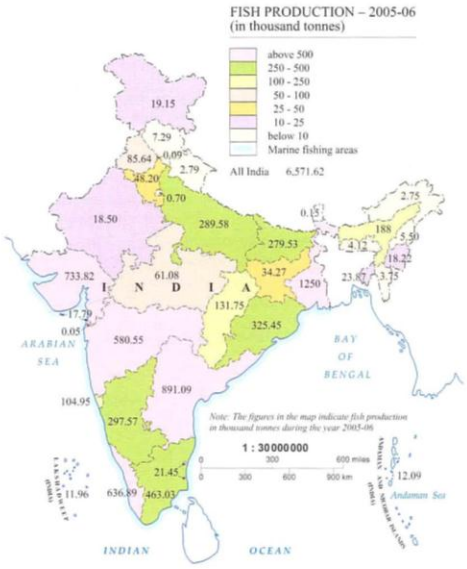


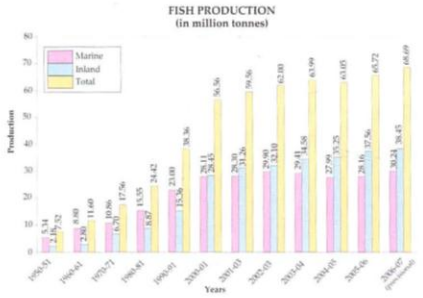
The dairy sector in India has shown remarkable development in recent years and India has now become one of the largest producers of milk and value-added milk products in the world. Small farmers and cooperatives produce most milk in India.



FISH PRODUCTION

Fishing is an important economic activity in the country. India boasts of a large number of water bodies such as lakes, tanks, reservoirs, etc. Besides, the river and canal system in the country, stretching for 184,000 km, is also important for fishing. These water bodies provide favourable conditions for aquaculture and pisciculture. The country is the third largest producer of fish in the world. After Japan, India is the leading inland fish producer in the world. The fish production in 2005-06 was 6.6 million tonnes, registering an increase of 4.08 per cent over the previous year. Fishing and related activities are major sources of employment in the country. About 14 million people earned their living from this sector in 2005-06. Proper training was made available to 8.63 lakh fish farmers/fishermen in 2005-06 in order to improve the national fish production. About 7.21 lakh hectares of water area was sanctioned by the Fish Farmers Development Agencies (FFDAs) in the country for scientific fish farming. The fishes caught in the country also form an important export commodity. Japan, United Arab Emirates, USA and the European Union are the major export destinations.



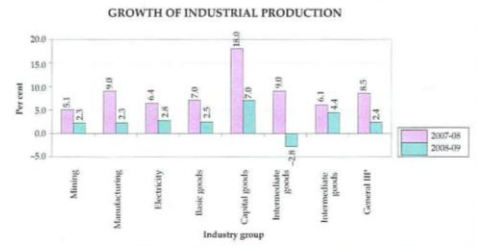


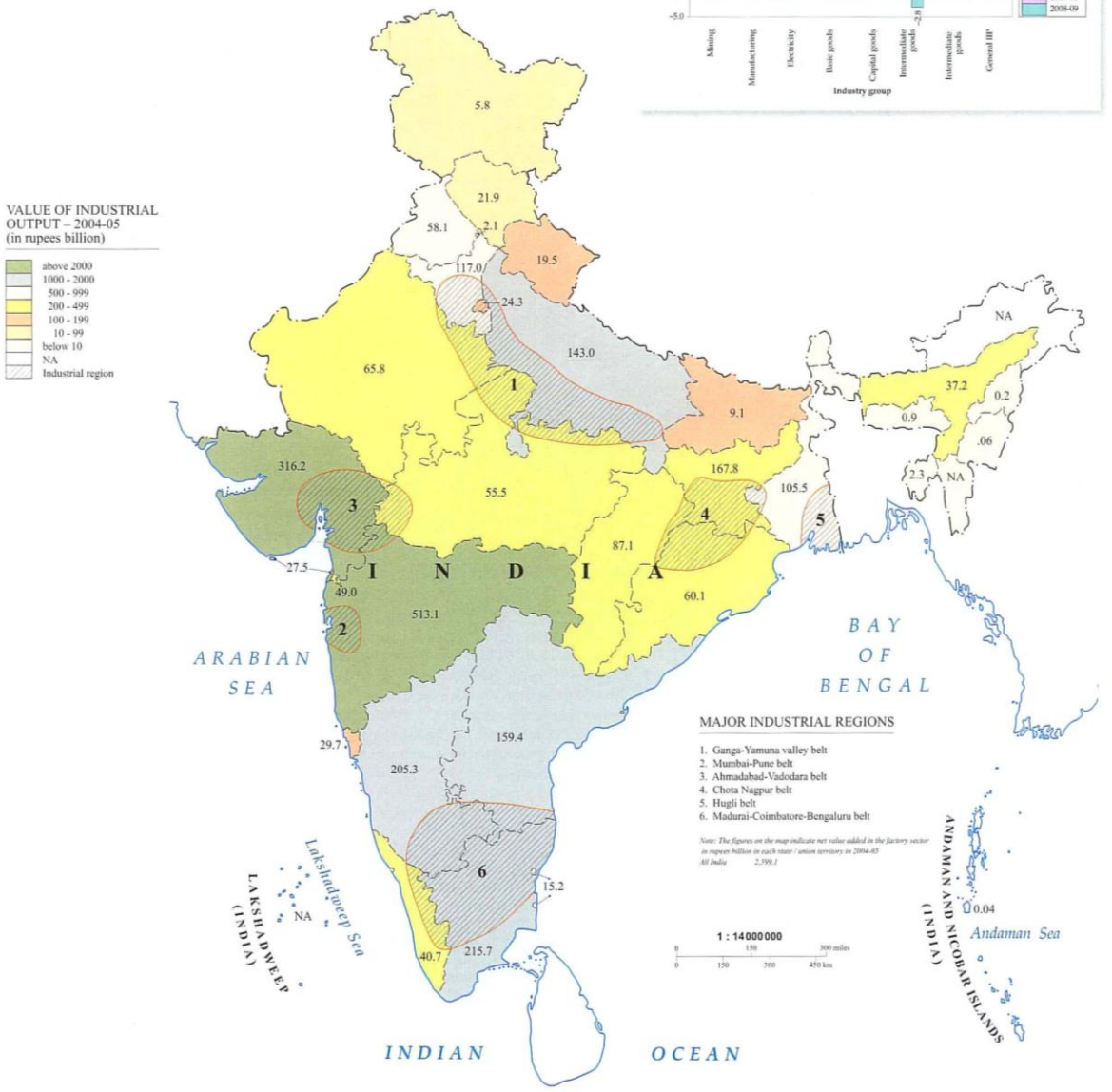
INDUSTRY

India has a thriving industrial sector despite the fact that over 60 per cent of the country's workforce is employed in agricultural activities. The country has emerged as a global hub of IT and outsourcing services in recent years. Although, the global economic recession resulted in a sharp decline in the industrial growth, reducing it to 2.4 per cent in 2008-09 from a high 8.5 per cent in 2007-08, the situation seems to be improving. In fact, the latest figures indicate that the industrial sector should record a growth rate of around 7 per cent in 2009-10. India's large domestic market has a significant absorptive capacity for industrial products. The Government of India has taken initiatives to improve the existing infrastructure, and the country has been attracting significant foreign investment even during the recent slowdown in the economy.

GROWTH IN INDUSTRIAL PRODUCTION

The industrial sector witnessed a sharp slowdown during 2008-09 and the year closed with the industrial growth at only 2.4 per cent as per the Index of Industrial Production (IIP). Growth in manufacturing dropped to 2.3 per cent in 2008-09 from 9.0 per cent in 2007-08. Mining grew at 5.1 per cent during 2007-08 before it declined to 2.3 per cent in 2008-09. The production of food products declined by 9.6 per cent in 2008-09 compared to a growth of 7 per cent in the previous year. Certain core industries also experienced negative growth in 2008-09. For instance, the production of crude oil declined by 1.8 per cent as against 0.4 per cent growth in the previous year. Production of cement and finished steel also showed a similar pattern of deceleration.





India, along with China, has emerged as a strong contender for FDI because of its emerging economy. However, observers point out that the country still has to liberalize policies in various sectors to become attractive to global investors.

Foreign Direct Investment (FDI)

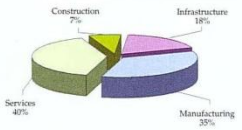
The country has maintained its reputation as an attractive global investment destination even during the recession. The FDI equity recorded an increase of 25 per cent (in terms of rupees) as it rose from Rs 987 billion in 2007-08 to Rs 1, 229 billion during 2008-09. The services sector received the maximum investment by attracting 40 per cent of the net FDI inflow, followed by manufacturing, infrastructure and construction sectors.

As per the directives of the Department of Industrial Policy and Promotion, FDI is allowed in all sectors of the economy in different degrees other than atomic energy, business of chit fund, gambling and betting, lottery business, Nidhi companies, retail training (except single brand product retailing), etc., as approved by the government or the Reserve Bank of India.

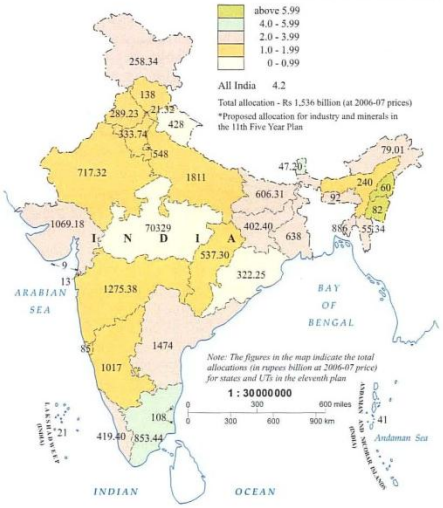
Sectors Attracting Highest FDI Inflows

- Services
- Housing and real estate
- Telecommunications
- Construction
- Computer software and hardware
- Automobiles
- Power
- Metallurgical industries
- Information and broadcasting
- Chemicals (excluding fertilizers)

SECTOR-WISE FDI INFLOWS – 2008-09



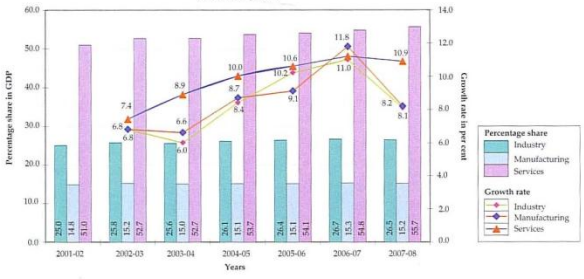
ALLOCATION FOR INDUSTRY AND MINERALS – 2007-12*
(percentage of total plan outlay)



Contribution of Industry in GDP

The industrial sector contributes nearly 27 per cent to India's GDP, second only to the service sector (which contributes about 56 per cent). The contribution of the industrial sector has hovered around the 25 per cent mark for some time now.

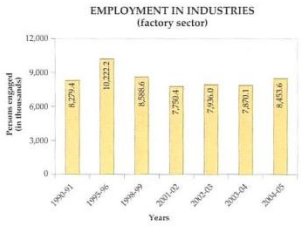
GROWTH AND PERCENTAGE SHARE OF GDP IN INDUSTRY AND SERVICES
(at current prices)



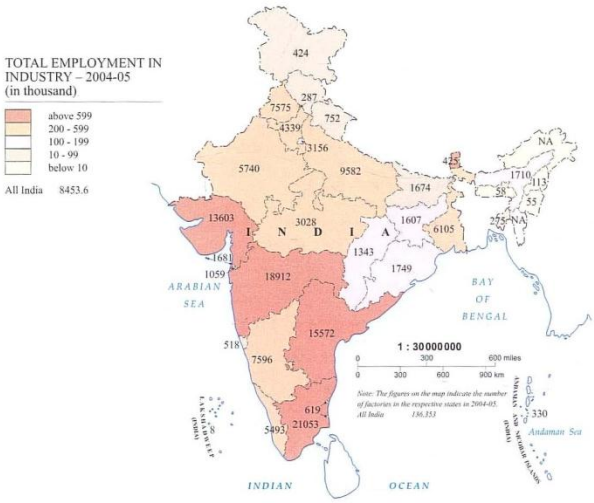
Employment in Industry

The industrial sector employs about 17 per cent of India's total workforce. The textiles industry is the largest employer in this sector, providing direct employment to over 35 million people. In fact, this industry is the second largest employer after agriculture in the country. The automative industry is another important employer providing jobs to more than 10 million people. This number is expected to double in the next six–seven years. Pharmaceuticals, steel, chemicals, oil refining, leather and leather products are the other categories in the industrial sector providing employment to a significant number of people.

EMPLOYMENT IN INDUSTRIES
(factory sector)

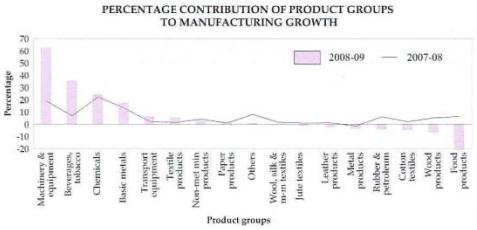


TOTAL EMPLOYMENT IN INDUSTRY – 2004-05
(in thousand)



Industrial Sectors—Growth and Decline

Only two industrial groups out of the 17 recorded robust growth rates in 2008-09—beverages and tobacco, and machinery. Seven groups showed low growth (between 5 per cent and nil) and eight recorded a decline.



Food Products

The index of production of food products registered a decline of 9.6 per cent in 2008-09. Sugar production, which had boosted the growth pattern in 2007-08, registered a sharp decline in 2008-09. The growth of production of important food products such as malted food, mustard oil/rapeseed oil, wheat flour, tea and milk products recorded a fall in production growth in 2008-09. However, the production of edible oils (cotton seed oil, groundnut oil) and hydrogenated oils continued to record high growth rates.

Beverages and Tobacco

The IIP data indicate that the beverages and tobacco group recorded the highest growth (15.6 per cent) among all the two-digit level industrial groups during 2008-09.

Textiles

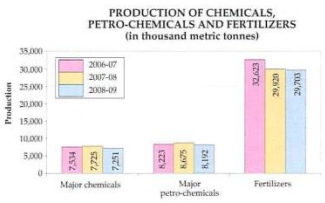
The production of textile fabrics, which increased by 4.96 per cent during 2007-08, declined by 1.9 per cent during 2008-09. Textile exports declined by 5.3 per cent during the same period.

Wood and Wood Products

The growth of wood and wood products, which was the highest (over 40 per cent) in 2007-08, slumped to 10.3 per cent in 2008-09. The rate of growth of pulp and paper products during 2007-08 and 2008-09 was 2.7 per cent and 1.3 per cent respectively.

Chemicals

The production of chemical products recorded a growth of 2.9 per cent in 2008-09 as compared to 10.6 per cent growth in 2007-08. The petrochemical sector is a major sector of the chemical industry. In 2008-09, polymers accounted for about 62 per cent of the total petro-chemical production in the country. The total polymer production stood at 5.06 million tonnes.



Pharmaceuticals

Supported by appropriate infrastructure, technology and research facilities, the Indian pharmaceutical industry has achieved a 10 per cent share in volume of global production. In 2008, the annual turnover of this sector was over Rs 780 billion, a significant rise from Rs 15 billion in 1980.

Leather and Leather Products

Leather products contribute significantly to export earnings. However, because of a sharp decline in demand in the global markets, this sector registered a steep fall of 7 per cent in 2008-09. It had recorded a very healthy growth of 11.7 per cent in 2007-08.

Electronics and Information Technology

The IT-ITeS (Information Technology enabled Services) sector registered a significant growth in revenue in 2007-08. In 2007-08, the IT-ITeS revenue (including hardware) was US $ 64 billion (US $ 47.8 billion in 2006-07); the software and services industry (excluding hardware) earned US $ 52 billion (US $ 39.3 billion in 2006-07). The IT-BPO revenue from the domestic market increased from US $ 8.2 billion in 2006-07 to US $ 11.7 billion in 2007-08. However, the growth in 2008-09 has been significantly lower because of the global economic slowdown. The expected revenue from IT-ITeS (including hardware) in 2008-09 was US $ 72 billion. The corresponding figures for software and services industry (excluding hardwares) and IT-BPO revenue from domestic market were US $ 60.0 billion and US $ 12.5 billion respectively.

Machinery and Equipment

The machinery sector (excluding transport equipment) registered a growth rate of 8.7 per cent during 2008-09. The production of insulated cables and wires doubled and continued to increase during the year. These products were major contributors to the growth of the sector. Cooling towers, diesel engines, electric generators, hydraulic machines, industrial machinery, turbines and TV receivers, among others, also added to the growth of the sector. The items that registered a decline in production included electric motors, computer systems and peripherals, telephone instruments, telecommunication cables, etc.

Non-metallic Mineral Products

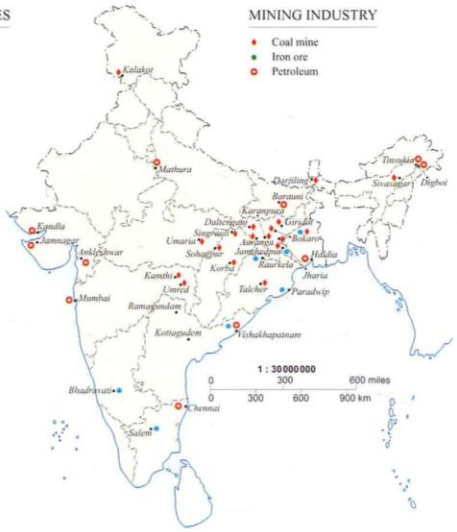
Non-metallic mineral products (including cement) registered a growth rate of a mere 1 per cent in 2008-09 as compared to 5.7 per cent in 2007-08. The industry would have recorded a negative growth rate but for the healthy performance of the cement industry, which recorded a 8.2 per cent increase in production in 2008-09. The cement industry added a record capacity of 30 million tonnes during 2007-08 to the capacity of 167.83 million tonnes which existed at the end of 2006-07.

Steel

The crude steel production, which grew at an annual rate of 9.2 per cent during 2003-04 to 2007-08, is also projected to record an indifferent growth of 0.6 per cent in 2008-09 due to the global economic crisis and associated factors.

Automobiles

The automobile sector, which had witnessed a growth of –2.3 per cent in 2007-08, recorded a modest growth of 3.0 per cent in 2008-09. While passenger vehicles, two-wheelers and three-wheelers registered growth in production, the production of utility vehicles and commercial vehicles declined.



