SOCIALS SCIENCE

(For Class VIII)

GEOGRAPHY

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PREFACE

The Punjab School Education Board has always been striving hard to prepare and revise the syllabi and textbooks in accordance with the New Education Policy. This book of Social Science has been prepared on the basis of the recommendation put forward in National Curriculum Frame Work 2005 as per the directive of the Department of Human Resource Development, Govt. of India. In the light of guidelines given in PCF-2013 the content of this book has been revised again, subjectively, made more vibrant and student centric keeping in mind state specific needs. The main objective of the book is to bring the students of Punjab at par with the students at the national level. Therefore, keeping in view the above objective, the book at hand has been prepored for the students of class VIII. This book comprises of three areas of study namely (i) Resources and their Development (ii) Our Past III & (iii) Social and Political Life which encompasses the study of different subjects of social sciences i.e. Geography, History and Civics respectively.

This book has been prepared under the able guidance of officiating Director (Academics), Although, the content of the book has been written by the experts from the field, yet, the process of vetting has been carried out by the Subject Experts and Project Officers working in the Board. The designs and maps in the book have been prepared by Sh. Gurmail Singh, Artist.

Chairman
Punjab School Education,
Board.

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ABOUT THE BOOK

The book at hand on the subject of Social Science has been prepared for the students of class VIII. The book has been written as per the recommendations of National Curriculum Framework (NCF 2005). This book has been divided into three parts.

Unit-I (Resources and their development) is primarily concerned with the subject of Geography and includes the study of resources and their development. Our earth is a unique (important) planet of the Solar system which provides habitat to human life along with bountiful resources. This part includes the study of worldwide distribution of these resources in general and with special referenece to India, its maintenance and economic importance. Another aspect is 'Human Resources' which holds pivotal position of all resources and without which other resources become meaningless, have also been included as a part of this study. A chapter on Disaster Management including Natural and Man made Disasters and their mitigation have been added to this part of the book.

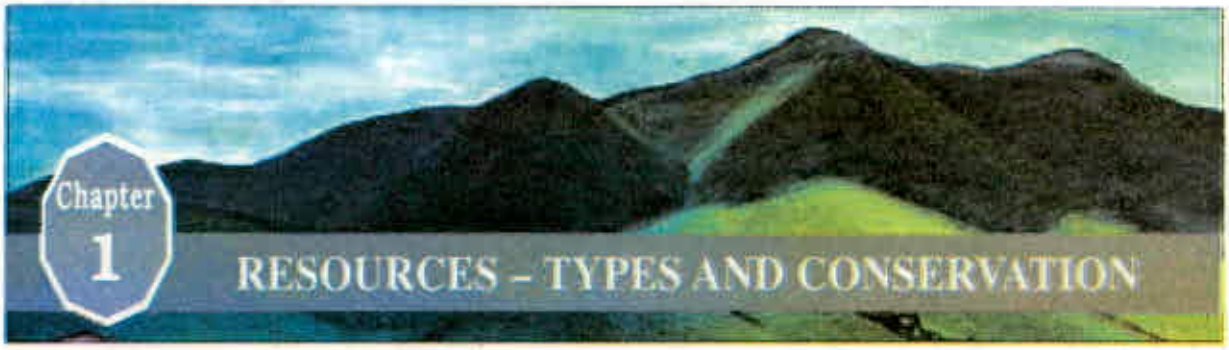
Unit-II (Our Past-III) which mainly deals with subject of history and included the study of the events happened in the past in a chronological sequence in order to develop an overview. The study will help the students to interpret major turning points in the past and enable them to organise determine the present and future.

Unit-III (Social and Political Life) which mainly concerned with the subject of civics and includes the study of social and political life of India. The theme of the study is to introduce the child to the government and understand the key elements in the functioning. It also aims to help the learners to comprehend the constitutional values and adopt these values in their life practically.

Co-ordinator, Social Sciences

PART-I GEOGRAPHY

Resources and their development



Chapter 1

RESOURCES – TYPES AND CONSERVATION

The needs of man began with its origin. These needs were limited for food, shalter etc. only in the beginning but with the development of mankind its needs also grew. As it grew, the man started looking towards his surrounding for their fulfilment and the use of natural resources like soil, water, trees, stones etc. started. Man's increasing needs in today's world have gone limitless to the extent that he has to depend on various means. These means are called 'resources'. Therefore the natural or man-made meaningful substances which fulfil man's needs are known as 'resources'. These resources fulfil man's specific objectives. **In other words the resources are such natural gifts which are very valuable for human beings.**

The resources may be natural or man-made. The natural resources are provided to man by the nature e.g. forests, rivers, minerals, solar energy, seas etc. The important among man made resources are machinery, means of transportation, artificial fertilizers, human resources etc. Resources may be classified as physical or non-physical in nature. Human intelligence, knowledge and efficiency is termed as 'Human Resource'.

Resource is a changing concept which may expand or contract with the development of knowledge and technology. As coal or petroleum for the primitive man and aluminium before the invention of aeroplanes for the modern man had a little or no meaning. Therefore, we can say that the real development of the resources lies in its efficient utilization. The development of all the resources is dependent upon the development of the 'Human Resource'.

Resources – Types

Natural or man-made resources are of various types. On the bases of life, existence, availability, level of development of utilization these resources can be divided into the following types :

1. Biotic and Abiotic Resources
2. Developed and Potential Resources
3. Exhaustible and Inexhausible Resources
4. Soil and Land Resources
5. Marine and Mineral Resources
6. Human Resources

1. Biotic and Abiotic Resources

Biotic resources are those basic resources which originate from the living things. Approximately 85% of the world's total food depend upon these biotic resources. Plants and other living creatures are included in these types of resources. These resources provide raw material for our industries. Coal and petroleum are also included in the category of biotic resources as they are produced from the plants and animals.

The non-living products like minerals, water etc., which are provided by the nature are called 'Abiotic Resources' The minerals are the base of our industry. If we do not use the minerals with care, these will exhaust very soon.

2. Developed and Potential Resources

Normally the richness of the country can be judged from the resources it possesses. These resources may be available below or above the earth. For example the gold, silver, coal and petroleum lie inside the earth whereas water, forests, solar energy etc, lie over the earth. The resources which are used for some economic gain are terms as 'Developed resources'. On the other hand, the resources which are available but are not being used or can be used in the future as called 'Potential Resources'. The rivers descending the mountains can be used to produce electricity and are included in the category of potential resources. When the water of these rivers is used to produce electricity then this water is known as a developed resources. The coal lying underneath the earth is a potential resource where as the coal which is being used is considered as a developed resource.

3. Exhaustible and Inexhaustible Resources

The resources which are being depleted very fast because of their continuous and excess use are called exhaustible resources, as petroleum products are being used very fast. The time is not very far when there will be shortage or non-existence of these resources. Therefore the exhaustible resources should be used wisely and carefully.

Inexhaustible Resources the resources which get renewed as we use them. For example: We are using solar energy, wind energy, water and forests but these resources do not get depleted rather these get renewed. These type of resources are being made available continuously.

4. Soil and Land Resources

Soil is the small and uppermost layer of the earth which is formed by breaking of parent rock, due to effect of climate and decomposition of plants and animals. Soil is very important resource for man. it plays an important role in the growth of plants and crops. These plants and crops are very significant for the human beings. Without plants life, the life of human beings is almost impossible. The soils are of different types like sandy soil, clayey soil, loamy soil, alluvial soil, mountaineous soil, red soil, black soil

etc. Man gives preference to fertile soil for growing crops. The areas with fertile soil are densely populated and are full of economic activities.

Land means the earth surface where economic or other activities are carried out. Man had been using the land resource for a very long time. The land resource is being used for the purpose of agriculture, industry, to develop means of transport, sports, tourism etc. Man uses the land, keeping in view its relief, slope, type of soil, drainage and his requirements.

5. Marine and Mineral Resources

Marine resources : Water is a basic and very important resource for man. Approximately 71% part of the earth is covered by water. Big water bodies found on Earth are called 'seas'. These water bodies provide many biotic, mineral and energy resources. It is believed that the life on the earth started from the seas and oceans. Approximately 75% of the total land creatures originated from the water bodies. We get fish, pearls, shells, diamonds etc from the seas in large quantities. At some places we get petroleum substances from the sea coasts. The fish provide food to the large part of the world's population.

Mineral Resources : Mineral resources are the substances which are taken from the earth. Basically these are of two types Metallic and non-metallic minerals. Metallic minerals include iron, copper, silver, gold, aluminium etc.

Petroleum, coal, mica, manganese etc are some of the non-metallic minerals. The minerals are taken out of different types of rocks. The minerals which we get from the rocks can not be used directly rather they are being refined before their use. The minerals are the bases for our industries therefore much significance is attached to them.