INFRASTRUCTURE

India is one of the fastest growing economies in the world with its infrastructure sector constituting the backbone of the country's development. Supply bottlenecks in critical services can, therefore, severely hamper growth and development. The 10th Five Year Plan recorded a GDP growth rate of the 7.2 per cent. The 11th Five Year Plan targets an average growth of 9 per cent in GDP by the end of the 2007-12 term. The acceleration of growth will require significant investments in infrastructure.

The 11th Five Year Plan has allocated an investment of around 8 per cent of the GDP (from 4.6 per cent in the previous plan) for infrastructural units, such as road, rail, air and water transport, power generation, transmission and distribution, telecommunication, water supply, irrigation and storage. The energy-transport infrastructure, in particular, will be a major determinant of acceleration in GDP growth.

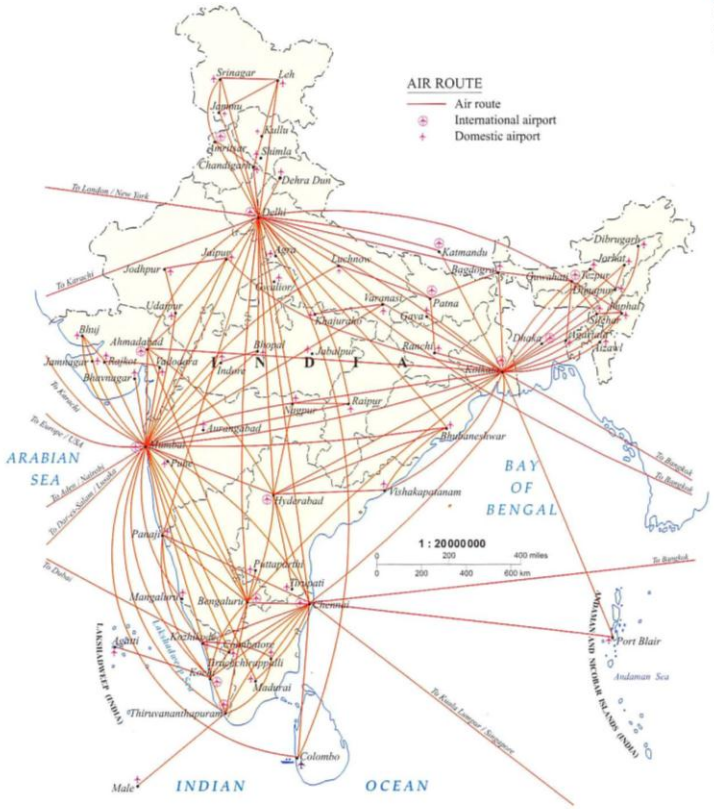
GROWTH IN INFRASTRUCTURE SERVICES/ PRODUCTION (in per cent)

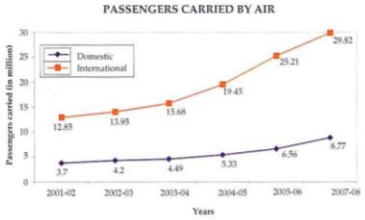
Infrastructure	2006-07	2007-08
Air export cargo	3.6	7.5
Air import cargo	19.4	19.7
Air passenger traffic (international)	12.1	11.9
Air passenger traffic (domestic)	34.0	20.6
Port cargo	9.5	12.0
Railway freight	9.2	9.0
Cell phone connections	85.4	38.3
Electricity generated	7.3	6.3

CIVIL AVIATION

The civil aviation sector in India has made significant strides in coping with domestic and international traffic and has played a crucial role in the development of trade and tourism. The facilities at Indian airports are managed by the Airports Authority of India (AAI). There are 126 airports in the country, of which 12 are international airports, 88 domestic airports and 26 civil enclaves at airfields operated by the Ministry of Defence. In addition to Air India, the national carrier which operates both domestic and international flights, there are a number of private airlines operating in the country.

In recent years, the introduction of low-cost air carriers in the domestic aviation market has resulted in a steady increase in the number of passengers opting for air travel over travelling in trains.



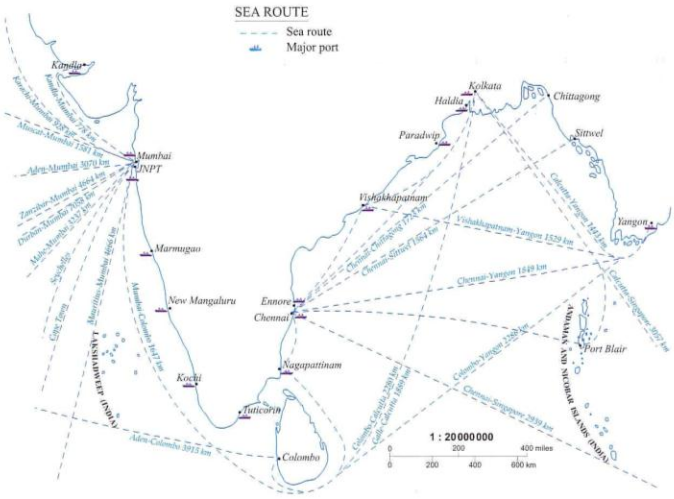


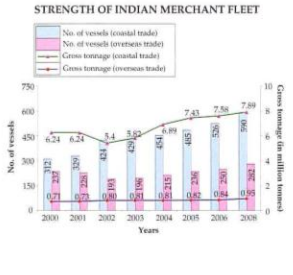
PORTS AND SHIPPING

The ports and shipping sector is an important part of the transport infrastructure. India features on the list of 20 leading merchant fleets of the world. There are 12 major ports and 200 minor/intermediate ports located along India's 7,517-km long coastline. Of the 12 major ports, 11 are managed by their respective Port Trust Boards constituted under the Major Port Trusts Act, 1963, and are under the overall control of the central government. These are at Kolkata/Haldia, Mumbai, Chennai, Jawaharlal Nehru Port at Navi Mumbai, Kochi, Vishakhapatnam, Kandla, Marmugao, Paradwip, New Mangaluru and Tuticorin. The 12th major port, at Ennore near Chennai, which is also under the overall control of the central government, is managed by Ennore Port Limited, a company incorporated under the Indian Companies Act, 1956. The minor/intermediate ports are under the control of the respective state governments.

About 95 per cent of the country's foreign trade in terms of volume and 70 per cent in terms of value is carried out by maritime transport.

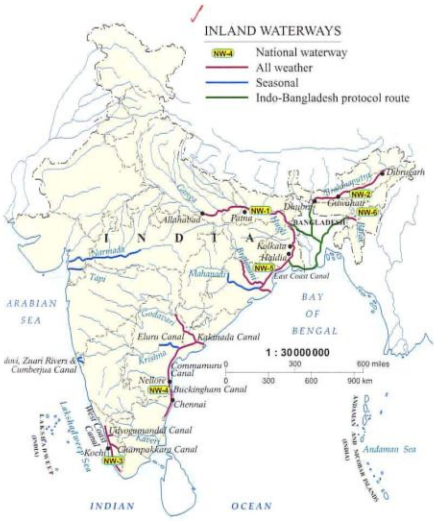
Coastal shipping holds great promise because it is the most energy efficient and cheapest mode of transport for carrying bulky goods such as iron and steel, iron ore, coal, timber, etc. over long distances. India has the largest merchant fleet among the developing countries in the world.





INLAND WATER TRANSPORT

Inland waterways comprising rivers, lakes, canals, creeks, backwaters, etc. extend to about 14,500 km in the country. The inland waterways have played an important role in the development of transport since ancient times. However, in recent times, the importance of this mode of transport has declined considerably with the expansion of road and rail transport. The decline is also due to the deforestation of hill ranges leading to erosion, accumulation of silt in rivers and failure to modernize the fleet to suit the local conditions. In order to develop and maintain inland water transport in India, the following waterways have been declared as national waterways through individual Acts of the Indian Parliament:



Waterways (km)	Stretch	Distance
NW-1	Allahabad-Haldia stretch of the Ganga-Bhagirathi-Hooghly river system	1,620
NW-2	Sadiya-Dhubri stretch of the Brahmaputra river	891
NW-3	Kottapuram-Kollam stretch of the West Coast Canal along with Champakara Canal and Udyogmandal Canal	205
NW-4	Rajamundhry stretch of river Godavari along with Wazirabad-Vijaywada stretch of river Krishna integrated with Kakinada Canal, Eluru Canal, Commamur Canal and Buckingham Canal	1,095
NW-5	Geonkhali-Charbatia stretch of East Coast Canal along with Charbatia-Dhamra stretch of Matai River, Talcher-Dhamra stretch of river Brahmani and Mangalgadi-Paradwip stretch of Mahanadi Delta	623
NW-6	Karimganj-Lakhipur stretch of river Barak	121

ROADS

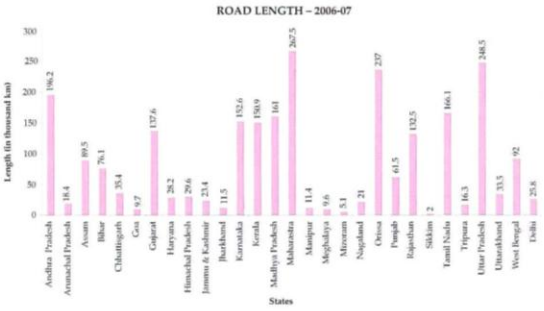
India's road network has witnessed a quantum leap as new institutional arrangements (based on the self-financing revenue model comprising toll and cess) and highway engineering of international standards have led to better connectivity. The country's road network of 3.314 million km is the second largest in the world. Roads carry about 70 per cent of the freight and about 85 per cent of the passenger traffic in India.

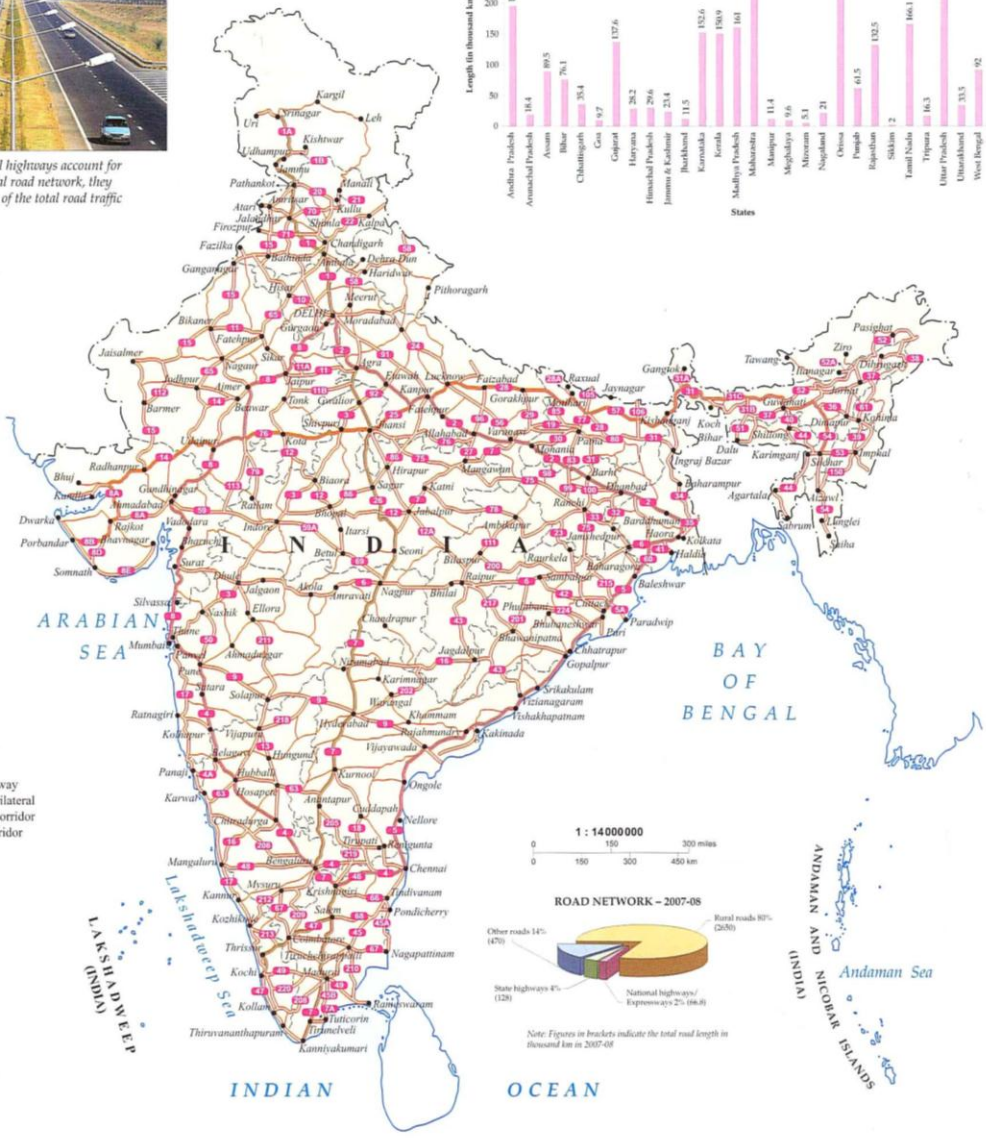
India's road network can be broadly divided into expressways, national highways, state highways, district and rural roads. The national highways have a length of about 66,754 km. Out of the total length of national highways, 27 per cent is single lane/ intermediate lane, 59 per cent is two-lane standard and the balance 14 per cent is four-lane standard or more. The state highways and district roads measure about 5,98,000 km while rural and other roads measure about 2,650,000 km.

PRADHAN MANTRI GRAM SADAK YOJANA

The Pradhan Mantri Gram Sadak Yojana (PMGSY) was launched in December 2000 by the Government of India to provide connectivity to unconnected rural habitations as part of a poverty eradication measure. Today, rural roads form a major part of India's total road length.

Even though the national highways account for only 2 per cent of the total road network, they handle about 40 per cent of the total road traffic in the country.





RAILWAYS

Rail service was introduced in India in 1853. Today Indian Railways is one of the largest and busiest railway systems in the world. It is a department of the Government of India under the Ministry of Railways and is the principal mode of transport for carrying bulk freight and long-distance passenger traffic. Around 67 per cent of the revenue is earned by freight transportation. Indian Railways has an extensive network, which is spread over 63,327 route kilometers (rkm), comprising broad gauge (49,820 rkm), metre gauge (10,621 rkm) and narrow gauge (2,886 rkm). Approximately, 28 per cent of the railway network is electrified.

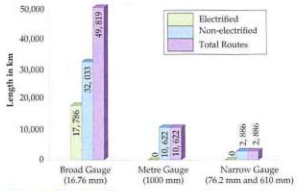
RAILWAYS

Zones / Headquarters	Route (km)
Central Railway / Mumbai (CST)	3,382
Eastern Railway / Kolkata	2,412
East Central Railway / Hajipur	3,439
East Coast Railway / Bhubaneshwar	2,431
Northern Railway New / Delhi	6,910
North Central Railway / Allahabad	3,080
North Western Railway / Jaipur	5,452
North Eastern Railway / Gorakhpur	3,402
North East Frontier Rly. / Maligaon (Guwahati)	3,766
Southern Railway / Chennai	5,210
South Central Railway / Secunderabad	5,743
South Western Railway / Hubballi	3,111
South Eastern Railway / Kolkata	2,614
South East Central Rly. / Bilaspur	2,432
Western Railway / Mumbai (Church Gate)	6,533
West Central Railway / Jabalpur	2,965
*Konkan Rly. Corporation / Navi Mumbai	-----

*Konkan Railway is constituted as a separately incorporated railway. It comes under the control of the Railway Ministry and the Railway Board.

The technological advancement made by the Chittaranjan Locomotive Works has helped India to become part of a select group of nations with the capacity to build locomotives indigenously.

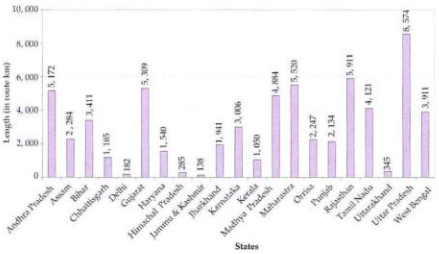
ROUTE ELECTRIFICATION – 2006-07



Railway route length in other states/union territories (in route km)

Arunachal Pradesh - 1
Chandigarh - 16
Goa - 69
Manipur - 1
Mizoram - 2
Nagaland - 13
Puducherry - 11
Tripura - 64

RAILWAY ROUTE LENGTH – 2006-07



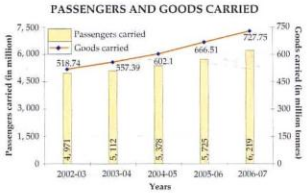
Passenger Services and Freight Operation

During 2006-07, Indian Railways carried a total of 6,219 million passengers as against 5,725 million in 2005-06, registering a volume increase of 8.6 per cent.

The passenger earnings in 2006-07 stood at Rs. 178 billion, an increase of 13.9 per cent over the previous year. The total earnings from freight traffic during April-November 2007 grew at 8.2 per cent.

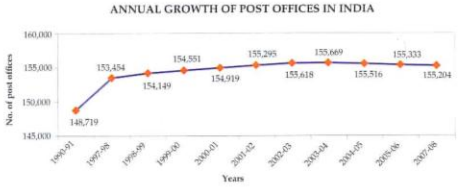
Indian Railways has also been fulfilling its larger social obligations as a public carrier by providing affordable transport services for the masses.

PASSENGERS AND GOODS CARRIED

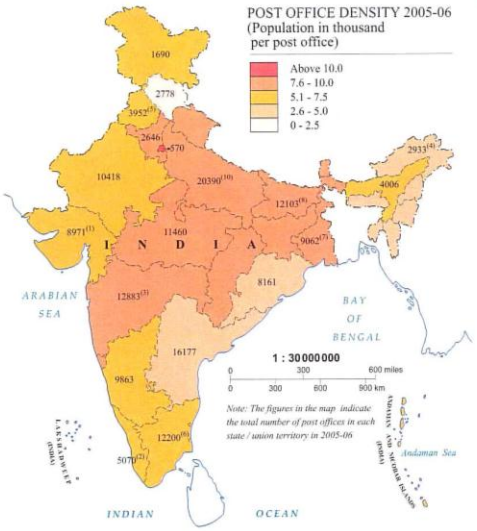


Postal Services

The postal services in India have helped in nation building and connecting the diverse regions and people of the country for over 150 years. India has the largest postal network in the world. In 2007-08, there were over 1,55,204 post offices, of which 89 per cent were in rural areas. At the time of independence, there were 23,344 post offices, which were primarily in urban areas. Thus, the network has registered a seven-fold increase since independence and the focus of this expansion is primarily in the rural areas. On an average, a post office covers an area of 21.2 sq. km and serves 7,174 people. This compares favourably with the USA, where a post office covers an area of 259.25 sq. km and serves 8,029 people and China, where a post office covers an area of 145.59 sq. km and serves 19,962 people.