6. Human Resources

Man has been awarded the best status of all the creatures produced by the nature. With his intelligence and ability to work, man himself is the biggest resource. Man's capability plays an important role in the use of all other resources. The development of human resource is reflected from the development of any area. Japan is a very good example where, inspite of the deficiency or non-existence of resources, the country has progressed to a great extent. The development of all other resources is incomplete till the human resource is fully developed. Man's qualities, capacity, educational and technical qualification etc. play an important role in the development of the resources. All the countries of world are engaged in the proper development of their human resources so that they are able to develop the other resources.

Conservation of Resources :

Resources are the gifts of nature to man. Man uses these resources for his development. In the race of development and to complete with other countries of the world he is exhausting the resources continuously and unwisely. He is unaware and

relunctant of the fact that there are some resources, the reserves of which are limited, if exhausted once, will not be produced again. The resources like coal and petroleum which are non-renewable in nature if finished once, will not be produced again. Therefore there is need to conserve these types of resources.

Resources and their conservation are very closely related. From conservation, we mean the use of resources without its wastage and destruction. In other words these resources should be used for the proper development and for a long span of time so that the coming generations also enjoy the benefits of these resources. The optimal use of resources is their conservation in real sense.

Conservation is essential for all the resources but for the exhaustible resources like minerals it becomes very important. According to a survey, if fossil fuels like coal and petroleum are exhausted at the current rate then about 80% of the fossil fuels will be finished in one century. We should also conserve other resources like soil, water, forests etc. The resources should be used carefully so that the resources do not get wasted. The resources which can be used again, should be recycled. Rules should be framed regarding the utilization of these resources. The level of knowledge, education and technology of the persons using the resources should be upgraded. The awareness regarding the conservation of resources should be conveyed among the people utilising it.

POINTS TO REMEMBER

Resources	:	Fulfil man's requirements.
	:	Required for development
Definition	:	Natural or man-made meaningful substances which fulfil human needs.
Types	:	Biotic and Abiotic
		Developed and Potential
		Exhaustible and Inexhaustible
		Soil and Land
		Marine and Mineral
Conservation	:	The resources are very essential for the development.
	:	Some resources are exhaustible in nature.
	:	These should be used properly and for the long time. These should not be wasted or destroyed.
	:	There should be recycling of the substances which can be re-used.
	:	Laws should be made regarding the use of the resources.
	:	Knowledge, education and technological level of the people should be uplifted.

I. Answer the following questions in 1-15 words :

1. What do you understand by the term 'resources' ?
2. Which are the natural resources and who provides us ?
3. List all the types of resources.
4. Define 'Soil'.
5. What do we get from the Seas ?
6. How can you conserve the resources properly ?

II. Answer the following questions in 50-60 words.

1. Differentiate between biotic and abiotic resources.
2. Write a short note on the importance of land and soil resources.
3. From where do we get the minerals and where are they used ?
4. Explain the developed and the potential resources with examples.
5. Why should we use the exhaustible resources wisely and with hesitation ?
6. What is the contribution of human resources to the developoment of other resources ?

III. Answer the following question in about 125-130 words :

1. What do you understand by the 'Resources' ? Name the types and explain their importance and methods of conservation.

IV. Activity :

Make a list of hydro-electricitly producing dams related to Punjab. Note down names of rivers on which these dams are situated and names of districts in which these dams are constructed.

'Natural Resources' are the gifts of nature like land, water, soil, vegetation and minerals. These resources are called as 'Spinal chord' of the economy of any nation. These are considered as the base of strength and prosperity of a nation. Here in this chapter we will study the natural resources under the following titles :-

I. Land
II. Soil
III. Water
IV. Natural Vegetation
V. Wildlife
VI. Mineral and Energy Resources

I. Land Resources

Man had been using land for his needs since its inception. The use of land has a special place in the life of man. He lives as well as carries on his other activities on this land. Man depends on land for the fulfilment of his different needs. He uses the land for his economic and cultural activities.

Approximately 29% part of the earth is land and the remaining 71% is water. This 29% part of the earth i.e. land is further divided into land forms like mountains, plateaus, plains etc. Man's economic activities differ with the different landforms. The mountainous regions of the world are not much suitable for human settlement. On the other hand very dense population is found in the plains because almost all the requirements of human habilitation are found easily available over here.

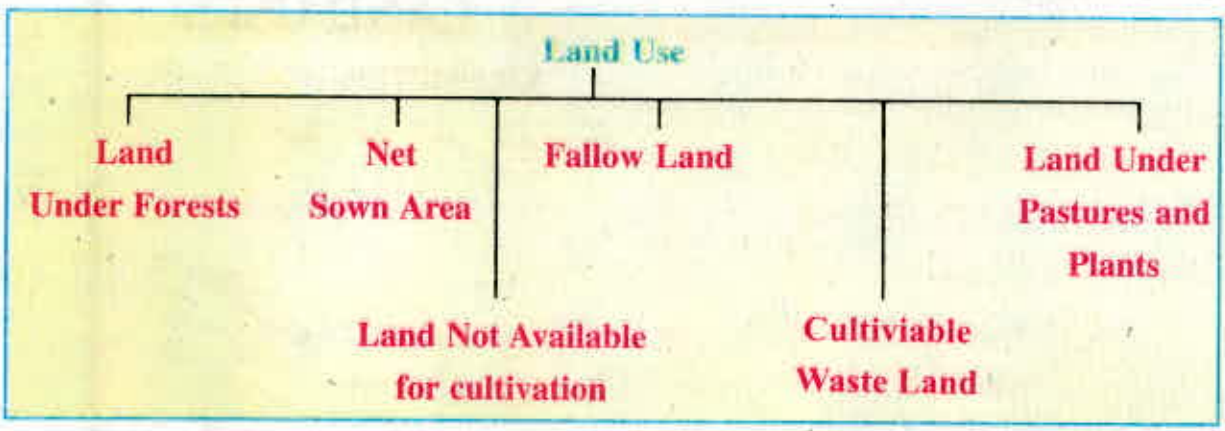
India is a large country. Its bigger size itself is an important resource. Its area is 32, 87, 782 square kilometer. About 30% of the area of India comes under mountains. These mountains are also known as store houses of the resources. These are also significant as far as from the beauty point of view, of the country is concerned. The plateaus cover approximately 27% of the total area of the country. We also get various types of minerals from these plateaus. These are also used for agricultural purposes.

The plains are known for agriculture and dense population. Of the total land area

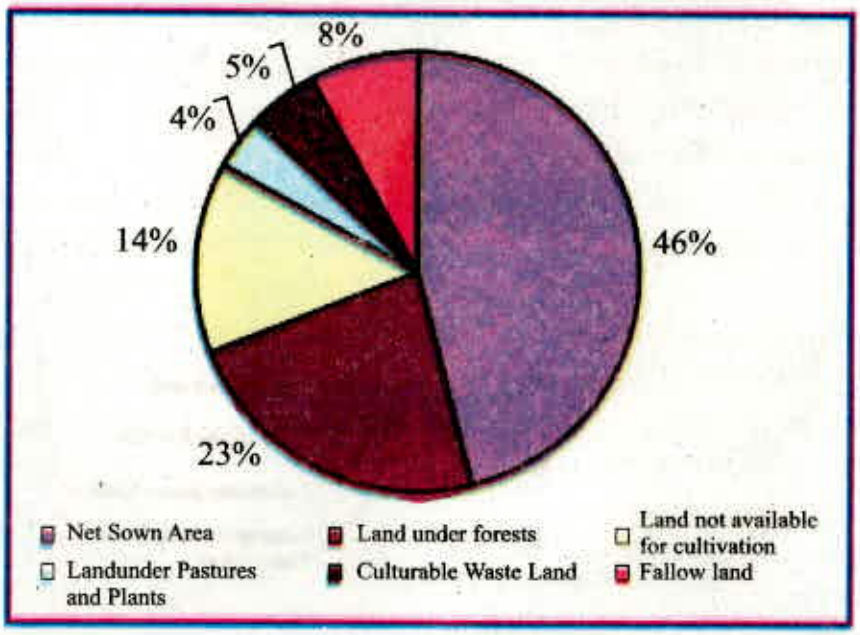
of the country, 43% area is covered by plains. These plains fulfil man's many needs. From the point of view of agriculture and vegetation the plain area is considered very valuable. Though the agriculture is affected by many other factors yet 'land' plays a fundamental and important role.

Land-Use

The land is being used in different ways. The use of land in India can be classified as given below :-

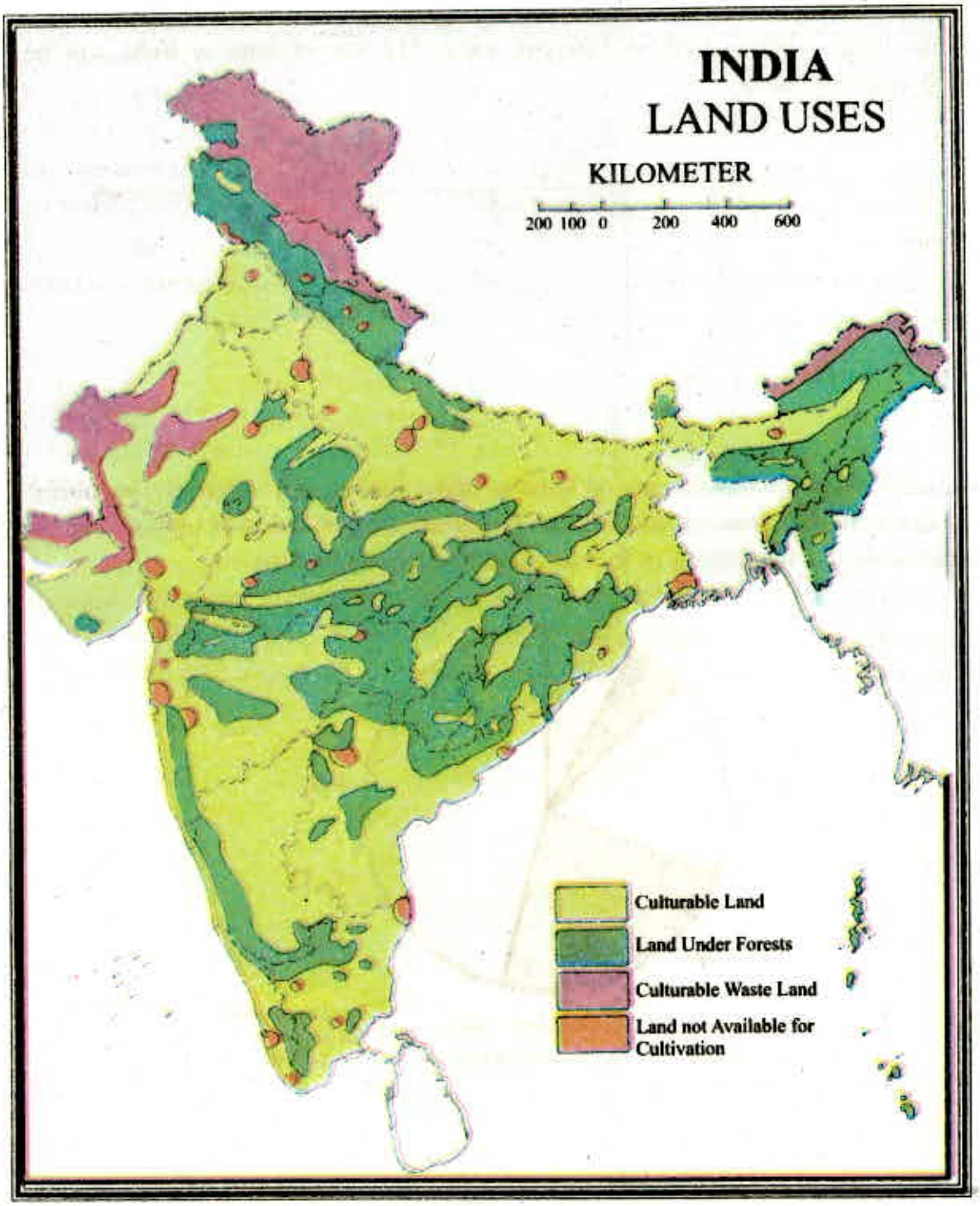


22.2% of the total land area of India is under forests. For a densely populated country like India this area should be 33%. Therefore, the plantation of trees should be on a large scale and the cutting of forests should be strictly banned.



Percentage land use in India

About 46% of the total area is net sown area, this is the area on which crops are grown. It is the base of our agriculture, Land not available for cultivation is not used for agricultural purposes. This type of land is covered by settlements like cities, villages,


INDIA
LAND USES
KILOMETER
200 100 0 200 400 600
Culturable Land
Land Under Forests
Culturable Waste Land
Land not Available for Cultivation

roads, railways, rivers, lakes, canals etc. This category constitutes 14% of the total land area and includes barren land also.

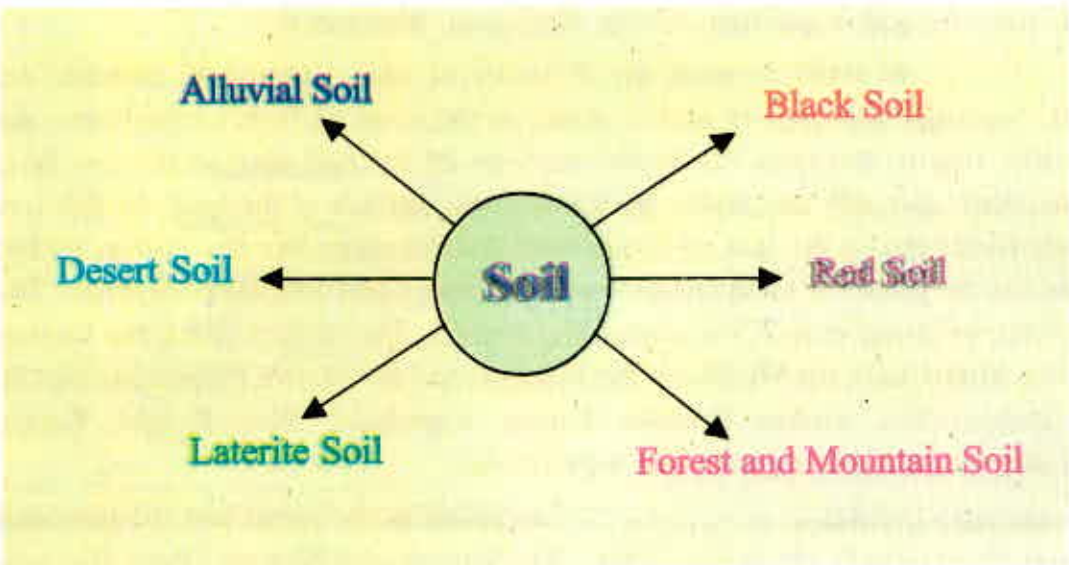
Fallow land constitutes 8% of the total land area of the country. This land is used for agriculture but is left without agriculture for 1 to 5 years. This is done, so that the land acquires its lost fertility. Cultiviable waste land is suitable for agriculture but due to some reasons, no agriculture is carried on there. Sometime back agricultured activities were performed but due to reasons like lack of water, excess of salts, soil erosion, water logging or some other reasons the land is not being used for agriculture. 5% of the total land area comes under this category. Plants and pastures cover 4% of the total land area of the country. The pastures are used to graze the cattle. The present area under pastures is very less. In a state like Punjab the trend of grazing the cattle in open pastures has decliend.

Land is very important but a limited resources. This resource can not be increased therefore it becomes very important to use this resource in the best way.

II. Soil Resources

Soil is very important factor for the germination and growth of plants. It is a renewable and abiotic resource which can be made fertile by the use of manures and fertilizers. The soil formation is a continuous process. Many factors affect the formation of the soil. Some of the dominant factors are parent rock, climate, plants and other creatures. Time also plays an important role in the formation of soil.

India basically is an agricultural country where 65-70% population is engaged in this or related occupations. Therefore for such a country, the role of soil becomes more important. The soil of our country differs from area to area. In India the following main soil types are found :



Alluvial soil is found over approximately 45% area of the country. This soil contributes a lot towards the development of our agriculture. Mostly brought and deposited by the rivers, in the plains, it is deposited by sea waves also. Having smaller particles, the soil gets deposited over the land by the retreating water of the floods. The operation thus forms very fertile soil. The alluvial soil is subdivided into two categories i.e. Khadar and Bangar. Khadar is newly deposited soil whereas Bangar is the old alluvial soil. In the northern plains of India mainly alluvial soil is found. These plains are also known as Indo-Gangetic – Brahmaputra plains. These plains have been formed by the Indus, the Ganga, the Brahmaputra rivers and their distributaries which come from the north India. These alluvial plains are very significant from the agricultural aspect.

Black soil is also called as 'regur' or 'cotton soil' because this type of soil is highly suitable for cotton growing. The black soil has been formed from the breaking of igneous rocks and covers about 16.6% part of India. This type of soil is mainly found in the states of Maharasthra, Madhya Pradesh, Karnataka, Andhra Pradesh, Gujarat and Tamilnadu. The black soil can retain humidity for a longer period of time. This is a fertile type of soil. Crops like cotton, wheat, jowar, rapeseed, tobacco, sunflower etc. are grown in this type of soil. Rice and sugarcane can also be grown with the help of irrigation. The black soil is very beneficial for agriculture.

Red soil is found over 10.6% area of the country. This soil has been named because of its red colour. The structure and colour of the soil depends upon its parent rock. This type of soil lacks in elements like magnesium, phosphate, nitrogen, lime and organic matter etc. For growing crops, this type of soil is not fertile but its fertility can be improved with the use of fertilizers and irrigation facilities and wheat, cotton, pulses, potatoes, fruits etc can be grown. This type of soil is found in the states like Tamilnadu, South east Maharasthra, Karnataka, Andhra Pradesh, Madhya Pradesh, Bihar, Orissa, Jharkhand, West Bengal, Rajasthan, Assam, Nagaland, Manipur etc.