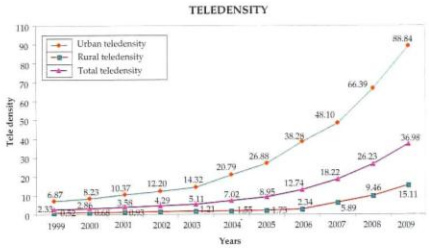


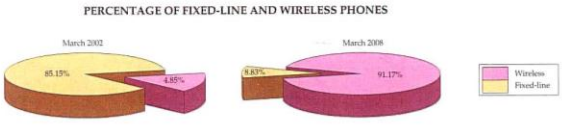
(1) Including D & D and D & N Haveli
(2) Including Lakshadweep
(3) Including Goa
(4) Including Manipur, Meghalaya, Mizoram, Nagaland and Tripura
(5) Including Chandigarh
(6) Including Puducherry and Mahe
(7) Including Sikkim and A & N Islands
(8) Including Jharkhand
(9) Including Chhattisgarh
(10) Including Uttarakhand

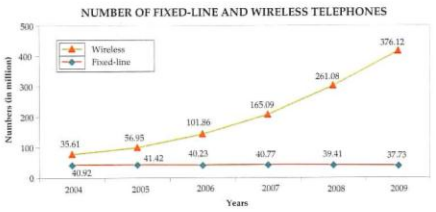


Telephone Network

India's telephone network comprising 27,753 telephone exchanges is the third largest among Asian countries after China and the Republic of Korea and the 12th largest in the world. The long distance transmission network has nearly 610,000 route kilometres of terrestrial microwave radio relay and co-axial cables and about 171,000 route kilometres of optical fibre cables. Fully automatic International Subscriber Dialling (ISD) service is available to almost all the countries. The total number of stations connected to National Subscriber Dialling (NSD) is over 18,000 and this is increasing at a fast rate. The teledensity or number of telephones per hundred population (as on March 2009) is about 36.98. The urban and rural tele density figures are 88.84 and 15.11 respectively.



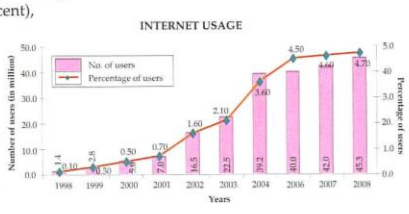




Access to Internet

Broadband connections have continued to grow since the beginning of 2004. The number of broadband subscribers grew from a meagre 1.4 million as of March 1998 to about 45.3 million by March 2008. However, even today Internet access is limited to a small percentage (4.7 per cent) of the total population in India. The growing popularity of cybercafes has played a big role in fuelling the Internet growth in India. According to the Internet & Mobile Association of India (IMAI), Indians go online for a number of activities, the maximum being for e-mail and instant messaging (98 per cent), followed by job search (51 per cent), banking (32 per cent), bill payment (18 per cent), stock trading (15 per cent) and matrimonial search (15 per cent).

The telecom industry is governed by the Telecom Regulatory Authority of India (TRAI). BSNL, Sify, MTNL, Airtel, Tata Indicom and Reliance are some of the major Internet service providers in India.



Internet in Villages

The Internet is beginning to influence and revolutionize the lives of 700 million people who live in villages in India. Interestingly, the Internet revolution is being led by women. A project set up by one of India's leading technology institutes has put women in charge of forging the way across the digital divide. In fact, 80 per cent of the kiosks set up by this institute are run by women, many of whom have had little or no acquaintance with technology before.

A village Internet kiosk

Radio and Television

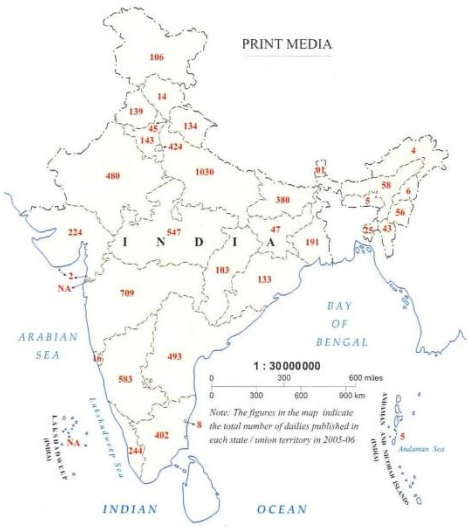
All India Radio (AIR), also known as Akashvani, is India's national broadcaster. Headquartered at New Delhi, it is a division of Prasar Bharti (Broadcasting Corporation of India), an autonomous corporation under the Ministry of Information and Broadcasting, Government of India. Today, AIR operates a network of more than 230 broadcasting centres, providing radio coverage to 99.14 per cent of the population.

Like AIR, Doordarshan is also a division of Prasar Bharti. It is one of the largest broadcasting organizations in the world in terms of the infrastructure of studios and transmitters, variety of software and vastness of the viewership. At present, Doordarshan operates over 30 channels providing television coverage to about 92 per cent of the country's population.

Akashvani Bhavan, headquarters of All India Radio in New Delhi

Privatization of Radio

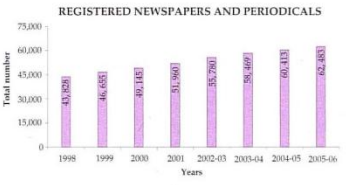
In 1999, the Indian government took the initiative to privatize radio broadcasting in the country. It sold FM channels in Hyderabad, Mumbai, Kolkata, Delhi, Vishakhapatnam and Goa to private operators, who developed their own programmes. Today, private radio channels have grown in number and are very popular among the masses for their song-based programmes.



Print Media

The Press in India was born in Calcutta (Kolkata) with the launching of *The Bengal Gazette* in 1780 by James Augustus Hickey, who is widely regarded as the 'Father of the Indian Press'. The first newspaper in an Indian language was *Samachar Darpan* in Bengali. Today, the print media in India is one of the largest in the world. It publishes over 60,000 newspapers and periodicals in over 100 languages and dialects. The largest number of newspapers and periodicals are published in Hindi, followed by English, Bengali and Gujarati. Almost all prominent newspaper groups have launched their own regional language newspapers.

Indian language newspapers sell more than English newspapers in the country. A major reason for this is the growing literacy in the country. More and more people are now reading newspapers in their local language that give wide coverage to local issues.



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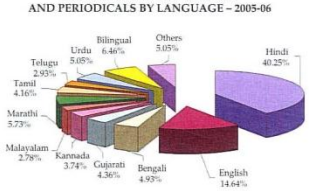
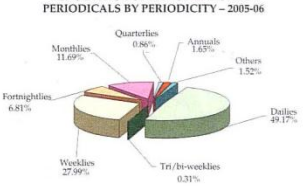
The Indian print media has seen tremendous growth since independence. One of the reasons for this growth is that it has largely operated in a free environment.



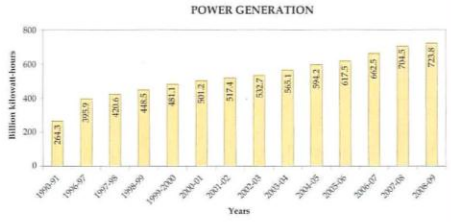


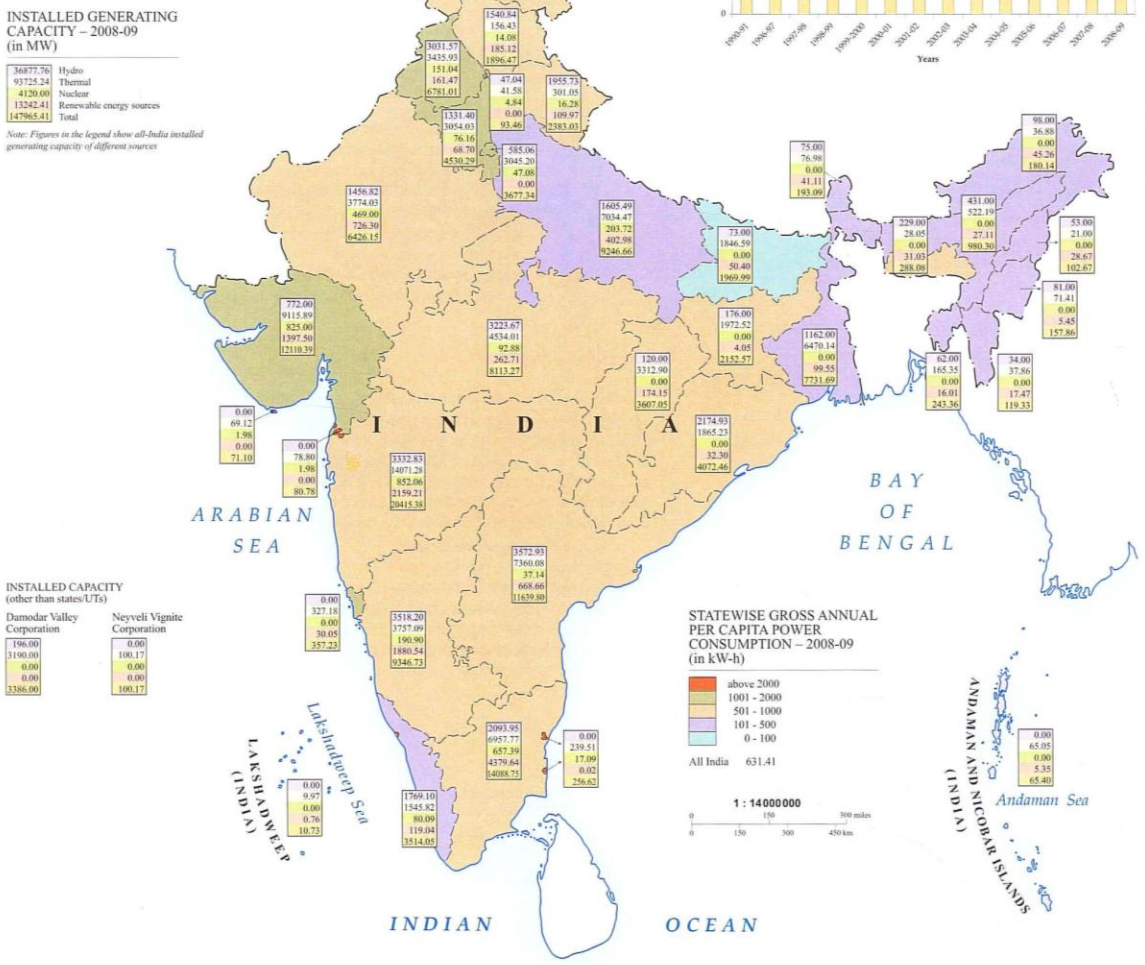
POWER AND ENERGY

India is the world's sixth largest energy consumer, accounting for about 3.5 per cent of the world's total annual energy consumption. The availability of power at competitive rates is crucial to India's economy and its competitiveness. The all-India installed power-generation capacity as on 31 March 2008 stood at 147,965 MW. The National Electricity Policy (NEP) stipulates power for all by 2012. To fulfil this objective of the NEP, a capacity addition of 78,577 MW has been proposed in the 11th Five Year Plan. The Ministry of Power, Government of India, hopes to achieve this ambitious target through a combination of measures—optimization of capacity utilization, controlling the input cost, technology upgradation and utilization of non-conventional energy sources.

A major challenge before the energy sector in the country is controlling the very high level of power loss (according to some sources about 40-50 per cent) in transmission and distribution, which is badly hurting it now.

A significant portion of India's installed power generation capacity is unutilized because of the shortage of coal, gas and uranium.



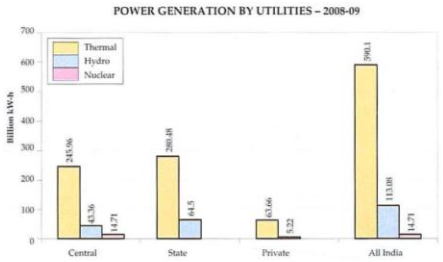


Power Availability and Major Projects

India gets most of its power supply from thermal, hydro and nuclear power plants. Thermal power provides the lion's share in the total electricity generation. NTPC Limited, a public sector undertaking, is the largest thermal power-generating company in the country, with 15 coal-based power stations spread across the country. Its Talcher unit in Orissa is one of the largest power plants in India.

The growth in electricity generation in the country during 2008-09 at 2.7 per cent was much below the targeted 9.1 per cent. The country witnessed a sharp decline in hydro and nuclear generation in 2008-09. However, it still managed to register a positive growth rate solely because of about 6 per cent increase in thermal generation. A notable feature of electricity generation in 2008-09 was the higher growth in power generation in the private sector, which registered a growth of 10.6 per cent as compared to a mere 2.7 per cent in the public sector.

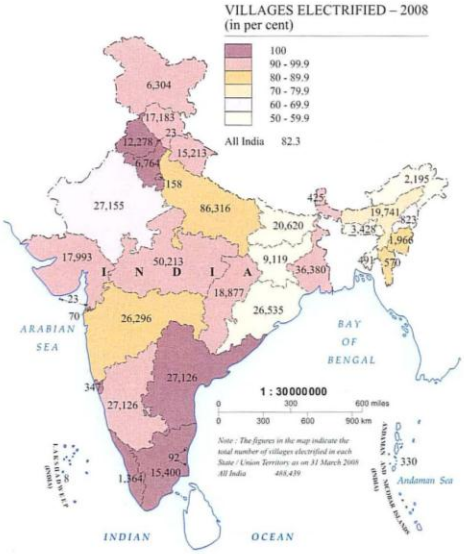
The negative growth in hydroelectricity generation in 2008-09 was due to less inflow reservoirs, resulting from less rainfall during the monsoon. Nuclear power generation suffered solely because of full supply constraints. Shortage of coal and gas, delays in achieving commercial operations, commencement of full generation from newly commissioned power plants, etc. also adversely affected power generation in 2008-09.



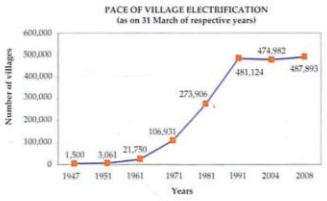
Rural Electrification

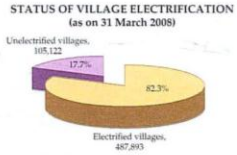
Until a few year ago, about half of India's rural households did not have access to electricity. The Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY), which was started in 2005 by the Ministry of Power, Government of India, aims to supply electricity to all unelectrified villages and hamlets in the country. Under the scheme, free electricity connections are provided to all households below the poverty line (BPL). Around 59,900 villages were electrified and about 5.4 million connections to BPL households were given till March 2009 through this scheme. The plan is to provide access to electricity to 115,000 unelectrified villages and 23.4 million BPL households in the 11th Five Year Plan.

Adequate power supply to rural areas is expected to greatly impact agriculture and other economic activities, such as cottage industries, and social services such as health and education.



The RGGVY, which was launched by merging all ongoing schemes of rural electrification, aims to provide electricity to all households in five years.



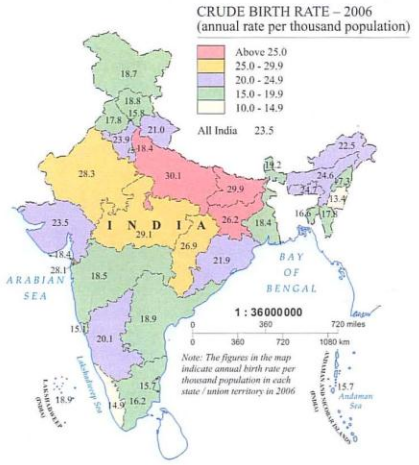


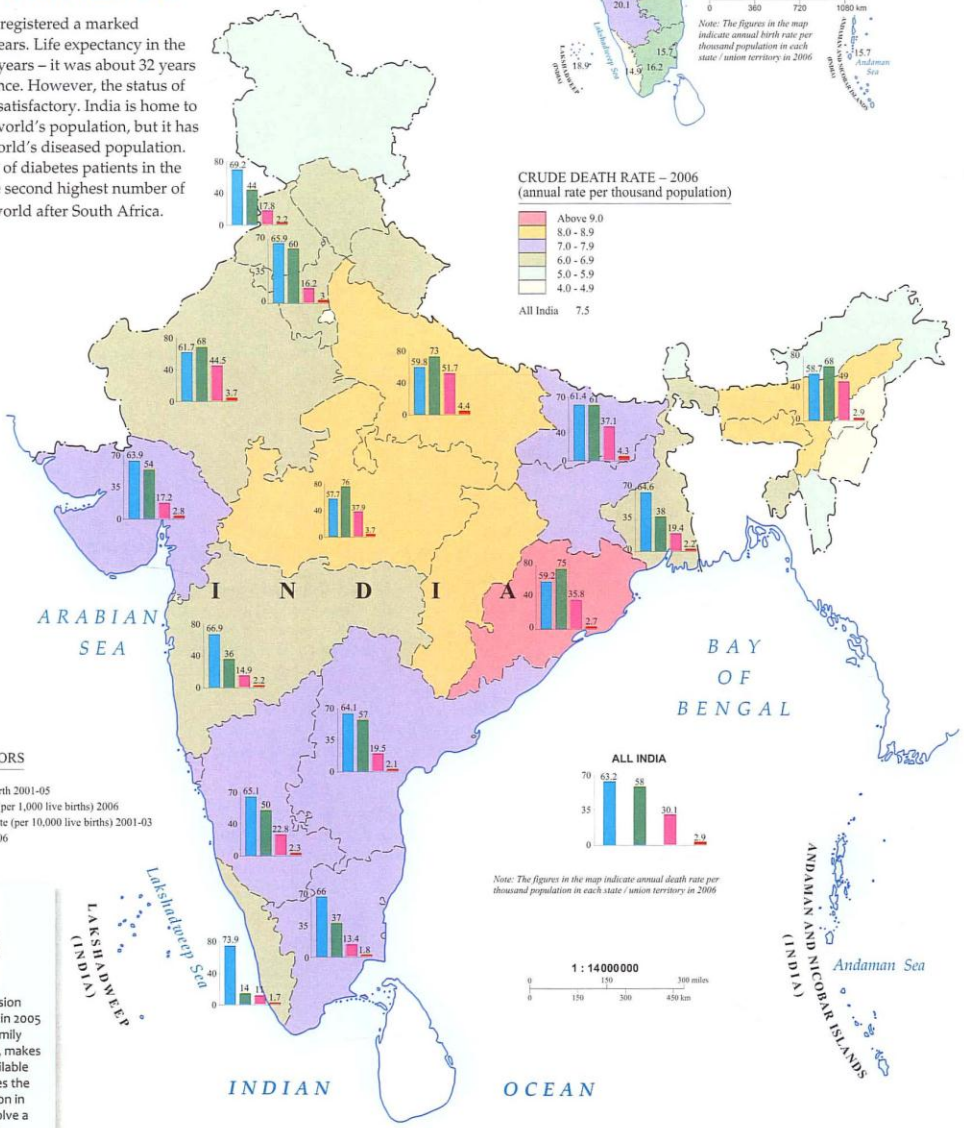
QUALITY OF LIFE

India is one of the fastest developing countries in the world. However, it ranks 132nd in the UN Human Development Index (HDI) for 2007-08 with a value of 0.609. About 27.5 per cent of the people in India live below the poverty line and the rural population is deprived in almost all spheres of development. There is shortage of basic infrastructure in health, education and employment. The weaker sections suffer the most on account of these factors. This is despite the fact that the country is fast becoming a destination for medical tourism and has some of the finest educational institutions and largest corporate houses in the world.