Leterite soil 90-100% is made up of oxides of iron, aluminium, titanium and manganese. Normally this type of soil is found in the areas of high temperatures and heavy rainfall. Due to the rains the fertile nutrients of the soil seep in the low lying layers of the earth and only the oxides are left over the surface of the land. As this type of soil is not fertile due to the lack of fertile nutrients but crops like tea, coffee, rubber, coconut etc can be grown if compensated with fertilisers and irrigation facilities. This type of soil can be found over 7.5% area of the country, The eastern ghats, the western ghats, the Raj Mahal hills, the Vindhyas, the Satpuras and the Malwa Plateau besides the states of Maharasthra, Andhra Pradesh, Orissa, Karnataka, West Bengal, Kerala, Jharkhand and Assam are known for this type of soil.

Forest and mountaineous type of soil is found in the forest and the mountain slopes. These types of soils are rich in humus. The Eastern and Western Ghats also have

this type of soil. This type of soil lacks in Potassium. Phosphorus, and Lime. For growing of crops in these types of soil, fertilizers have to be applied.

Desert soil is found in some areas of Rajasthan, Punjab and Haryana. Some parts of Gujarat also have this type of soil. Desert soil constitutes 4.3% of the total land area of the country. This type of soil has very low capacity of water retention. The water seeps down very soon. Therefore the crops requiring more water cannot be grown in such areas. Oats, bajra, maize, pulses etc. can be grown in this type of soil. The patches of Rajasthan which have been receiving water from Punjab canals have started producing good crops.

Except the above mentioned types of soils many other types of soils like marshy soils, saline and alkaline soils, terai soils etc. are also found. As these types of soils cover very less percentage of land area therefore become negligible and are not of much importance. These soils are limited only to some parts of India.

Problems of Soil Resource

Without a resource like soil the life of man is incomplete. Whatever man eats depends on soil. for agriculture the soil should be fertile but its fertility does not remain forever. The reason for this is that the soil has to face problems, some of which are mentioned below :

(I) Soil erosion

(II) Reduction in the fertility

(III) Sandy conditioning

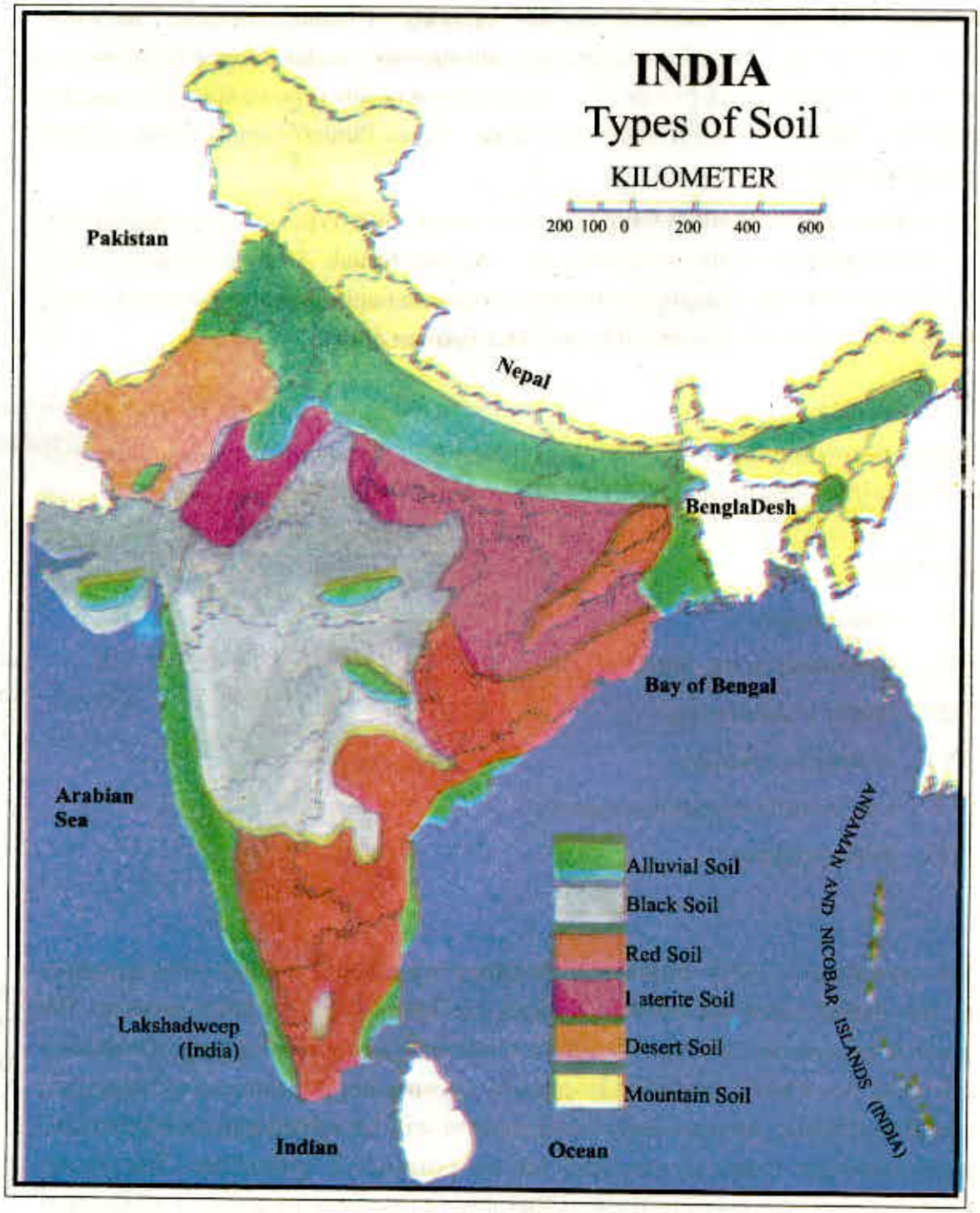
(IV) Acidity or alkanity

(V) Use of soil beyond its capacity.

(VI) Water logging

Conservation of Soil :

This resource is very important therefore we should protect this precious resource. We should solve the problems which are being faced by this resource. We should control soil erosion. The soil should be protected from water logging by draining the excess water out. Floods should be stopped by constructing the dams over the rivers. If we control the floods, the problem of soil erosion will be solved and also the waste land lying around the rivers can be used for the purpose of agriculture. The wrong agricultural practices also weaken the soil therefore it becomes necessary to use good methods of agriculture. The fertility of the soil can be maintained and used for a longer time if this resource is used wisely and carefully.


INDIA
Types of Soil
KILOMETER
200 100 0 200 400 600
Pakistan
Nepal
BenglaDesh
Bay of Bengal
Arabian Sea
Lakshadweep (India)
Indian Ocean
ANDAMAN AND NICOBAR ISLANDS (INDIA)
Alluvial Soil
Black Soil
Red Soil
Laterite Soil
Desert Soil
Mountain Soil

III. Water Resources :

Water is very valuable and important resource. If there is life on the earth, it is only because of the existence of water. There is no other alternative to water resource. Water fulfils numerous human requirements. It is used for drinking, bathing, washing, agriculture, Industry and many other purposes, 71% area of the earth is constituted of water only. The earth is also known as the 'water planet'.

Distribution of water over the Earth :

Oceans, seas and salty lakes	—	97.20%
Ice Caps and glaciers	—	2.15%
Lakes, rivers and streams	—	0.0085%
Water in the biosphere and atmosphere	—	0.0015%
Underground Water	—	0.64%

Use of water in the world

Water is used by man for various activities. About 93.37% of the total used water goes towards agriculture. For the drinking purposes i.e. water supply to the villages, towns and cities is around 3.73%, for industry and electricity generation, 1.26% of the 56% water is used. About 1.08% water is utilized for rearing of cattle. About 0.5% water is used for other activities.

Sources of water for man

The whole of the water which is available on the earth is not being used by man. He is using only some limited and fresh water resources. These usable water sources are given as under :-

(I) Rainfall
(II) Rivers and streams
(III) Canals
(IV) Tanks
(V) Underground water

Rainfall is an important source of water supply but it is highly variable. Some places get heavy rainfall, Where as others get very low. The annual average rainfall in India is 118 cm. Though the whole of rainfall water is not used by the man yet it Percolates beneath the earth and contributes to the underground water. The level of the underground water goes deep and becomes saltish in nature in the areas receiving low rainfall.

The rivers and streams have contributed a lot towards the human development since the beginning of the civilization. Man had started living around these rivers and streams.

These rivers can be divided into two categories, the perennial rivers which come from the melting of snow, and the seasonal rivers which depend on rainy water.

At various places dams have been constructed and canals have been dug. The water of these canals is being used for irrigation and other human activities. With the digging of these canals the agriculture has undergone a big change.

Tanks are found mostly in the areas lacking in perennial rivers. The level of the underground water is either too deep or not fit for use. Rain water is collected in the tanks in these areas and is used when needed. In Southern India the tanks are main source of water for the people.

Conservation of water

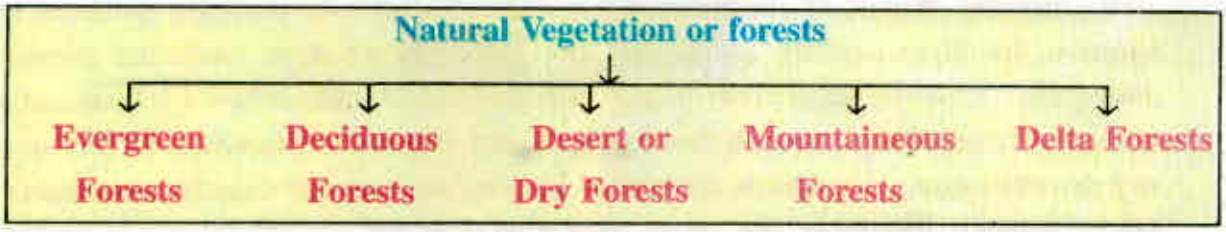
As water has a great significance in human life therefore its conservation becomes very important. The most important view is that water should not be used more than its requirement. Irrigation should be done as and when required. New methods like sprinklers should be used for irrigation. The rain water can be stored in the dams which can be used afterwards at the time when needed. There can be rainwater harvesting also. It will recharge the underground water and raise its level. There can be recycling of water too. The sewerage water can also be used for irrigation after its treatment. In the end we can say that the water should be used in such a way, it should not cause scarcity of water among plants and animals on the earth.

IV. Natural Vegetation Resources

Natural vegetation is a gift of nature which is categorized as a renewable resource. Natural Vegetation depends on climate, soil and some other factors. The climate is very important of all the factors. The climate is mainly combination of humidity and temperature. The vegetation grows and develops because of temperature and humidity. For example in the areas of high temperature and heavey rainfall dense equatorial forests are found. Different types of vegetation is found in different parts of the world. The type of vegetation mainly depends on the climate, soil type and altitude of that place from the sea level.

The natural vegetation also called as forests which fulfils numerous human needs. The wood which we get from the forests is used as fuel wood as well as in large industry. We get many types of fruits, medicines and other products from the forests or natural vegetation.

Due to the variation in temperature and rainfall in different parts of India, different types of natural vegetation is found. The natural vegetation or forests of India can be divided into following types :



Evergreen forests remain green throughout the year These plants do not shed their leaves completely in any season or weather. This type of vegetation is found in the areas of heavy rainfall. This type of forests are found on western Ghats in South India, north east parts of West Bengal and Assam and lower slopes of the Himalyas. This type of forests are also found in some parts of Karnataka where rainfall is received from the retreating monsoons. Trees like teak and rosewood on the Himalayan slopes and ebony, neem and tamarind in Karnataka are found.

Decidious forest trees shed their leaves in one season. The leaves appear again in spring season. More of deciduous type of vegetation is found in South India. These forests are very important as far as availability of wood is concerned. We get wood of sal, teak, bambook, shisham and Khair trees from these forests.

Desert Vegetation is found in the area with low rainfall. Due to the lack of rainfall very sparse type of vegetation is found. This type of vegetation is available in Rajasthan, Gujarat and some parts of Haryana. Accacia, date, cactus and thorny bushes are dominant plants of desert type of vegetation. This type of vegetation is not significant because it does not produce good quality wood.

Mountaineous vegetation grows over the slopes of the mountains. The Himalayan slopes from Kashmir to Assam are covered with different types of trees and plants. The wood from these trees is highly useful and therefore of great importance. Various types of trees like pine, fir, deodar, oak, chestnut, maple, poplar etc. are available in this type of vegetation. This is costly and good quality of wood. This type of wood is used in buildings, rail coaches, match box industry and making good quality furniture. We get many types of fruits like apple, almond, plum, chestnut from mountaineous trees.

Delta type of vegetation is found near the sea coasts. The rivers make deltas before enter the sea. The vegetation grown in these deltas is known as delta type of vegetation. This type of vegetation is available in the deltaic parts of Ganga-Brahmputra or some rivers of South India. Sundry, neema or palm etc. are the dominant trees over here. The use of sundry wood is very significant. Ganga-Brahmputra delta is also known as 'Sunderbans Delta' because of the presence of sundry trees in large number.

Natural vegetation fulfils man's numerous needs. It provides different uses, furniture for paper making, adhesives, lubricants, rubber, dyes, medicinal plants and shrubs and various types of fruits. It also provided natural habitat to many birds and wild animals. It contributes towards flood control and checks the expansion of soil erosion and desertification. Vegetation also helps in bringing rain and therefore maintains the natural balance. Therefore, the forests should be protected and efforts should be done to increase the area under forests.

V. Wildlife Resources

The creatures living in the forests are called wild life resources. The forests are considered their natural habitat. These creatures are birds, insects and animals. In the big grasslands and forests of the world a large number of creatures are found. In India more than 80,000 species of animals are found. The animals found mainly include elephant, lion, leopard, tiger, bear, yak, rhinoceros, deer, monkey, ape, jackal, fox etc. Except these, squirrel, mongoose, tortoise and many kinds of snakes are also found. Many species of birds come in large numbers to India from the cold regions like Siberia, China etc. during winters. These birds are known as 'migratory birds. Many types of birds and fishes are also found in India.

Protection and Conservation of Wildlife : Man had been hunting the birds and animals since beginning. Perhaps it was necessary for the primitive man to kill these birds and animals for his food but present day man has a lot of other products to eat. Therefore, to kill the birds and animals does not bring a good name to man now.

Many species of animals have become extinct till now and many others are at the verge of extinction. Therefore, we should hesitate to kill the animals and contribute towards their protection. Our government is also taking many steps in this direction. For this purpose Indian Board for wildlife was established in the year 1952. Besides this, the programmes like 'project Tiger 1973' and Project Elephant 1992 were being run to protect the wild animals. In the year 1972 and 2002 government passed the Acts for the protection of the wildlife. Many National Parks and wildlife sancturies have been established to protect the wildlife. At present there are 89 national parks and 490 wild life sanctuaries. At our level we should also stop the hunting of birds and the animals. The forests which act as the natural habitat for the wildlife should not be cut. Our government should implement the laws strictly which have been made for the protection of wildlife.

Conservation of Natural Resources : Man should use the available natural resources very carefully. No resource should be wasted. While using the resources for ourselves, we should also keep into mind the needs of the coming generations. The real conservation of resources lies in its needful and optimal use.

POINTS TO REMEMBER

Natural Resources : Natural Products or treasures are called 'Natural Resources'.

As – Land, Soil, Water, Natural Vegetation, Wildlife, Mineral and power Resources

Land Resource : It is very significant for agriculture and other human activities.

Use of Land in India :

- Land under forests
- Net sown area
- Land not available for cultivation
- Fallow land
- Culturable waste land
- land under pastures and plants.

Soil Resource : It is essential resource to grow plants and crops.

Types of Soil

- Alluvial soil
- Black soil
- Red soil
- Desert soil
- Laterite soil
- Forest and Mountain soil.

Solution of the problems being faced by the soils and its conservation is very important

Water Resources : It is very precious resource.

Consumption of water in the world.

Sources of water for man – Rainfall, Rivers, canals, ponds and underground water & Conservation of water resources-

Natural Vegetation : It depends upon the climate, type of soil and height of a place from the sea level.

Types : Evergreen, Deciduous, Desert, Mountainous & Deltaic Importance and its Conservation

Wildlife : Names of birds and animals.

Efforts of the Govt. to save (protect) the wild life.

I. Answer the following questions in 1-15 words.

1. Into which relief features the land can be divided ?
2. What is the importance of plains ?
3. What are the factors affect in the formation of soil ?
4. How many types of soil is found in India ? Write the names of the types.
5. What type of crops can be grown on black soil ?
6. Write the names of main sources of water.
7. What is given by the natural vegetation to man ?
8. Name the types of forest found in India.
9. What are migratory birds and where do they come from ?

II. Answer the following questions in 50-60 words :

1. Write about the land use in India ?
2. After mentioning the types of soil, write the importance of alluvial soil.
3. How is the soil resource being conserved ?
4. Give the importance of rivers and canals.
5. How the water can be conserved ?
6. Write a note on the decidious forests.
7. What steps have been taken by the govenrment of India for the protection and conservation of wildlife ?
8. Describe problems related to soil resource.

III. Answer the following questions in about 125-130 words :

1. What are natural resources ? Write down the types and importance of soil and natural vegetation.
2. How the water and wild life can be conserved ? Express your views.