PUBLIC HEALTH INDICATORS

India's public health has registered a marked improvement in recent years. Life expectancy in the country is now about 63 years – it was about 32 years at the time of Independence. However, the status of public health is far from satisfactory. India is home to about 16 per cent of the world's population, but it has over 20 per cent of the world's diseased population. It has the largest number of diabetes patients in the world. It accounts for the second highest number of HIV/AIDS cases in the world after South Africa.





SELECT HEALTH INDICATORS

- Life expectancy at birth 2001-05
- Infant mortality rate (per 1,000 live births) 2006
- Maternal mortality rate (per 10,000 live births) 2001-03
- Total fertility rate 2006

NATIONAL RURAL HEALTH MISSION

The National Rural Health Mission (NRHM), which was launched in 2005 by the Ministry of Health & Family Welfare, Government of India, makes affordable health services available to the rural poor. It encourages the participation of rural population in its various programmes to evolve a community-run health service.

Health Care Infrastructure

State-of-the-art health care facilities are available here at a fraction of the cost in Europe or in the United States. For this reason, India is fast developing into a hub of medical tourism in the world. However, proper health care is out of reach for a significant portion of the poor and the middle class population of the country, particularly in rural areas, because medical facilities are located in cities and are unaffordable.

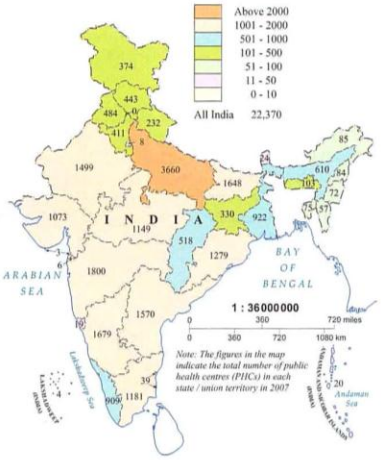
A total of 7,663 hospitals are operational in the country. Uttar Pradesh has the highest number of hospitals (925) in the country, followed by Tamil Nadu (900) and Karnataka (868). India has an average of about 0.44 hospital bed per thousand population, much below the world average of 3.96 beds per thousand population.

The country continues to face a severe infrastructural crunch. The current government and private insurance programmes cover only 11 per cent of the population. The unorganized sector, comprising 95 per cent of the workforce, does not have access to any insurance facilities. The public sector expenditure on health is one of the lowest in the world.

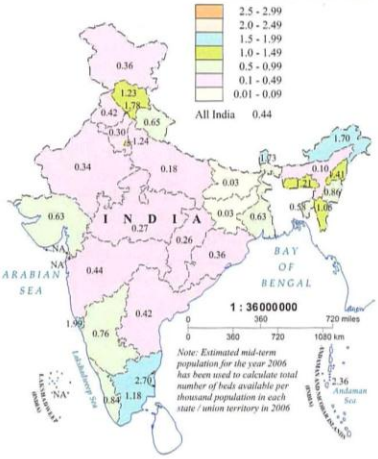
Expenditure on Health Care

Despite the rapid development of the health care sector in India in recent years, the overall public expenditure on health in the country is much below the required level. On an average, Rs 54 is spent per capita on health care in the country. Punjab records the lowest expenditure (Rs 5.1 per capita) on health. Assam, Bihar and Orissa are the other states with very low expenditure (Rs 20 and below) whereas Haryana records the highest expenditure (Rs 472.9) among all the states, followed by Mizoram (Rs 380.2), Sikkim (Rs 367) and Goa (Rs 339.8). All the union territories record relatively high expenditure on public health. Though this may be attributed to low population figures excluding Delhi. The Andaman & Nicobar Islands top the list with an expenditure of Rs 795.2 per person.

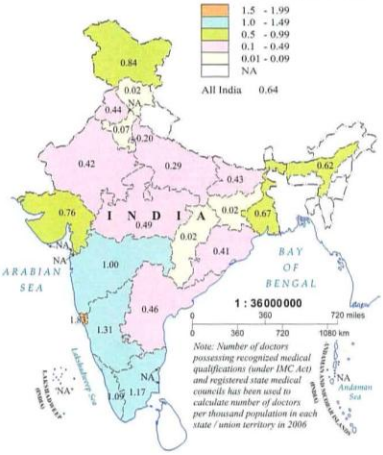
NUMBER OF PUBLIC HEALTH CENTRES — 2007



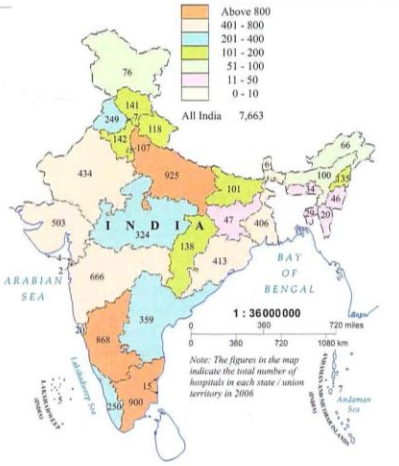
NUMBER OF BEDS — (per thousand population)

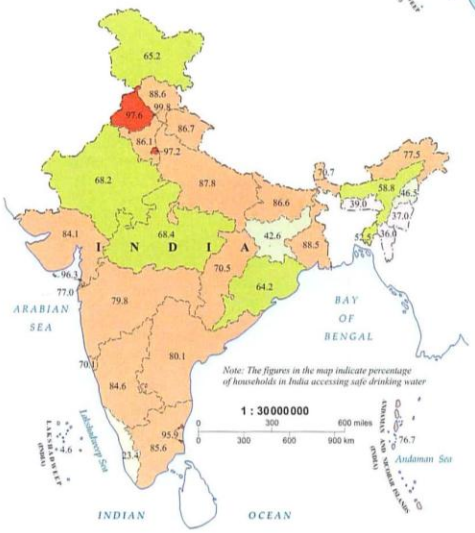


NUMBER OF DOCTORS — 2006 (per thousand population)



NUMBER OF HOSPITALS — 2006



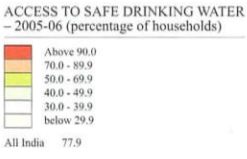


Access to Safe Drinking Water

According to the World Health Organization (WHO), a majority of diseases in India, such as diarrhoea, hepatitis and typhoid, are water-borne. About 22 per cent of the Indian population does not have access to clean drinking water. The shortage of drinking water is more acute in rural areas.

Lakshadweep faces the most severe water crunch in the country as only 4.6 per cent of the island population has access to safe drinking water. The situation is also alarming in Kerala, where 76.6 per cent of the households do not get potable water. The level of groundwater is very low in the state. The north-eastern states of Mizoram, Manipur and Meghalaya also face acute shortage of drinking water as do the states of Jharkhand, Orissa, Madhya Pradesh and Rajasthan.

ACCESS TO SAFE DRINKING WATER – 2005-06 (percentage of households)



Most clean water sources in India are contaminated by industrial, agricultural and household waste. Around 21 per cent of communicable diseases in the country are caused by the consumption of impure water.

ESS TO EDUCATION

Education is a particularly important issue in India, because the youth comprise the majority of the country's population. The education system in India can be divided into primary (6 to 14 years), secondary (14 to 17 years) and higher education (including technical education). In 2007-08, the public sector expenditure on education was 10.2 per cent (Rs 1,332,840 million) of the total expenditure. There are 416 universities in India of which 24 are central universities, 251 state universities, 103 deemed universities, five institutions established under state legislations and 33 institutes of national importance established by central legislation while a plethora of other higher and professional courses of study are also present. The National Literacy Mission (NLM), started in 1998, was a major initiative of the central government to spread literacy in the country. It was recast as National Mission for Female Literacy in 2009. The new initiative aims to make 70 million people (60 million of their women) functionally literate by 2012 and plug the gender gap that has existed despite the two-decade-old literacy drive.

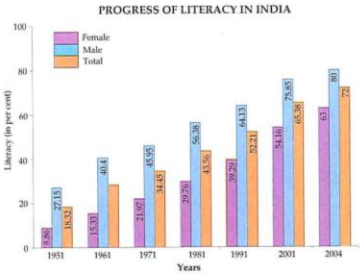
UNIVERSALIZATION OF ELEMENTARY EDUCATION

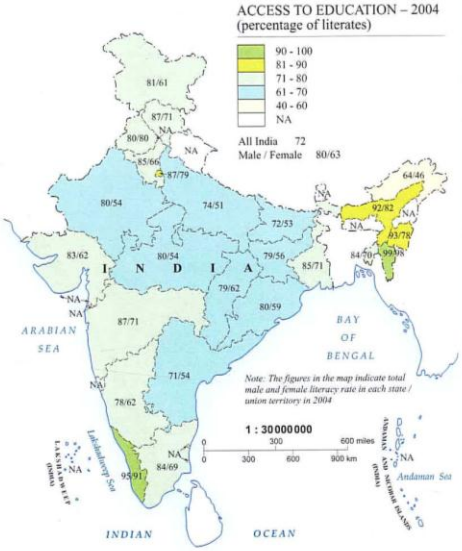
Universalization of elementary education and introduction of non-formal education are the important programmes of the central government to raise the female literacy rate. Several NGOs play a key role in motivating women to take up education. Education programmes for women, especially in the rural areas, are combined with awareness programmes on basic hygiene and family welfare. Often, the women are also provided training to start a small-scale industry of their own.

OVERALL LITERACY

Literacy in India increased from 18.33 per cent in the 1950s to 72 per cent in 2004. But the country still has one of the largest populations of illiterates in the world, particularly among its female and rural population. Bihar has the lowest literacy rate (63 per cent) in the country and suffers from serious problems such as high absence rate of teachers, lack of basic amenities, etc.

Kerala has the highest (93 per cent) literacy rate in the country. Mizoram, Goa and Delhi are the other states with significantly high literacy rates. Most of the union territories record high literacy rates.



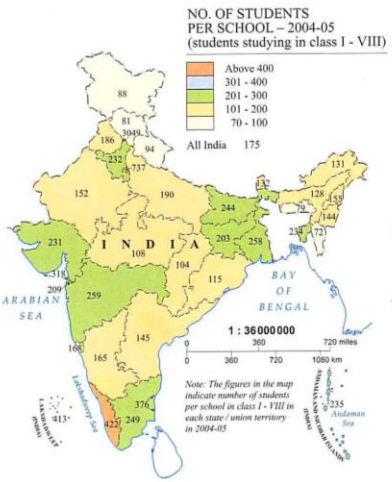


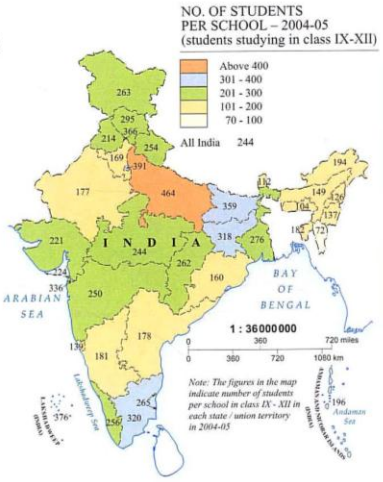
Primary and Secondary Education

The acute socio-economic disparity in the country restricts the access to primary education of a sizable number of youngsters, particularly girls. The total enrolment in the country (of both boys and girls) in classes I to VIII (6-14 years) stood at about 180 million in 2004-05. On an average, about 175 students were accommodated in each primary school. Mizoram had the lowest number of students (72) per school while Karnataka had the highest number (422) of students per school.

About 37 million students were enrolled in secondary schools across India in 2004-05. From 7,416 secondary schools in 1950-51, the number of secondary schools in India rose to 152,049 by 2004-05. About 244 students were enrolled in each secondary school. The lowest number of students per school was recorded in Mizoram (72). Uttar Pradesh had the highest number of students (464) per school.

The Right of Children to Free and Compulsory Education Act, 2009, provides for free and compulsory education to all children of India in the six to 14 age group. It also provides for 25 per cent reservation for economically disadvantaged communities in admission to class I in all private schools.

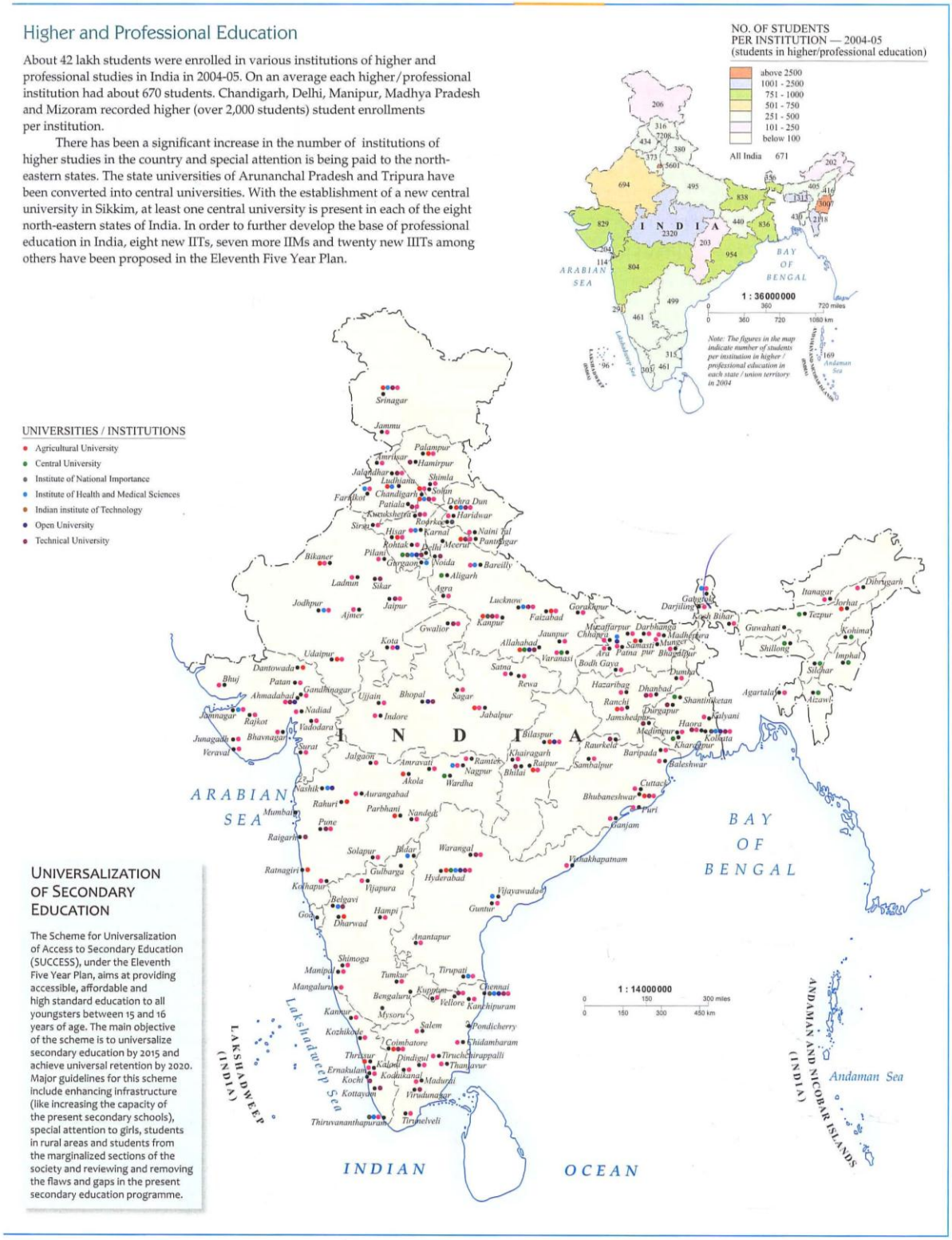




Higher and Professional Education

About 42 lakh students were enrolled in various institutions of higher and professional studies in India in 2004-05. On an average each higher/professional institution had about 670 students. Chandigarh, Delhi, Manipur, Madhya Pradesh and Mizoram recorded higher (over 2,000 students) student enrollments per institution.

There has been a significant increase in the number of institutions of higher studies in the country and special attention is being paid to the north-eastern states. The state universities of Arunanchal Pradesh and Tripura have been converted into central universities. With the establishment of a new central university in Sikkim, at least one central university is present in each of the eight north-eastern states of India. In order to further develop the base of professional education in India, eight new IITs, seven more IIMs and twenty new IIITs among others have been proposed in the Eleventh Five Year Plan.



Universalization of Secondary Education

The Scheme for Universalization of Access to Secondary Education (SUCCESS), under the Eleventh Five Year Plan, aims at providing accessible, affordable and high standard education to all youngsters between 15 and 16 years of age. The main objective of the scheme is to universalize secondary education by 2015 and achieve universal retention by 2020. Major guidelines for this scheme include enhancing infrastructure (like increasing the capacity of the present secondary schools), special attention to girls, students in rural areas and students from the marginalized sections of the society and reviewing and removing the flaws and gaps in the present secondary education programme.

Poverty and Unemployment

Great disparity continues to exist in India between the rich and the poor even after more than 60 years of independence. In 2007, 220.1 million people were living below the poverty line. The poor population of the country can be divided into two major categories— the rural poor and the urban poor. The rural population is largely involved in agricultural activities. Agriculture production, which is still largely dependent on rainfall, determines the level of poverty as well as the extent of poverty in rural areas. The urban poor and unemployed comprise vast numbers of unskilled migrants. The National Skill Development Mission (NSDM) of Government of India is an important step to train the unskilled workforce of the country.