IV. Show the following in the map of India :

1. Northern plains of India.

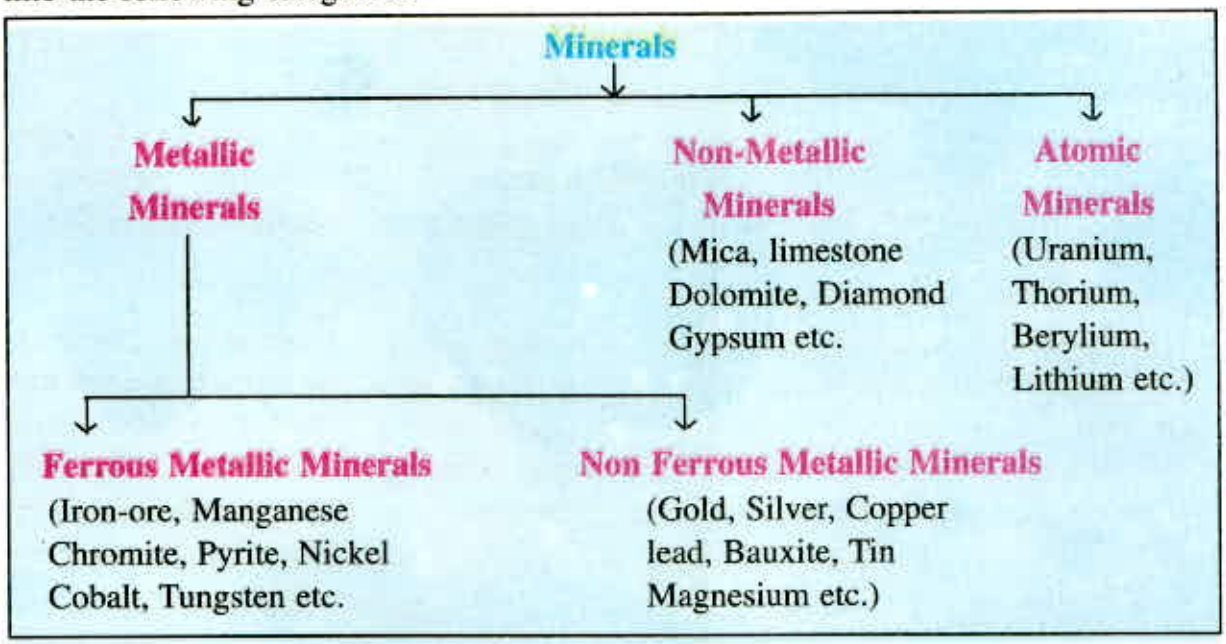
2. Ganga & Brahmaputra Rivers.
3. Region of alluvial soil.
4. A state with black soil.
5. An area of evergreen forests.
6. One region each with mountainous and delta type of vegetation.
7. An area where tanks are found.

V. Activity :

Show six types of soil on a political map of India, give various colours to show different types in different states.

Both mineral and energy resources are very significant as far as for the development of a country is concerned. The countries which possess more reserves of these resources are deemed to be in the category of rich countries.

Minerals are those natural products which are made up of one or more elements and are dug out from the earth. These minerals have specific chemicals composition. These are known for their physical and chemical properties. The minerals can be divided into the following categories.



Some important minerals have been discussed below :

Iron-Ore :

Five percent of the Earth's crust is composed of iron-ore and it is highly usable. This metal is used to make many products. It is not found in pure from in the earth but it has many impurities. The impurities are removed in the industries and pure iron is made. The four types of Iron-ore is found in the earth's crust, the

(i) Magnetite
(ii) Haematite
(iii) Limonite
(iv) Siderite

Russia and its neighbouring countries, Australia, Brazil and United States of America possess large reserves of iron-ore. India produces 5.5% of the total word iron-ore productions.

India has almost all types of iron-ore but haematite type is mainly found. Bihar, Orissa, Madhya Pradesh, Goa, Andhra Pradesh, Chhattisgarh, Jharkhand and Tamilnadu are the iron-ore producing states of India. Singhbhum in Bihar, Mayurbhanj in Orissa, Durg & Bastar in Chhattisgarh, Mysore, Belari & Dharwar in Karnatka are the areas known for production of good quality iron-ore.

Manganese

Manganese is used in the production of iron and steel products. It is highly used in the production of ferro-alloys. Approximately 6 kilograms of manganese is used for manufacturing one tonne of steel. It is also used in the manufacturing of bleaching powder, insecticides, paints, batteries etc. India stands second to Zimbabwe in the reserves of manganese but in production it occupies the fifth place.

Manganese is found mainly in the states of Karnataka, Orissa, Madhya Pradesh, Maharashtra and Goa. Manganese in small quantities is also found in the states of Andhra Pradesh, Jharkhand, Gujarat, Rajasthan and West Bengal.

Manganese is found in Sundergarh, Kalahandi, Koraput, Bolangir and Sambalpur districts of Orissa. Nagpur, Bhandora and Patnagiri in Maharashtra, Balaghat and Chhindwara in Madhya Pradesh are the famous districts in Manganese production.

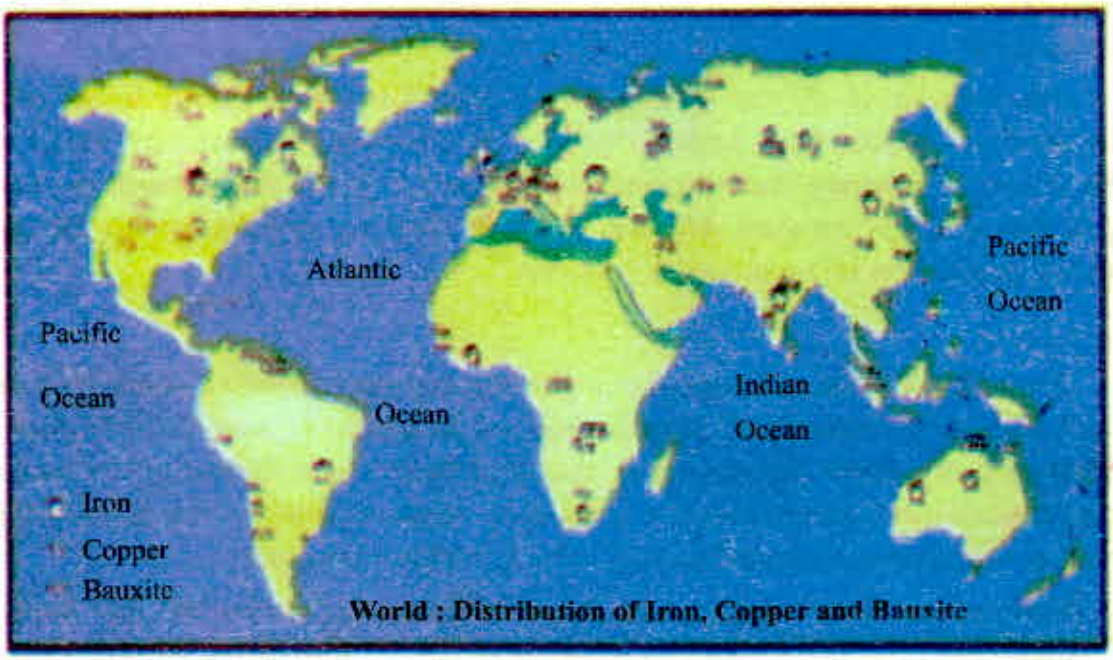
Copper

Copper is a soft and brown coloured metal which is found in the igneous and metamorphic rocks. It is being used by man for a very long time. Copper is a soft metal but when it is mixed with tin it is known as bronze which is a hard and solid substance. This bronze is used for making tools and weapons. The copper is used in the production of utensils, coins, electric wires and other electrical equipments on a very large scale. Being a soft and good quality metal, the copper can be turned into very thin sheets.

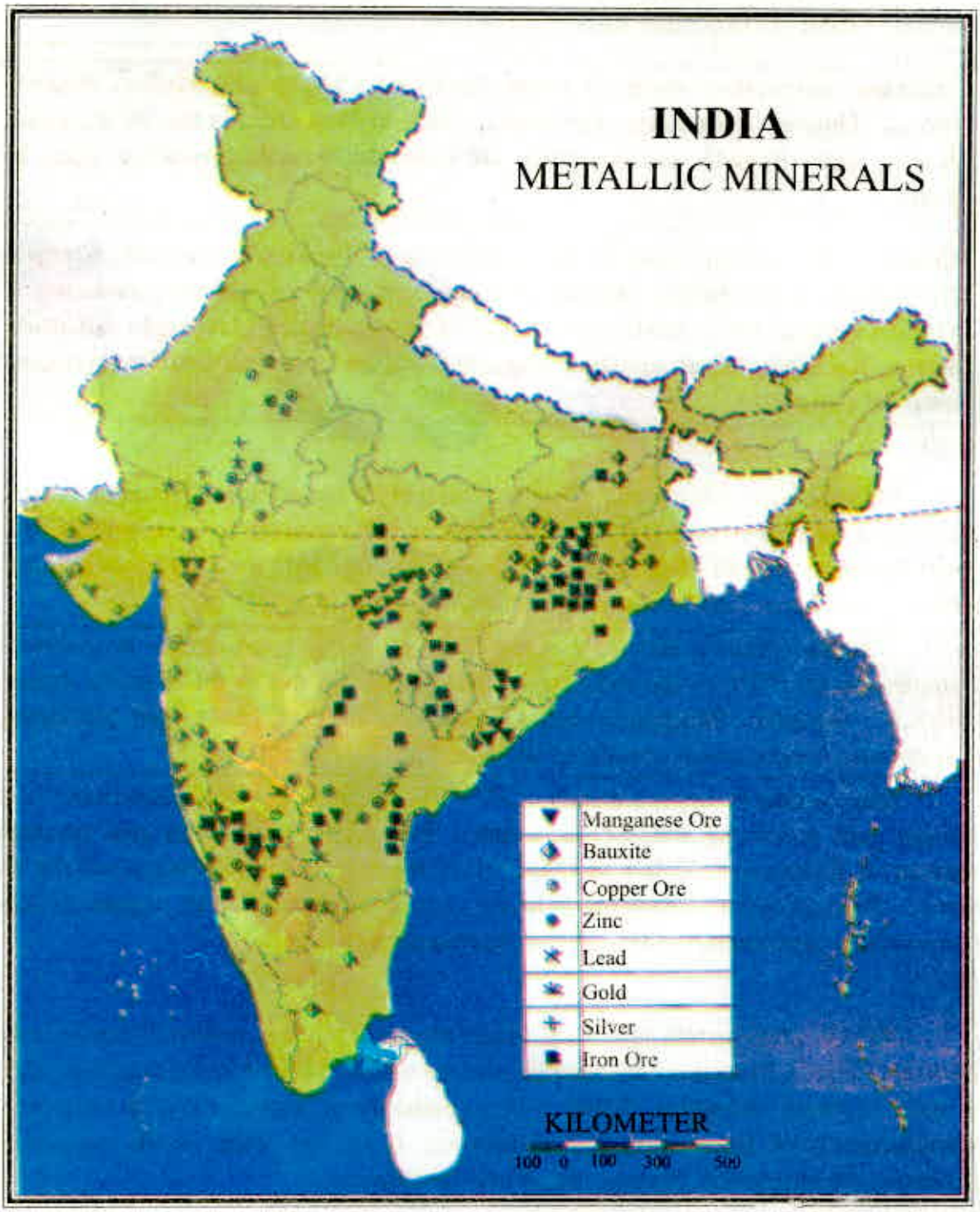
United states of America, Russia, Chile, Zambia, Canada and Zaire are the important copper producing countries of the world. India lags behind in the production of copper. The reserves of copper are found in Singbhum (Jharkhand), Balaghat (Madhya Pradesh), Jhunjhunu and Alwar (Rajasthan) districts of India. Copper is also found in some quantities in the states of Gujarat, Karnataka, Andhra Pradesh, Uttar Pradesh, Sikkim, Meghalaya, Maharashtra and West Bengal.

Bauxite

Bauxite is an important ore from which aluminium is made. This is a clay type metal which contains aluminium oxide. It is white or pink in colour. The methods of extracting aluminium from bauxite was unknown till 1886. Therefore, its use was not



World distribution of gold and diamond production


INDIA
METALLIC MINERALS
Manganese Ore
Bauxite
Copper Ore
Zinc
Lead
Gold
Silver
Iron Ore
KILOMETER
100 0 100 300 500

possible but today aluminium is being used in many industries on a large scale. From the utility point of it has left behind the metals like tin and copper. It is used mainly in the manufacturing of utensils, electric wires, automobiles, railways, ships, aeroplanes etc.

Australia, Jamaica, Ginnia, Surinam, Russia, Hungary, United States of America among others are important bauxite producing countries.

India does not produce much of bauxite, Jharkhand, Chhattisgarh, Madhya Pradesh, Orissa, Gujarat, Karnataka, Tamilnadu, Andhra Pradesh, Jammu & Kashmir, Kerala, Uttar Pradesh and Rajasthan are important bauxite producing states of India.

Orissa is the leading state in the production of bauxite. Kalahandi, Koraput, Sundergarh & Sambalpur districts are important areas of bauxite production in Orissa. Gujarat state stands next to Orissa in production. Jamnagar, Juhagarh, Khera, Kachchh, Amreli and Bhavnagar districts are important bauxite producing areas of Gujarat.

Gold

Man has been using gold for a very long time. It is very attractive metal due to its colour and brightness. Jewellery and other ornaments are made from this metal. It is a costly metal because of its production and more demand. It is used for beautification of teeth, as gold leaves and in some medicines.

South Africa is the leading producer of gold in the world. It produces approximately 70% of the total production of gold in the world. Canada, Japan, U.S.A., Australia, Philippines and Ghana are other important gold producing countries. Almost every country of the world produces gold.

India produces approximately 0.75% of the total of world. Karnataka is the leading gold producing state of the country. Two of the three main gold producing regions i.e. Kolar (distt. Kolar) and Hatti (distt. Raichur) are in Karnataka and the third one i.e. Ramgiri (distt. Anantpur) is in the state of Andhra Pradesh. Inspite of these, some gold is also found in the states of Jharkhand and Kerala.

Mica

Mica is a transparent substance, black, brown or white in colour. It can be broken into small layers. Mica is a non-metallic mineral which is found in the igneous rocks. It is used in many industries. Being a bad conductor of electricity it is used in the manufacturing of many electrical appliances. It is also used in the condencers, insulators, electric irons, heaters, radios and televisions.

U.S.A., Russia, India, France, Argentina and South Korea are the major mica producing countries.


INDIA
NON-METALLIC MINERALS
MICA
ASBESTOS
GYPSUM
LIMESTONE
DOLOMITE
DIAMOND
ATOMIC MINERALS
SALT
KILOMETER
100 0 100 300 500

India has been a leader in its production but now its production is reducing. The main reasons for decline in production include less demand from other countries and its substitution with other plastic products.

95% of mica in India is obtained from the states namely Andhra Pradesh, Rajasthan, Jharkhand. Bihar, Gujarat, Kerala, Madhya Pradesh, Chhattisgarh, Himachal Pradesh etc. are other mica producing states. Nellore, Vishakhapatnam, Krishna (Andhra Pradesh) Jaipur, Udaipur, Bhilwara (Rajasthan), Gaya (Bihar), Hazaribagh (Jharkhand) are the major mica producing districts of the country.

Atomic Minerals

Uranium, Thorium, Berylium, Lithium and Zirconium etc. are included in the category of atomic minerals. The energy which is produced from these minerals is known as atomic energy. For production of atomic energy, the availability of these minerals and technical know how are must. Atomic energy centres have been established in the countries like U.S.A., Russia, Japan, U.K. and India.

U.S.A. is the largest producer of Uranium in the world. The other Uranium producing countries include Canada, South Africa, Zaire, Australia, Germany, Spain etc. Thorium is found in Brazil, Australia, Malaysia, Sri Lanka and India. The production of atomic minerals in India is given as below.

Uranium – Singhbhum, Hazaribagh (Jharkhand), Gaya (Bihar), Saharanpur (Uttar Pradesh), Udaipur (Rajasthan).

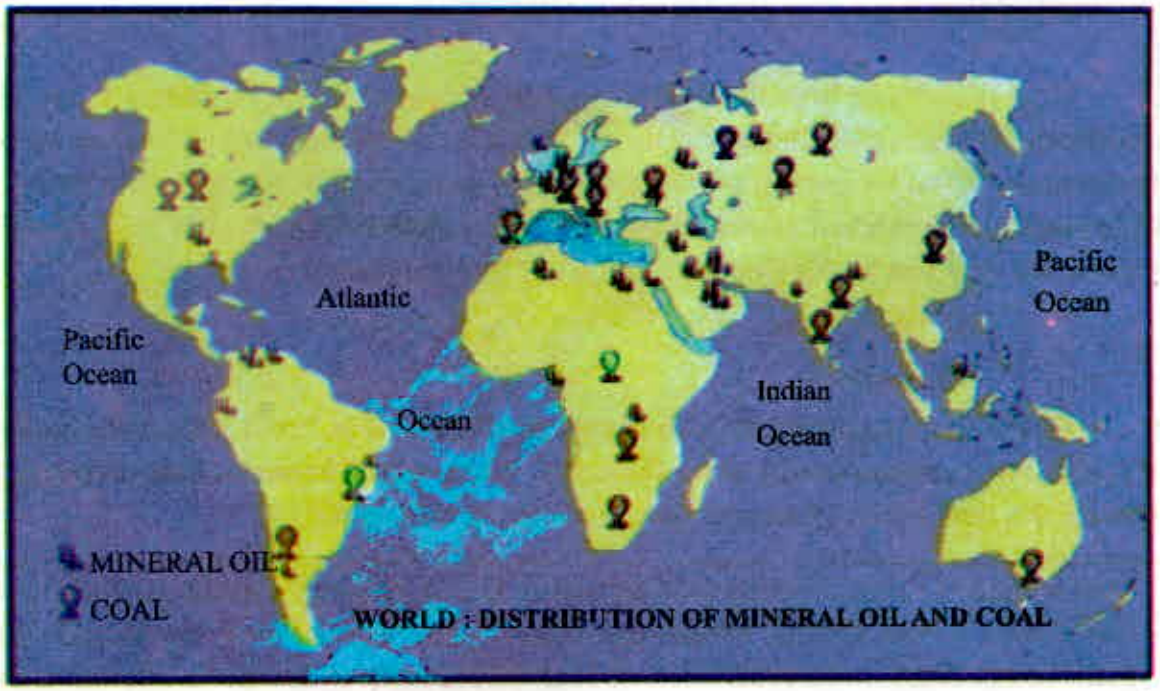
Thorium – States of Kerala, Jharkhand, Bihar, Rajasthan and Tamilnadu.