Persons Living Below Poverty Line

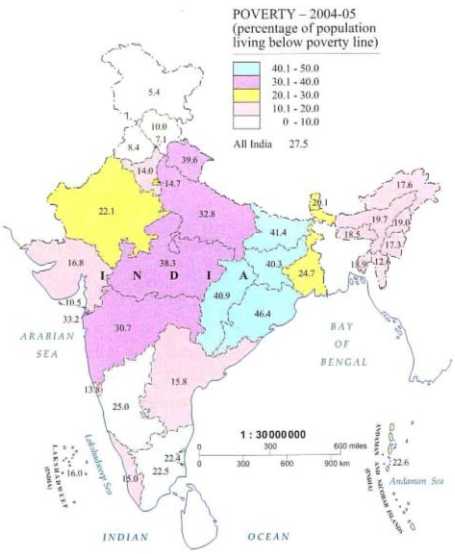
Most people living below the poverty line are in rural areas. A majority of about 46.4 per cent of the people in Orissa live below the poverty line. Bihar, Chattisgarh, Jharkhand, Uttarakhand and Madhya Pradesh have a significant proportion of their population living in very poor conditions.

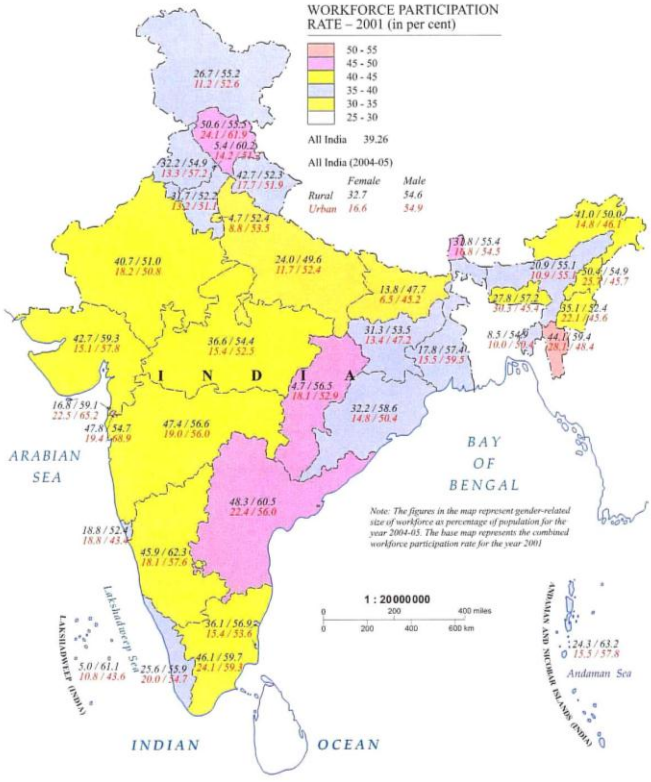
The economic progress of the country has benefited its poorest people, but only to a very limited extent. The per capita real income in India grew by 62 per cent between 1993-94 and 2004-05. However, the Head Count Ratio (HCR) of the people below poverty line has declined by only 22 per cent in the same period.

The large number of unskilled people in the country is one of the major causes of poverty. The National Rural Employment Guarantee Act (NREGA) 2005 aims at transforming the poorest sections of the population into productive units of the country's economy. Under this Act, a minimum of 100 days of employment in every financial year is offered to the adult members of every rural household who volunteer for unskilled manual work.

Child Labour

Children form a cheap and highly exploitable labour force. Around 5.82 million children in India between the age of 5 to 14 years are employed as child labourers, over 80 per cent of them in rural areas. The employment of children in India (below 14 years) in hazardous occupations or working conditions is prohibited by the Child Labour (Prohibition and Regulation) Act, 1986. Children can be employed in safer avenues with compulsory access to education. However, around 1.2 million children continue to work in harmful ventures and conditions in the country, most of them without any provision for education or healthy living.





Workforce Participation Rate

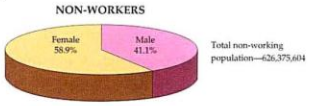
Around 32.7 per cent of women in rural areas work. In urban areas, 16.6 per cent of women earn their own living. About 54.6 per cent and 54.9 per cent of the male population, in rural and urban areas respectively, are part of the workforce.

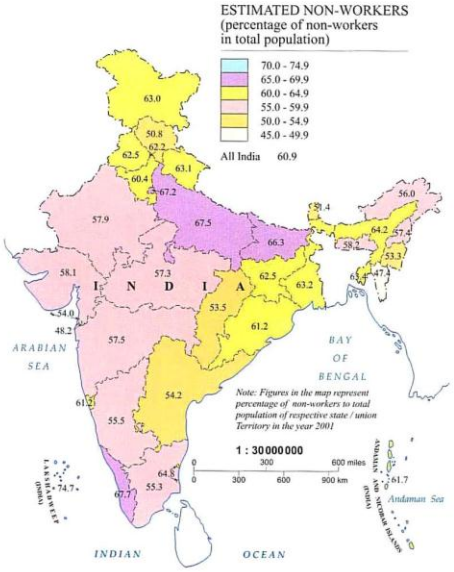
Various programmes have been introduced by the central government to support and motivate women to become economically productive members of society. For example, the Kishori Shakti Yojna, besides providing health-care facilities to young girls, imparts various vocational skills to them. The Support for Training and Employment Programme (STEP) gives training to poor women to make them suitable workers, primarily for agri-based industries. The Rajiv Gandhi National Creche Scheme for the Children of Working Mothers helps women strike a balance between their domestic and professional domains.

Even after 62 years of independence, about 27.5 per cent of the Indian population lives below the poverty line. It is an indicator of the vast economic disparity that continues to exist in India.

Non-working Population

Non-working population comprises people who are not involved in an active occupation to earn a living such as children and aged people. The number of non-workers in India stood at 626,375,604 as per the 2001 Census. Around 59 per cent of them were females. Uttar Pradesh had the highest number of non-working people in the country—112,214,097 persons. Maharashtra, Bihar and Andhra Pradesh were the other states with a large number of non-working population.

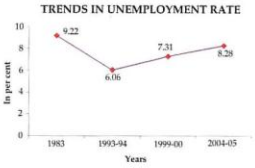




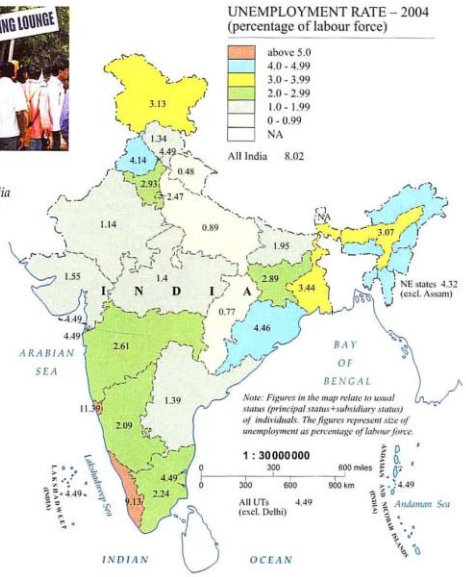
Unemployed Population

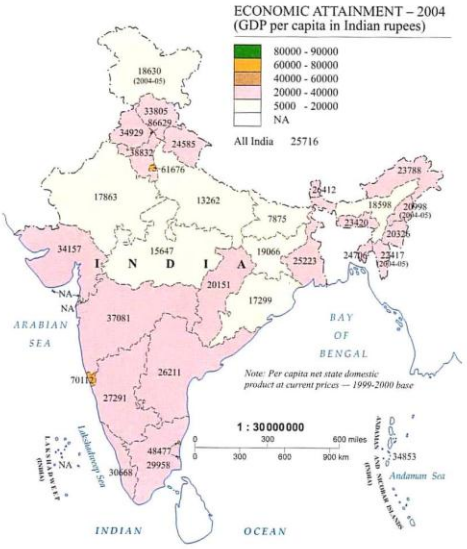
The unemployment rate in India stood at 8.02 per cent in 2004. The highest rate of unemployment (11.39 per cent) was recorded in Goa. Kerala and Orissa were the other states which had significant proportions of jobless people.

The urban areas register higher unemployment rates as compared to the rural areas. The majority of the rural population is engaged in agriculture and allied activities. The nature of unemployment in this sector is predominantly seasonal. The organized sector in urban areas does not offer much scope for informal employment or unskilled workers.



India: slowing growth, higher inflation and unemployment—The growth in labour force in India is higher than the growth rate of jobs. This has led to large-scale unemployment in the country.

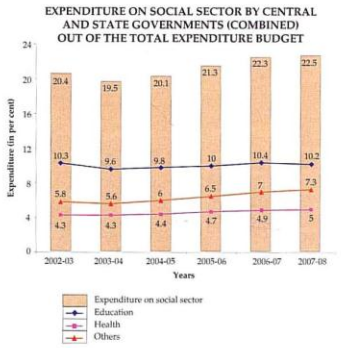




GDP Per Capita and Expenditure on Social Sector

The per capita Gross Domestic Product (GDP) of India at current prices stands at Rs 25,716. Chandigarh, with a figure of Rs 86,629, has the highest per capita GDP in the country. It is followed by Delhi and Puducherry, which havea per capita GDP of Rs 61,676 and Rs 48,477 respectively. Bihar's per capita GDP of Rs 7,875 is the lowest in India.

Since 2003-04, the centre and state governments have given greater priority to social sectors of health and education. Out of the total expenditure budget of the central and state governments (combined) in 2007-08, about 22.5 per cent was allocated to the social sector. Expenditure on these sectors as a proportion of total expenditure, after decreasing from 20.4 per cent in 2002-03 to 19.5 per cent in 2003-04, increased steadily to 22.3 per cent in 2006-07 and 22.5 per cent in 2007-08. Expenditure on education as a proportion of total expenditure has increased from 9.8 per cent in 2004-05 to 10.4 per cent in 2006-07. Share of health in total expenditure has also increased from 4.4 per cent in 2004-05 to 4.9 per cent in 2006-07.



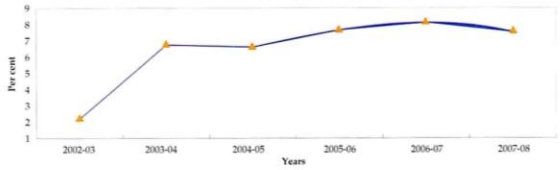
INDIAN ECONOMY

India is the fourth largest economy in the world in terms of purchasing power parity (PPP). The nation recorded a GDP of US $ 3.3 trillion in 2008. However like the rest of the world, the global economic meltdown also impacted the country. In 2008-09, India's GDP growth rate came down to 6.7 per cent. It had maintained an average growth rate of 8.8 per cent in the previous five years. The decrease in demand hit Indian industries hard. The worst affected were airlines, hotels, manufacturing and real estate. Indian exports suffered and opportunities for the famed Indian IT and BPO sectors dried up. The situation is expected to improve by the end of 2009. The stimulus packages announced by the central government, together with increased private investment and exports, should show positive results. The sound financial condition of the banks, the country's substantial foreign exchange reserves, besides its comfortable position vis-à-vis external debt also give hope. The relatively large size of working age population is considered a major advantage for the country's economy.

GROSS DOMESTIC PRODUCT

The national GDP grew at 9.5 per cent in 2005-06, 9.7 per cent in 2006-07 and 9 per cent in 2007-08. The declaration of growth in 2007-08 as compared to the previous two years was spread across most of the sectors except a few such as electricity and community services. The negative growth recorded in agriculture was mainly due to some slackening in the growth of rabi crops. Manufacturing decelerated in 2007-08 mainly due to the slower growth of consumer durables.

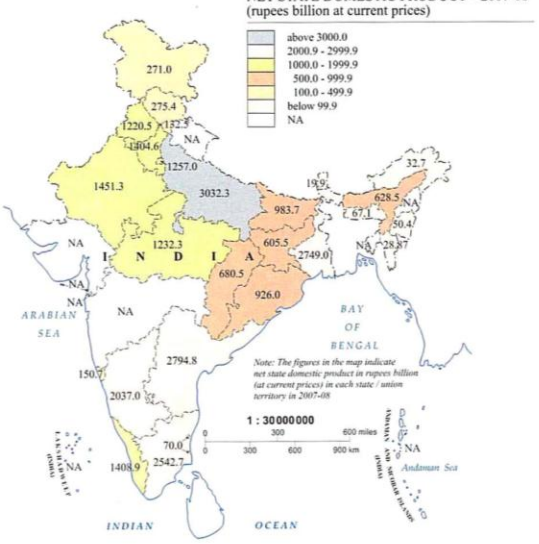
GROWTH IN PER CAPITA GDP



NET STATE DOMESTIC PRODUCT

Uttar Pradesh recorded the highest net state domestic product at Rs 3,032 billion in 2007-08, a growth of 11.58 per cent from the previous year. Andhra Pradesh, West Bengal, Tamil Nadu and Karnataka were the other states with high (above Rs 2,000 billion) net state domestic product in the same year.

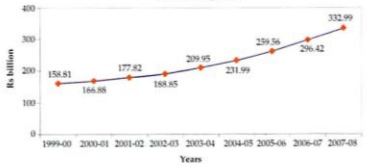
NET STATE DOMESTIC PRODUCT – 2007-08
(rupees billion at current prices)



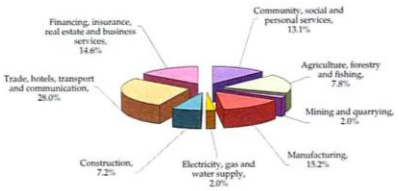
INDIAN ECONOMY IN THE 21ST CENTURY

The Indian economy has undergone a major transformation in the last 7–8 years. External trade and external capital flow are increasingly becoming important. The contribution of the service sector to the country's GDP is now more than 50 per cent and the country has become an important centre for IT and outsourcing services. The rapid pace of economic growth has made India an attractive destination for foreign investors—the net capital inflow in 2007-08 was nearly 10 per cent of the GDP. However, there are wide-ranging challenges too—improving the social and physical infrastructure and enhancing the productivity of agriculture and industry. India's high degree of dependence on imported energy sources, especially crude oil, also makes it vulnerable to forces not entirely under its control.

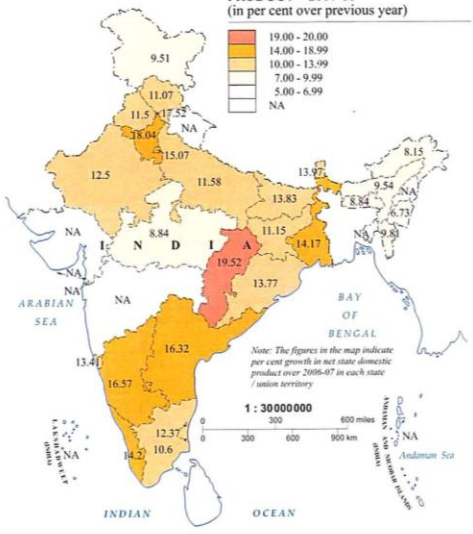
PER CAPITA NET NATIONAL DOMESTIC PRODUCT
(at current prices)



PERCENTAGE DISTRIBUTION OF DOMESTIC PRODUCT BY ECONOMIC ACTIVITY – 2007-08
(at current prices)

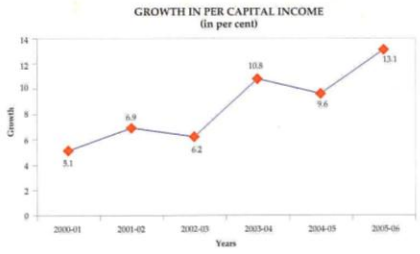


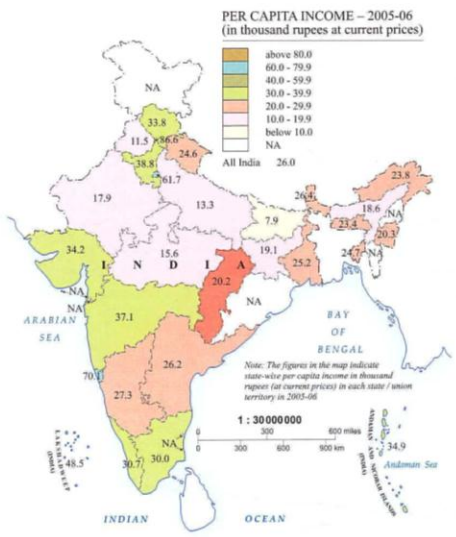
GROWTH IN NET STATE DOMESTIC PRODUCT – 2007-08
(in per cent over previous year)

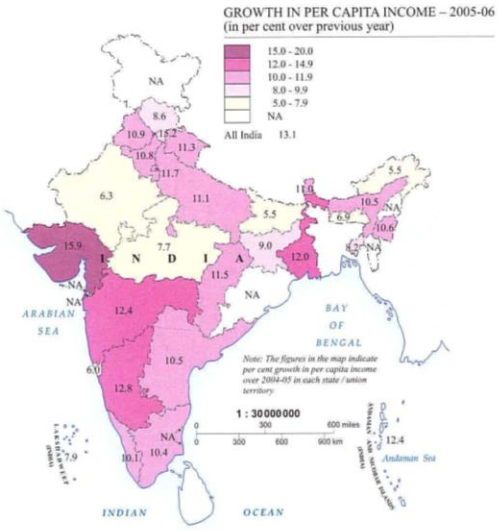


PER CAPITA INCOME

In 2005-06, Chandigarh recorded the highest per capita income at current prices (Rs 86,629) amongst the states and union territories. It also had the highest growth rate of per capita income. Most people here are involved in manufacturing and the service sector industries. Goa (Rs 70,112), Delhi (61,676) and Lakshadweep (Rs 48,477) were the other regions with high per capita income. Bihar recorded the lowest per capita income in the country (Rs 7,875).



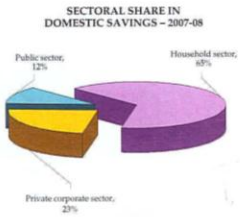


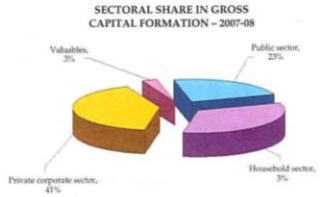


Savings and Investments

The Indian economy has witnessed a rising trend in gross domestic capital formation (GDCF) in the last few years. The gross capital formation (GCF) was 39.1 per cent of the GDP in 2007-08, up from 36.9 per cent in the previous year. This increase is largely due to a rise in the rate of investment by the corporate sector, which has responded well to the improvement in the investment climate in the country.

The growth in capital formation has been amply supported by an increase in the savings rate. The gross domestic savings as a percentage of GDP at current market prices stood at 37.7 per cent in 2007-08, up from 35.7 per cent in 2006-07. Of this 37.7 per cent, 33.2 per cent came from private sector savings (both households and private corporates) and 4.5 from the public sector.





According to a recent survey, family and healthcare are particularly important motivators for savings, while the lack of choice and advice act as barriers.

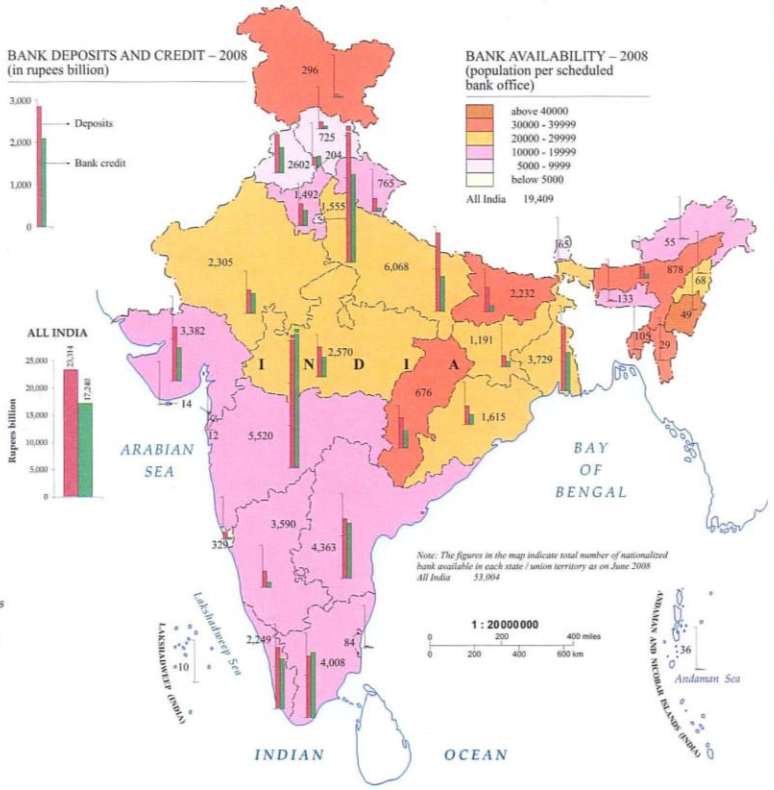
REGIONAL DISPARITIES

Despite being one of the emerging economic powers in the world, India continues to suffer from various socio-economic disparities at the regional level. The quality of governance and practical application of development programmes are the primary causes of regional disparity in the country. For instance, the development crises in most of the north-eastern states of India are mostly attributed to the failure of political governance in these states. The country's geographical diversity—with each region having its own socio-cultural situation—also influences the levels of economic development. The regional diversity results in a plethora of local issues and problems that demand individual and specialized attention of the policy-makers.

Access to Banking

Over 53,000 branches and 17,000 ATMs of scheduled commercial banks are spread across the country. However, a large number of people, especially in rural areas, still do not have access to banking services. According to reliable data, about 50 per cent of India's population does not have access to banking services. Therefore, banks are being encouraged to open accounts even in rural areas and make available 'no-fills' bank accounts with 'nil' or very low minimum balance to make such accounts accessible to even the poor sections of society. Banks are also entering into agreements with the postal authority for utilizing the extensive network of post offices to reach far-flung areas. In August 2009, an RBI committee presented a roadmap to provide banking services in every village with a population of over 2,000 persons, through brick-and-mortar branches, mobile banking, business correspondents, extension counters, etc.

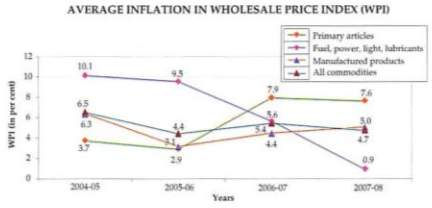
The State Bank of India (SBI) has the largest branch network in India. It has a market share of 20 per cent in deposits and advances. Recently, the SBI was rated the 29th most reputable company in the world by Forbes.



Wholesale Price Index

The Wholesale Price Index (WPI) is the price of a representative basket of wholesale goods. It focuses on the price of goods traded between corporations, rather than goods purchased by consumers, which is measured by the Consumer Price Index (CPI). The purpose of the WPI is to watch price movements that gives an idea of the supply and demand in industry, manufacturing and construction. This helps to analyse economic conditions. The WPI figure, which is released every 10 days. Influences stock and fixed price markets.

The WPI commodity basket has three constituent groups: (a) primary articles, (b) fuel, power, light and lubricants, and (c) manufactured products, with respective weightages of 22.02 per cent, 14.23 per cent and 63.75 per cent.

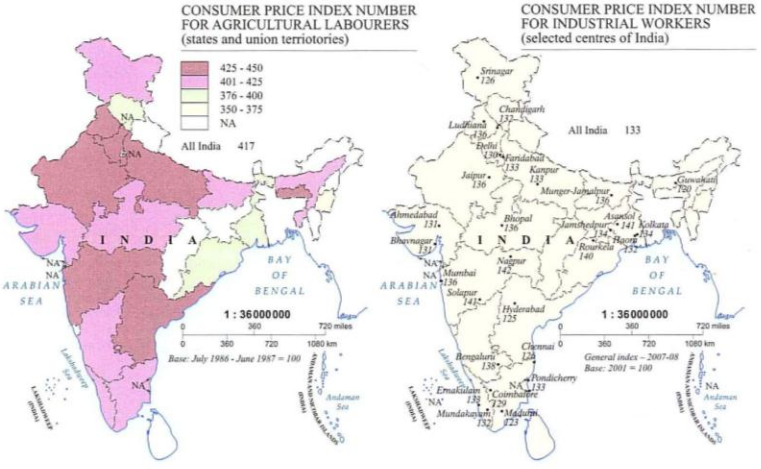


Consumer Price Index

The Consumer Price Index (CPI), a weighted average, is obtained by considering the retail prices of commodities. This generally includes food, fuel, clothing and pharmaceuticals. The percentage change in CPI gives an idea of the rate of inflation.

In order to compile the CPI, a predetermined set of goods, forming a typical basket of goods bought by an average consumer, is chosen. The items are weighted according to the percentage of income that families spend on them. An average of the change in the prices of these items is calculated each month.

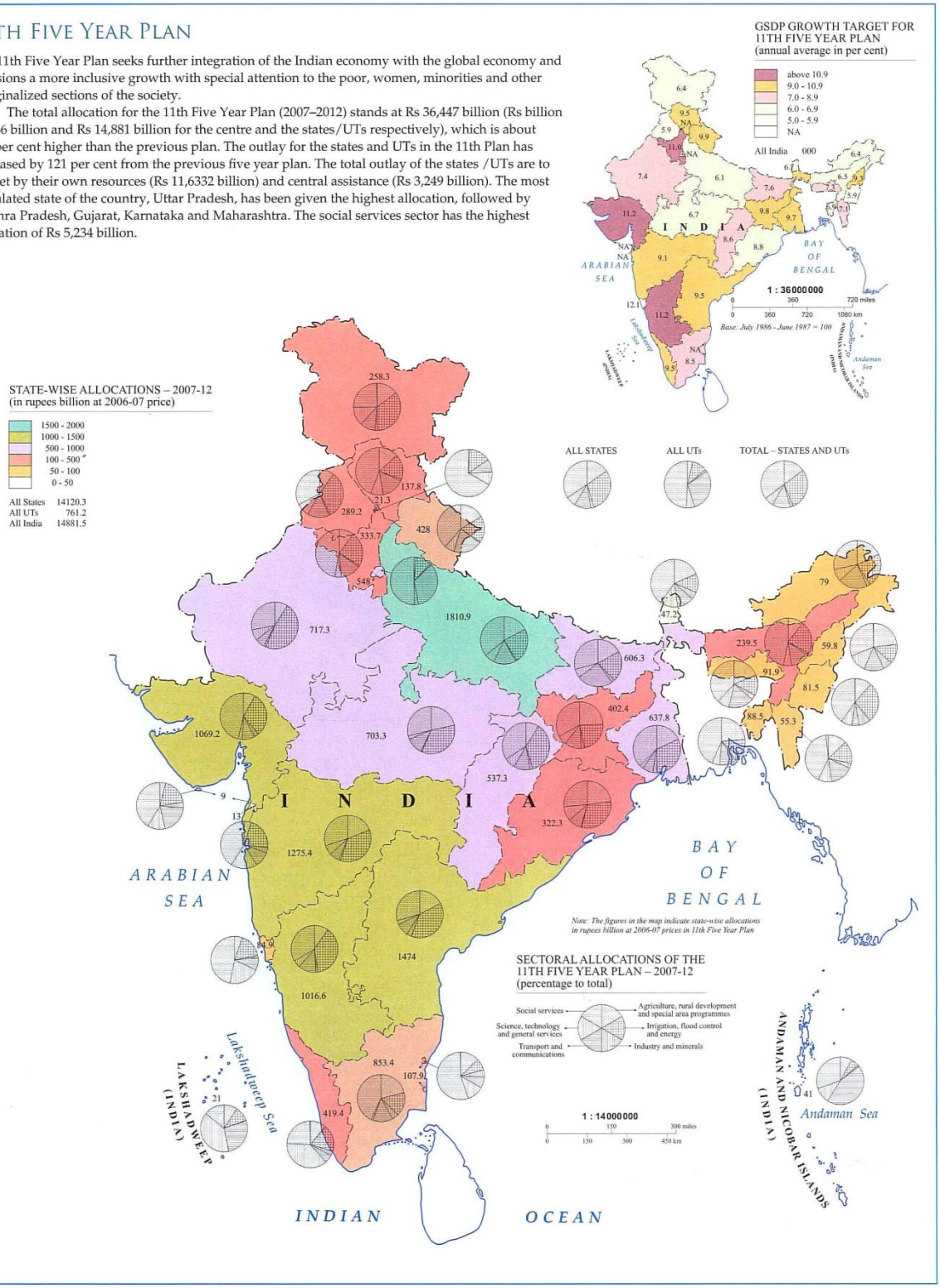
In 2007-08, the all-India CPI (base: July 1986 –June 1987 = 100) for agricultural and rural labourers (at 417 and 418 respectively) showed a rise of 7.4 per cent over the previous year's figures. The CPI for industrial workers (Base: 2001 = 100) rose by 9 per cent.



11TH FIVE YEAR PLAN

The 11th Five Year Plan seeks further integration of the Indian economy with the global economy and envisions a more inclusive growth with special attention to the poor, women, minorities and other marginalized sections of the society.

The total allocation for the 11th Five Year Plan (2007–2012) stands at Rs 36,447 billion (Rs billion 21,566 billion and Rs 14,881 billion for the centre and the states/UTs respectively), which is about 125 per cent higher than the previous plan. The outlay for the states and UTs in the 11th Plan has increased by 121 per cent from the previous five year plan. The total outlay of the states /UTs are to be met by their own resources (Rs 11,6332 billion) and central assistance (Rs 3,249 billion). The most populated state of the country, Uttar Pradesh, has been given the highest allocation, followed by Andhra Pradesh, Gujarat, Karnataka and Maharashtra. The social services sector has the highest allocation of Rs 5,234 billion.



Foreign Trade—Exports and Imports

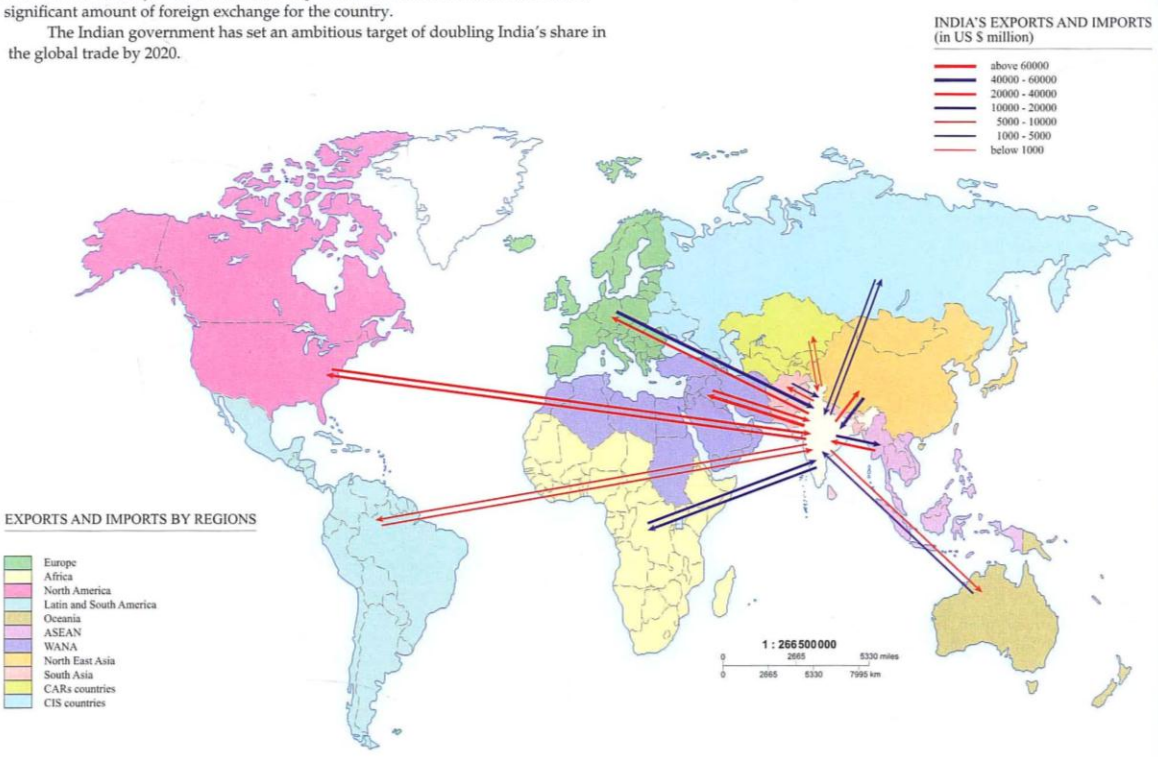
Foreign trade is an effective instrument of economic growth and employment generation. India's total share of global goods and services trade increased from less than one per cent some five years ago to 1.64 per cent in 2008. Reliable data indicate that nearly 14 million jobs were created directly or indirectly as a result of increased exports in the last five years. India's imports mainly comprise mineral fuels and lubricants, machinery, vehicles, gold and silver, chemicals, fertilizers, medical equipment, and electronics and computer accessories. The country's exports mainly include engineering goods, petroleum products, textiles, gems and jewellery, chemicals, agricultural and allied products, ore and minerals, and leather products. The BPO industry, call centres and other service-based jobs from the US, Europe and some Asian countries also earn a significant amount of foreign exchange for the country.

The Indian government has set an ambitious target of doubling India's share in the global trade by 2020.

Foreign Trade Policy, 2009–14

The new foreign trade policy announced by the government in August 2009 is directed to arrest and reverse the declining trend of the country's export due to recession and achieve a high annual export growth of 25 per cent by March 2014.

The government hopes to achieve these objectives through a mix of policy measures including fiscal incentives, institutional changes, procedural rationalization enhanced market access across the world and diversification of export markets.



India's Exports and Imports of Principle Commodities

INDIA'S EXPORTS OF PRINCIPAL COMMODITIES
(Percentage Shares)

Commodity	2006-07	2007-08	2007-08	2008-09
	April-March		April-February	
1	2	3	4	5
I. Primary products	**15.6**	**16.9**	**16.8**	**15.2**
Agriculture and allied products	10.0	11.3	11.2	10.4
Ores and minerals	5.5	5.6	5.5	4.7
II. Manufactured goods	**67.2**	**63.2**	**63.8**	**65.9**
Leather and manufactures	2.4	2.2	2.2	2.2
Chemicals and related products	13.7	13.0	12.9	13.4
Engineering goods	23.4	22.9	22.9	26.6
Textiles and textile products	13.7	11.9	12.1	11.6
Gems and jewellery	12.6	12.1	12.4	11.2
III. Petroleum products	**14.8**	**17.4**	**16.9**	**16.3**
IV. Others	**2.4**	**2.5**	**2.5**	**2.6**
Total Exports	**100.0**	**100.0**	**100.0**	**100.0**

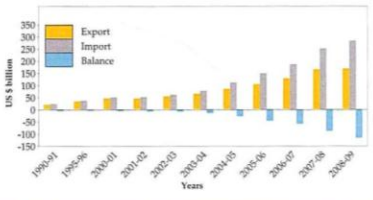
INDIA'S IMPORTS OF PRINCIPAL COMMODITIES
(Percentage Shares)

Commodity	2006-07	2007-08	2007-08	2008-09
	(April- March)		(April-February)	
1	2	3	4	5
1. Petroleum, crude and products	30.8	31.7	32.6	32.8
2. Capital goods	25.3	28.2	24.4	22.0
3. Gold and silver	7.9	7.1	7.6	6.8
4. Organic and inorganic chemicals	4.2	3.9	4.2	4.3
5. Coal, coke and briquettes, etc.	2.5	2.6	2.7	3.6
6. Fertilisers	1.7	2.2	2.4	5.1
7. Metalliferrous ores, metal scrap, etc.	4.5	3.1	3.3	2.9
8. Iron and steel	3.5	3.5	3.7	3.3
9. Pearls, precious and semi-precious stones	4.0	3.2	3.4	4.9
10. Others	19.6	18.7	20.1	19.6
Total Imports	**100.0**	**100.0**	**100.0**	**100.0**

Exports, Imports and Trade Balance

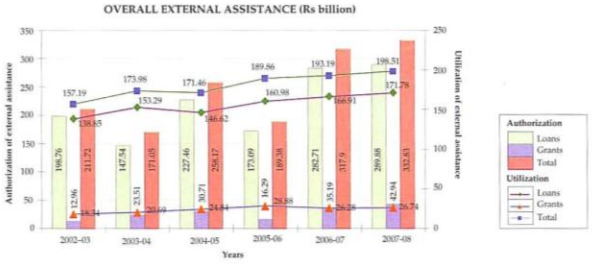
The country exported goods worth US $ 166 billion in 2007-08. The import bill stood at US $ 257 billion resulting in a trade deficit of US $ 91. The United States continues to be India's leading trading partner. However, its share reduced by 1.5 per cent to stand at 10.1 per cent in 2007-08. China is the second largest trade partner. Its share increased from 4.9 per cent in 2003-04 to 9.22 per cent in 2007-08. The global meltdown badly affected the country's exports, which registered a decline of 10.4 per cent in the third quarter of 2008-09 as compared to the previous year's figure.

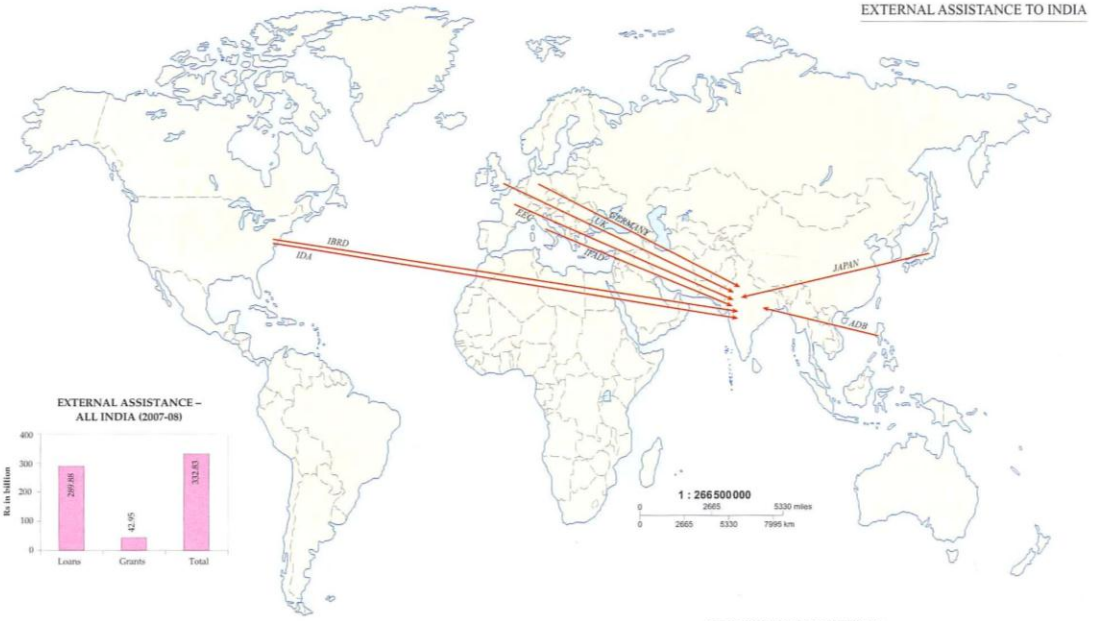
FOREIGN TRADE



AID TO INDIA

In India, external assistance has played an important part in financing five year plans, capital formation and technological induction. It has also been a major source for infrastructure development in the country. External assistance is made available by various multilateral and bilateral agencies through loans and grants. The World Bank provides assistance through its concessional lending arm, the International Development Agency (IDA), and market-based lending through the International Bank for Reconstruction and Development (IBRD). The Asian Development Bank (ADB) also provides market-based assistance. These are the main multilateral sources of assistance to India. The important bilateral sources include Japan, Germany and the United Kingdom. Because of India's vastly improved economic strength in recent years, many traditional donors have now stopped or announced a reduction in their aid package.

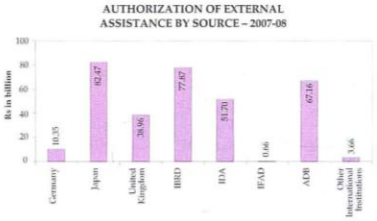


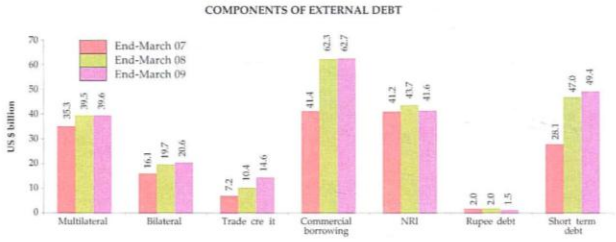


EXTERNAL DEBT

According to the available data on external debt of the twenty most indebted countries, India was the fifth most indebted country in 2007 as compared with its third position in 1990.

India's external debt at the end of March 2009 stood at US $ 229.9 billion (22.0 per cent of GDP), recording an increase of US $ 5.3 billion or 2.4 per cent over the end-March 2008 level, mainly due to an increase in trade credits. The share of commercial borrowings was the highest at 27.3 per cent, followed by short-term debt (21.5 per cent). Other major components of India's debt include NRI deposits (18.1 per cent) and multilateral debt (17.2 per cent). The US dollar is still the dominant currency accounting for 57.1 per cent of the total external debt stock of the country.





TOURISM

The tourism industry is the largest service industry in India. It contributes more than 6 per cent to the national GDP and provides about 9 per cent of the total employment in the country. India has found a place in Condé Nast's list of the top 10 tourist destinations in the world. Though there are still several infrastuctural bottlenecks that hamper the growth of this sector, India is now a favoured destination for different kinds of tourism such as history tourism, adventure tourism, medical tourism, spiritual tourism, ecotourism, etc.

ECOTOURISM

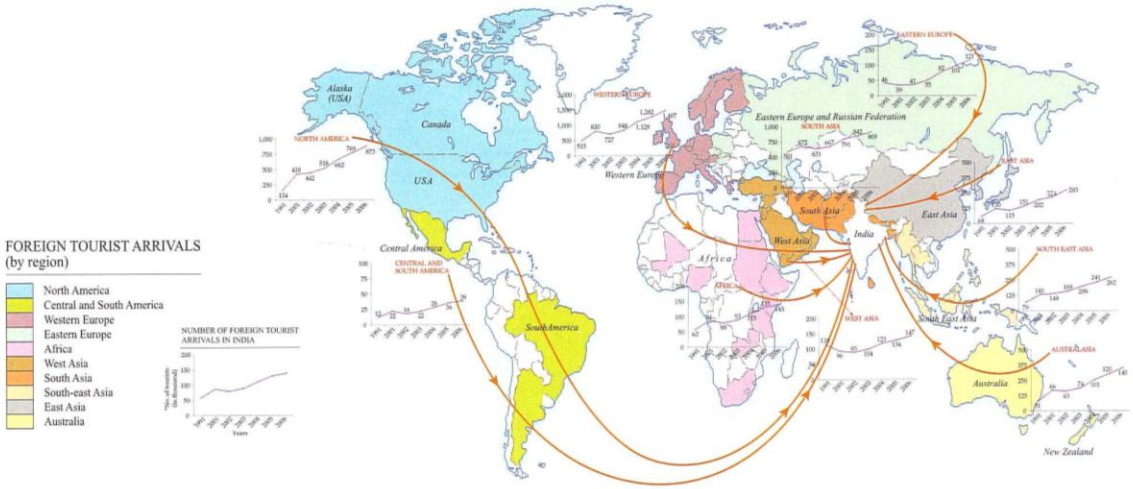
Ecotourism is nature-based tourism which is ecologically sustainable. It promotes the accommodation and entertainment of the visitor in such a way that the native culture or the environment is not disturbed or destroyed.

FOREIGN EXCHANGE EARNINGS FROM TOURISM IN INDIA AND SHARE OF INDIA IN INTERNATIONAL TOURISM RECEIPTS – 1998-2007

During 2007, 5.08 million foreign tourists visited India and the foreign exchange earnings from tourism was approximately Rs 444 billion. The 'Incredible India' campaign of the Ministry of Tourism has helped to promote India as an attractive tourist destination. It is estimated that by 2020, tourism in India could contribute Rs 8,500 billion to the GDP.

TOURISM FACTS — 2007

India	
Number of foreign tourist arrivals in India	5.08 million
Annual growth rate	14.3%
Number of Indian nationals going abroad	9.78 million
Annual growth rate	17.3%
Number of domestic tourist visits to all states/UTs	526.57 million
Annual growth rate	14.0%
Foreign exchange earnings from tourism	
(i) In INR terms	Rs 444 billion
Annual growth rate	13.7%
(ii) In US $ terms	US $ 10.73 billion
Annual growth rate	24.3%
World	
Number of international tourist arrivals	903 million
Annual growth rate	6.6%
International tourism receipts	US $ 856 billion
Annual growth rate	15.4%
India's Position in the World	
Share of India in International tourist arrivals	0.56%
India's rank in world tourist arrivals	42
Share of India in international tourism receipts	1.25%
India's rank in world tourism receipts	20



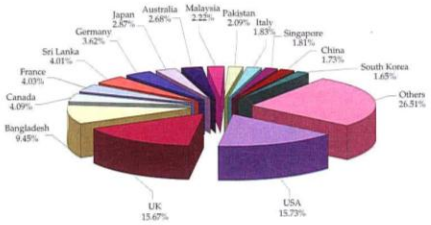
FOREIGN TOURIST ARRIVALS

According to the UN World Tourism Organization (UNWTO), the rapid growth of Indian tourism industry has been instrumental in making South Asia a preferred tourist destination. In 2007, the highest number of foreign tourists in India came from the USA. The UK, Bangladesh, Canada and France held the second, third, fourth and fifth positions respectively.

Foreign tourist arrivals (FTAs) in India during January–October 2008 increased by 370,000 to 4.32 million as compared to 3.95 million during the corresponding period of 2007.

'Atithi Devo Bhavah' (the guest is God) is a nation-wide campaign by the Ministry of Tourism aimed at sensitizing the general population and the organizations in the tourism sector towards tourists. The aim is to popularize tourism in the country, which will facilitate its economic growth.

FOREIGN TOURIST ARRIVALS IN INDIA – 2007
(percentage share of the top 15 countries)



TOURIST CENTRES IN INDIA

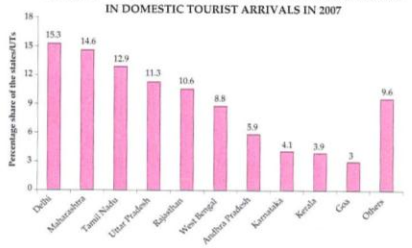
The places of tourist interest in India include natural, historical, religious and cultural sites spread across the length and breadth of the country. Each one of these sites is unique in its own way and has its own charms. If the beaches of Goa attract the free-spirited, the ghats of Varanasi and Haridwar provide solace to the spiritually inclined. One of the most popular tourist destination is the triangle of the three cities of Delhi, Agra and Jaipur. Here one can witness the marble symphony of Shah Jahan's Taj Mahal, the imperial elegance of Lutyen's New Delhi and the splendour of the desert city of Jaipur. Lavishly built and aesthetically designed, the temples of south India provide ample evidence of the architectural brilliance in ancient India. In short, these tourist sites enthral every visitor.

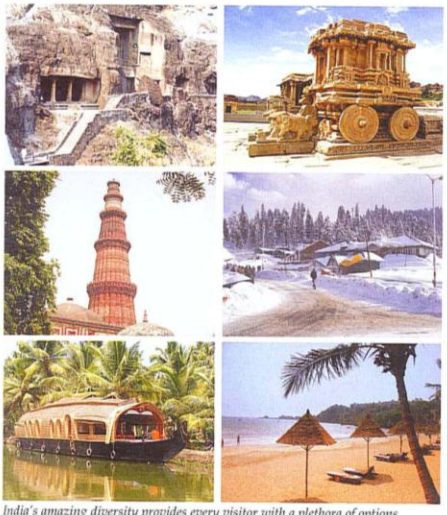
TRAVEL CIRCUITS

Circuits	Major destinations
Delhi–Jaipur Desert tour	Delhi, Agra, Fatehpur Sikri, Jaipur Jodhpur, Jaisalmer, Bikaner, Barmer, Udaipur
Heritage tour	Gwalior, Shivpuri, Orchha, Khajuraho, Bhimbetka, Ajanta, Ellora, Elephanta, Pattadakal, Mamallapuram, Pondicherry
Buddhist circuit	Sarnath, Kushinagar, Bodh Gaya, Nalanda, Rajgir, Vaishali, Sanchi, Amravati, Nagarjunakonda
Indian pilgrimage	Haridwar, Rishikesh, Gangotri, Yamunotri, Allahabad (Prayag), Varanasi, Puri, Konark, Amritsar, Anandpur Sahib, Patna Sahib, Ajmer
Indian beaches	Goa, Diu, Kovalam, Gopalpur-on-Sea
Western India	Mumbai, Pune, Khandala, Aurangabad, Lothal, Ahmedabad, Vadodara
Hill stations	Srinagar, Shimla, Manali, Kullu, Dharamsala, Dalhousie, Kufri, Chail, Mussoorie, Naini Tal, Mount Abu, Gangtok, Darjiling, Shillong, Udagamandalam, Kodaikanal, Mahabaleshwar
South India	Chennai, Kanchipuram, Rameshwaram, Thanjavur, Madurai, Tiruchirapalli, Kanniyakumari, Bengaluru
South Indian architecture	Belur, Halebid, Mysuru, Hassan
Backwaters of Kerala	Alappuzha, Kumarakam
Islands	Andaman, Nicobar, Lakshadweep
Wildlife sanctuaries and parks	Corbett, Kanha, Bandhavgarh, Sariska, Ranthambhor, Bharatpur, Keoladeo Ghana, Sundarbans, Periyar Bandipur, Sasan Gir, Kaziranga, Manas
Eastern India	Kolkata, Gangtok, Guwahati, Shillong, Kohima

SHARE OF TOP 10 STATES / UNION TERRITORIES OF INDIA IN FOREIGN TOURIST ARRIVALS IN 2007

SHARE OF THE TOP 10 STATES / UNION TERRITORIES OF INDIA IN DOMESTIC TOURIST ARRIVALS IN 2007





India's amazing diversity provides every visitor with a plethora of options to explore. The country's natural and historical sites have always fascinated people from all over the world.

INDIAN CULTURE

Indian culture, which has evolved over a period of five millennia, has varied components—art forms, literature, religious and social practices, cuisines, festivals, crafts and many others. All these aspects of Indian culture combine beautifully to create the celebrated diversity of India.

Indian music

The ancient Indians aligned music with divinity. As a result music and religion were closely related. Today, the Hindustani style of north India and the Carnatic style of south India are the two primary schools of classical music in the country.

M S Subbulakshmi, a renowned Carnatic vocalist, was the first musician ever to be awarded the Bharat Ratna.

Dance

Bound by rigid rules of presentation, the classical dance forms in India are guided by elaborate codes in the *Natyashastra* (an ancient Indian treatise on dance), mythology, legends and classical literature. Bharatnatyam, Kathakali, Kuchipudi, Odissi and Manipuri are some of the well-known classical dance forms.

Art and Craft

Indian arts and crafts are world renowned for their exquisite design and quality. From heavy and richly worked gold jewellry to delicately crafted carpets, Indian craftsmanship has always been in great demand from both within and outside the country.

Painting

The rich and ancient Indian painting tradition has come a long way since the first frescoes came into being in Ajanta. The creativity and use of colours has always been graceful and unique in Indian paintings. The Rajput, Deccan, Kangra and Moghul schools of painting are well known.

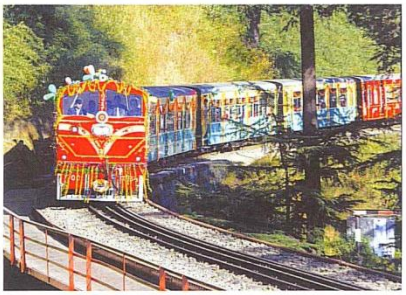
A fresco from Ajanta

Fairs and Festivals

India is a land of festivals, which fill the everyday life with gaiety and colour. While some festivals are celebrated to mark the arrival or departure of a season, the others have a socio-religious origin.

World Heritage Sites

The World Heritage Sites are selected by UNESCO to encourage protection and preservation of cultural and natural sites that are considered to be of universal value to humanity. There are a total of 812 World Heritage Sites in the world, of which 27 sites are located in India—22 cultural and five natural heritage sites. These sites attract both archaeologists and tourists from across the globe in large numbers every year.



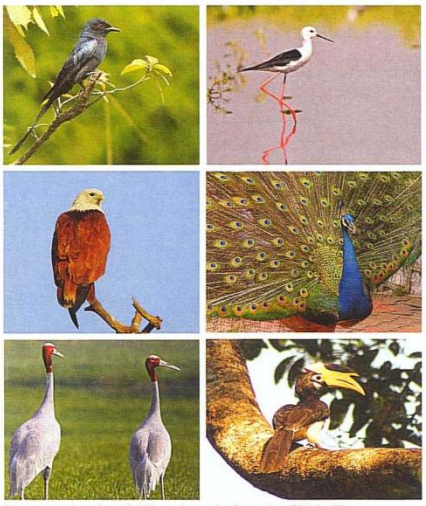
On 7 July 2008, the Kalka-Shimla Railway was included in the UNESCO World Heritage List. This has made it the fourth railway property in India to be included in the list. Darjiling Himalayan Railway, Nilgiri Mountain Railway and Chhatrapati Shivaji Terminus in Mumbai are the other three.

Wildlife Safari

India is a paradise for nature lovers and offers numerous opportunities for wildlife tourism. There are 96 national parks in India covering an area of 38,029 sq. km, which is about 1.1 per cent of the geographical area of the country. The 500 wildlife sanctuaries in India cover an area of 117,077 sq. km, which is about 3.56 per cent of the geographical area of the country. India has about 7.6 per cent of all mammalian, 12.6 per cent of avian, 6.2 per cent of reptilian and 6 per cent of flowering plant species.

Wildlife facts

Total number of national parks – 96
Total number of wildlife sanctuaries – 500
Total number of tiger reserves – 29
Total number of bird sanctuaries – 21



The country has about 2,000 species and sub-species of birds. The Indian wildlife reserves are also a home to migratory birds from different parts of the world. For eaxmple, the Dudhwa Wildlife Reserve attracts migratory birds such as egrets, herons, storks and cormorants.

HISTORY OF INDIA

India has a long and continuous history, extending from prehistoric to modern times. It boasts of one of the richest and the most ancient civilizations of the world, which existed around 5,000 years ago. This civilization is called the Indus Valley civilization as it flourished in the valley of Indus River, with its two main cities—Mohenjodaro and Harappa.

The medieval period in Indian history began with the Muslim invasions—the Turkish conquests under Mahmud of Ghazni and Muhammad Ghori. The establishment of the Delhi Sultanate towards the beginning of the 13th century marked a new phase in the cultural development of the country.

The Mughals brought with them the Turko-Iranian culture, which in course of time got amalgamated with Indian culture. With the Battle of Plassey (1757), the British established their political sovereignty in India and eventually became the rulers of this country.

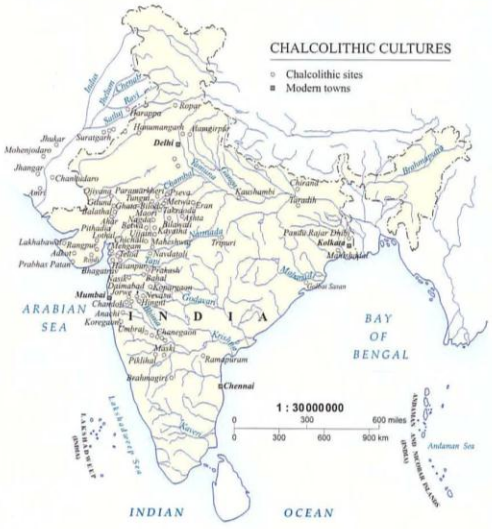
The Indians gradually developed national consciousness and a powerful movement against the imperialist domination arose under the leadership of B. G. Tilak, Bipin Chandra Pal, Lala Lajpat Rai, and others. The movement attained the character of a mass movement under the charismatic leadership of Mahatma Gandhi. On 15 August 1947, India became a free nation; however, the country was partitioned and Pakistan came into existence.

THE STONE AGE

The modern humans (Homo sapiens sapiens) finally appeared about 40,000 years ago. They had mastered the art of making tools. Till 3000 BCE, early humans used stone on a large scale for various purposes. This period is thus known as the Stone Age. The Stone Age can be further divided into four broad periods.

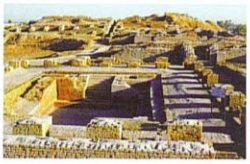
- Palaeolithic Age or Old Stone Age
- Mesolithic Age or Middle Stone Age
- Neolithic Age or New Stone Age
- Chalcolithic Age or Copper-Stone Age

In the Neolithic Age, better tools such as plough, sickles, and axes began to be used for farming. Many of these tools were well polished and had a sharp cutting edge.

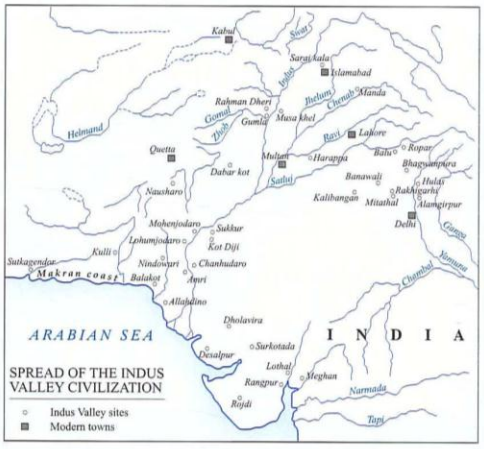


THE INDUS VALLEY CIVILIZATION

The Indus Valley civilization which flourished from about 2500 BCE to 1500 BCE, and included urban centres such as Harappa and Mohenjodaro (now in Pakistan), marked the beginning of the urban civilization in the Indian subcontinent. It developed in the north-western part of the subcontinent, extending from Jammu in the north to the Narmada estuary in the south, and from the Makran coast of Baluchistan in the west to Meerut in the north-east. It covered parts of Punjab, Haryana, Sindh, Baluchistan, Gujarat, Rajasthan, and the fringes of western Uttar Pradesh. The two most important cities, Harappa and Mohenjodaro were linked together by the Indus River.



The Great Bath at Mohenjodaro was an important building which resembled a large swimming pool. It was probably used during religious ceremonies.

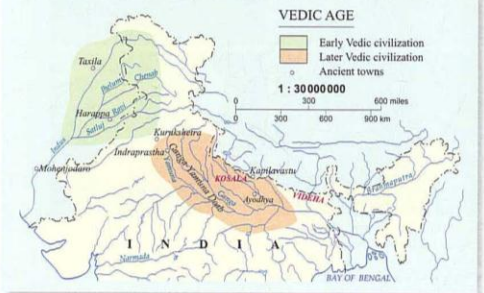


VEDIC AGE

The Rig Veda is the main source of information on the Aryans in India. They appeared in India around 1500 BCE and lived in the areas covered by eastern Afghanistan, Punjab, and the fringes of western Uttar Pradesh.

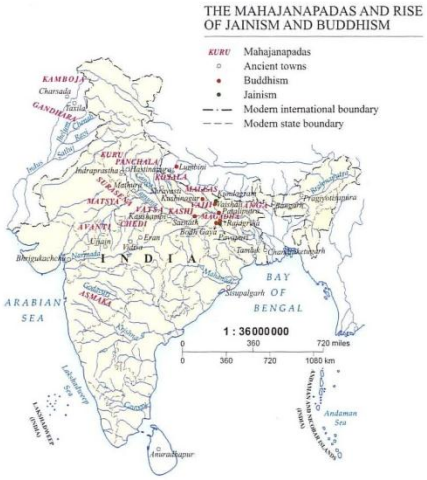
The Rig Vedic Aryans were predominantly pastoral. The cow was sacred to them. Their knowledge of metals seems to have been limited. The basis of the social structure was kinship.

Great changes took place in the Later Vedic Age (c. 1000 BCE–600 BCE). The Aryans migrated from Punjab to western Uttar Pradesh, which covers Ganga-Yamuna Doab region. They then moved to eastern Uttar Pradesh and north Bihar. Agriculture and other occupations enabled the people to lead a settled life. The Later Vedic society came to be divided into four varnas—the brahmanas, rajanyas or kshatriyas, vaishyas and shudras.



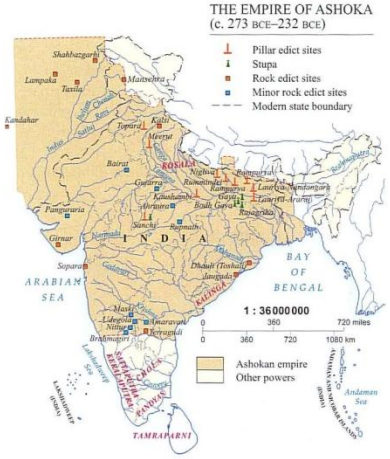
The Mahajanapadas and Rise of Jainism and Buddhism

From the 6th century BCE onwards, wars were fought for territories. The use of iron tools and implements enabled people to produce surplus foodgrain. This, in turn, led to the collection of taxes, which were used for military and administrative purposes. Eventually, the janapadas increased their extent and power and 16 large territorial states called mahajanapadas were established. Magadha was the most powerful and its rulers succeeded in establishing an empire. Many religious sects arose, the most prominent being Jainism and Buddhism.



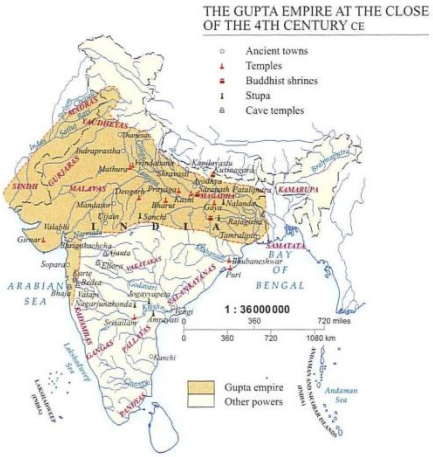
The Mauryan Empire

The Mauryan dynasty was founded by Chandragupta Maurya. Megasthenes, the Greek ambassador to Chandragupta's court, gives a vivid account of the administration and life in the Mauryan period. Ashoka was the greatest of the Mauryas. He was the first Indian king to directly communicate to his subjects through edicts, which were royal orders, found not only in the Indian subcontinent but also in Afghanistan. The Mauryas maintained diplomatic relations with Syria, Egypt, Macedonia, Ceylon, etc.



The Gupta Empire

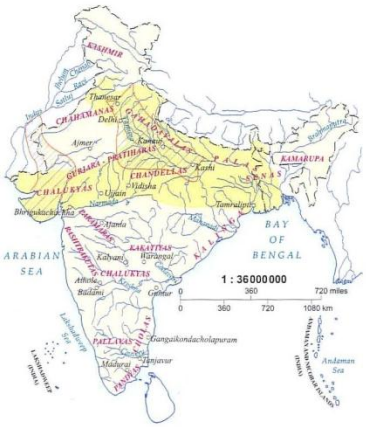
The Gupta empire arose on the ruins of the Kushanas and Satavahanas. The kingdom of the Guptas comprised Uttar Pradesh and Bihar. The first important king of the Gupta dynasty, Chandragupta I, started the Gupta era in 319 CE–20 CE. The Chinese pilgrim Fa Hien (399 CE–414 CE) visited India during his reign. Culturally, the Gupta period is called the Golden Age of ancient India. The Ajanta cave paintings belong to this period.



India during 606 CE–1323 CE

Harshavardhana brought under his control about a dozen of the feudatories which sprang up after the decline of the Gupta empire. The seat of his power was Kanauj (in modern-day Uttar Pradesh). By the beginning of the 7th century CE, the Pallavas, Chalukyas and Pandyas emerged as the three major states in peninsular India. The Chola empire formed a watershed in south Indian history between the 9th and the 12th centuries CE. The political chaos in north India led to Turkish invasions.

The Brihadeshwara Temple, built by Rajaraja I at Thanjavur, is the most remarkable example of the temple architecture of the Chola period.



INDIA DURING 606 CE–1323 CE

Harsha's empire—606 CE–647 CE
Areas overrun by Mahmud of Ghazni—1001
CHOLAS Formation of new states during 6th century C
Ancient towns

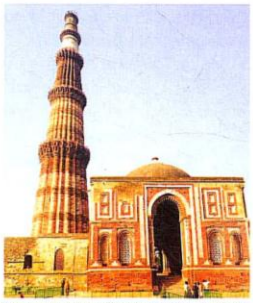
The Struggle for Kanauj

After Harsha's death, a number of powerful empires arose in northern India and the Deccan between 750 CE and 1000 CE. These were the Palas, which dominated eastern India; the Pratiharas, which dominated western India and the upper Gangetic valley; and the Rashtrakutas, which mainly dominated the Deccan. Of the three, the Rashtrakuta empire lasted the longest.

Kanauj at that time was considered the symbol of the sovereignty of North India. The three powers—the Palas, Pratiharas and Rashtrakutas—were constantly engaged in wars with each other. They became great rivals as they fought to control northern India with its important city of Kanauj. The 200 years of war exhausted and weakened all the three. Later, Kanauj passed into the hands of Gahadavalas.

THE DELHI SULTANATE

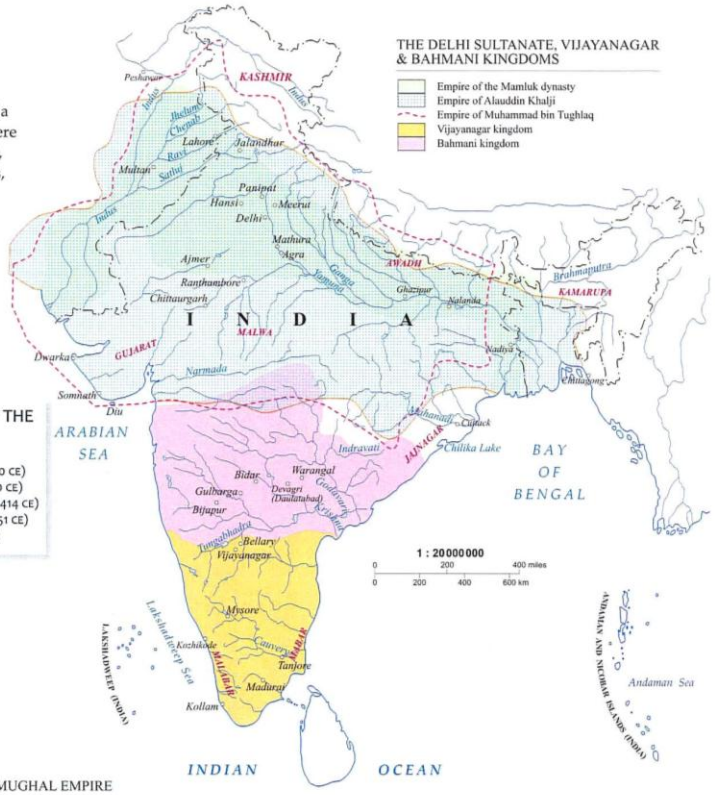
The period between 1206 CE and 1526 CE is referred to as the period of the Delhi Sultanate. The Turkish rulers, or Sultans, consolidated complete power in their hands. The interaction of the Turks with the Indians resulted in the development of a new and enriched composite culture. The Turkish Sultans were great patrons of architecture. The Qutb Minar, Alai Darwaza, Siri Fort, Tughlaqabad Fort, and the Lodi Tomb and Gardens, are some of their architectural marvels.



The construction of the Qutb Minar in Delhi was started by Qutbuddin Aibak in 1199 CE and completed by his successor Iltutmish in 1230 CE. The Minar was dedicated to the Sufi saint Qutbuddin Bakhtiyar Kaki.

ESTABLISHMENT OF THE DELHI SULTANATE

- Ilbari dynasty (1206 CE–1290 CE)
- Khilji dynasty (1290 CE–1320 CE)
- Tughlaq dynasty (1320 CE–1414 CE)
- Sayyid dynasty (1414 CE–1451 CE)
- Lodi dynasty (1451-1526 CE)



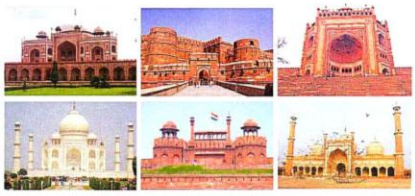
THE MUGHAL EMPIRE

Babur founded the Mughal empire in India by defeating the Afghans led by Ibrahim Lodi in the First Battle of Panipat (1526 CE). The empire reached its zenith by the end of the 17th century CE. Akbar, the greatest ruler of the dynasty, consolidated the dynasty through military conquests and matrimonial alliances.

THE MUGHAL EMPERORS

- Babur (1526 CE–1530 CE)
- Humayun (1530 CE–1540 CE) and 1555 CE–1556 CE)
- Akbar (1556 CE–1605 CE)
- Jahangir (1605 CE–1627 CE)
- Shah Jahan (1627 CE–1658 CE)
- Aurangzeb (1658 CE–1707 CE)

Culturally, the Mughal period can be called a second classical age following the Gupta period in northern India. The Mughals built magnificent forts, palaces, mosques, buildings, etc. The Taj Mahal exhibits the most beautiful amalgamation of all the architectural forms developed by the Mughals. They also made remarkable contributions to the fields of painting, literature, and music.



Humayun's Tomb, the Agra Fort, the Buland Darwaza, the Taj Mahal, the Red Fort and the Jama Masjid showcase the brilliance of the amalgamation of Indian traditions with Turko-Iranian architecture.

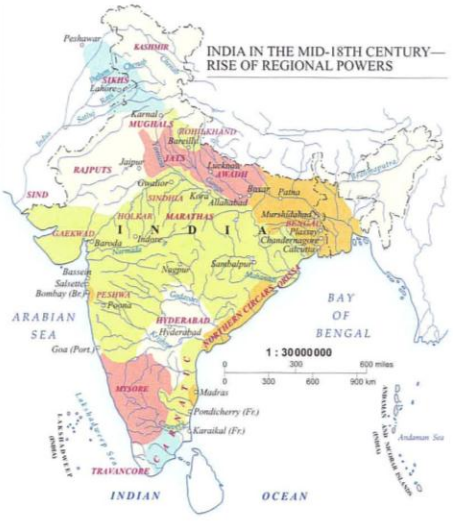
Later Mughals and the Emergence of Regional Powers

The Mughal empire declined during the first half of the 18th century due to several reasons—wars of succession, weak rulers, the degeneration of the Mughal nobility, breakdown of the administration, etc.

The weakening of the central authority led to the emergence of a number of autonomous states such as Bengal (1717–72), Awadh (1722–1856), Mysore (1761–1799), and Punjab (1792–1849), and ultimately enabled the British to conquer India.

Later Mughals

- Bahadur Shah (1707–1712)
- Jahandar Shah (1712–1713)
- Farrukhsiyar (1713–1719)
- Muhammad Shah (1719–1748)
- Ahmad Shah (1748–1754)
- Alamgir II (1754–1759)
- Shah Alam II (1759–1806)
- Akbar II (1806–1837)
- Bahadur Shah Zafar (1837–1857)



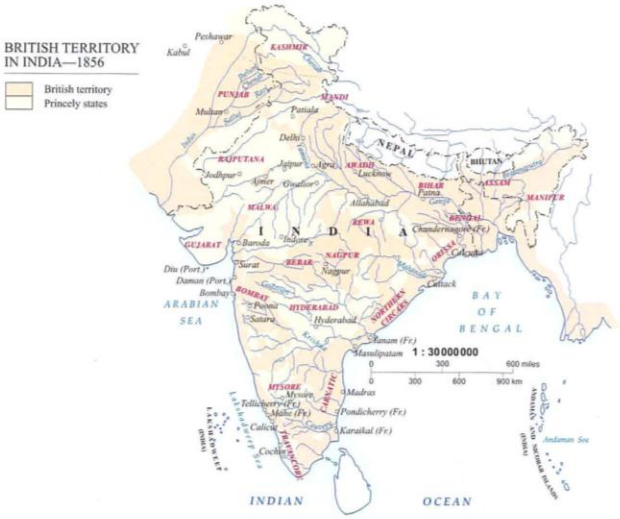
Bahadur Shah II or Bahadur Shah Zafar was the last Mughal Emperor. He was proclaimed as the Emperor of India by the rebellious soldiers during the 1857 Revolt. The Revolt was suppressed by the British and Bahadur Shah was deported to Rangoon, when the British captured Delhi on 20 September 1857.

British Conquest of India

The British carried out the conquest of India piecemeal and in the most ruthless and deceitful manner. They made Indians pay for the conquest of their own country. The beginning of British political sway over India is traced to the Battle of Plassey (1757), which gave British mastery over Bengal and, eventually, over the whole of India. Between 1700 and 1856, they became the paramount power in India.

Famous British Conquests

- Battle of Plassey (1757)
- Battle of Buxar (1764)
- Carnatic Wars (1744–63)
- Anglo-Mysore Wars (1767–99)
- Anglo-Maratha Wars (1775–1818)
- Anglo-Sikh Wars (1845–1849)



India—1857 CE

The Revolt of 1857 began as a mutiny of the sepoys of the British Indian army, but soon spread far and wide and took on a popular character. It is often referred to as the First War of Indian Independence. It was a product of the colonial rule which was exploitative in nature.

The Revolt began on 10 May 1857 at Meerut. Earlier, Mangal Pandey, a young soldier, had been hanged on 29 March 1857 for revolting against and attacking his superior officers. The major centres of the Revolt and the important leaders who led the Revolt in different areas were: Delhi—Bahadur Shah Zafar and General Bakht Khan; Kanpur—Nana Saheb, Tantya Tope and Azimullah Khan; Lucknow—Begum Hazrat Mahal and Ahmadullah; Jhansi—Rani Lakshmibai; Bareilly—Khan Bahadur Khan; Bihar—Kunwar Singh.

The Revolt could not assume an all-India character since all classes of Indian society did not participate. The Revolt was brutally suppressed and all the leaders were either killed or deposed.