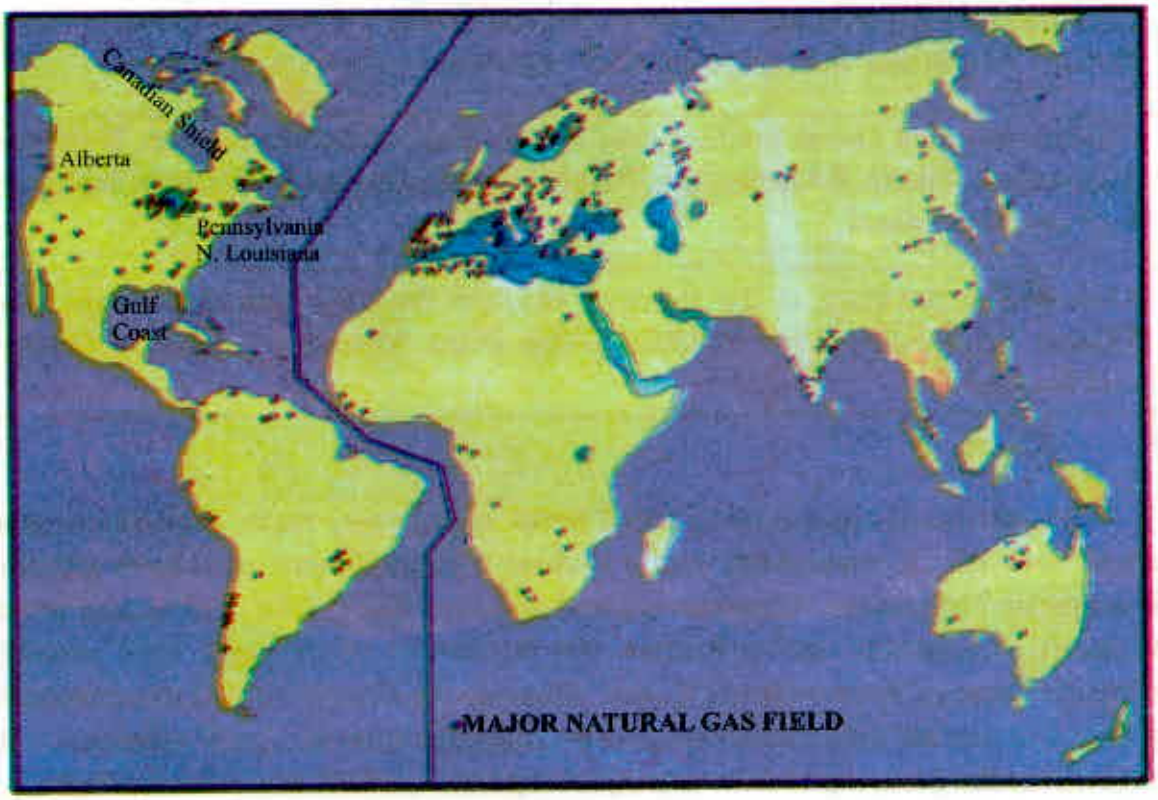
Lithium – Jharkhand, Madhya Pradesh, Rajasthan, Chhattisgarh and Kerala states.

These atomic minerals should be used very carefully. These should only be used for the development of the country by generating energy and not for destruction and pollution. It will be a very wise step.

Energy Resources

The resources which provide energy for man's various activities are called energy resources. Man needs energy for domestic stove to the big industries. There are some energy resources which the man has been using for a very long time. These include coal, oil and natural gas. These energy resources are known as '**conventional sources of energy**'. On the other hand the man has started using or is continuously searching for some other resources. These are cheaper, new, renewable and pollution-free sources of energy. These are called, '**non-conventional sources of energy**'. These include solar energy, wind energy, sea-waves energy, tidal energy, cowdung energy, energy from other waste materials, geothermal energy, hydro electricity etc. Now we will study about some conventional as well as non-conventional sources of energy.





World : Distribution of Natural Gas

Coal

Coal is black or brown coloured organic substance in which carbon is the main constituent. It is an inflammable substance. It is used for heating and lighting or for both the purposes. Used for domestic chores, big industries and for running the railways, coal is also used in the thermal plants for the generation of electricity. On the basis of carbon content the coal can be divided into following four categories :-

(i) Anthracite (ii) Bituminus

(iii) Lignite (iv) Peat

Of the four categories of coal, anthracite is the best and peat is the lowest quality of coal. Coal is obtained from the sedimentary rocks under the earth. Earth is being dug to reach the coal mines. It is very risky to work in coal mines.

Coal is found in many countries of the world. U.S.A. ranks first in the production of coal (24%). China, Russia, Poland and U.K. occupy second, third, fourth and fifth place respectively in the production of coal. India produces about 4% of total world coal and occupies the sixth position.

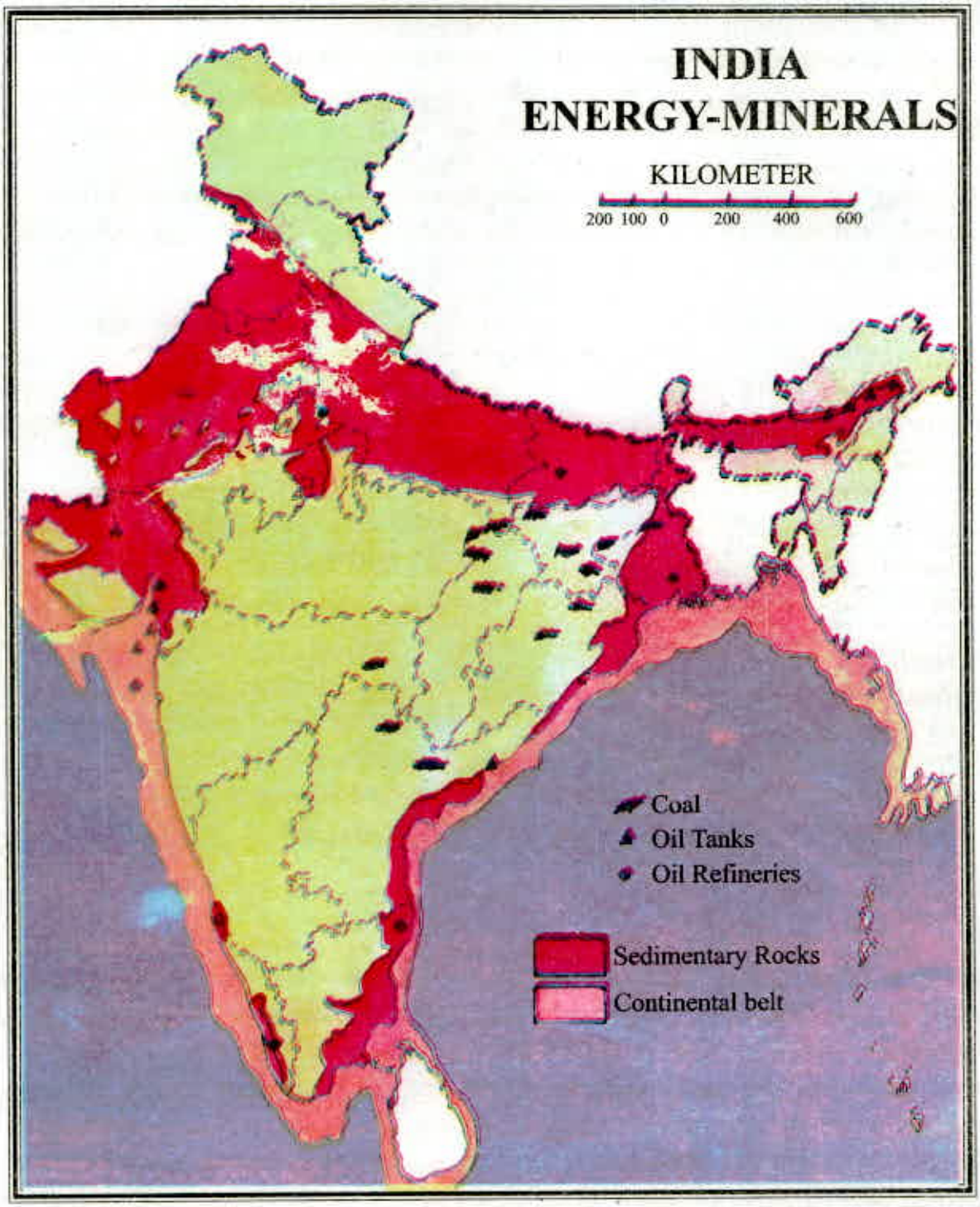
Coal is found in many states of India. Jharkhand leads in production as well as the reserves of coal and produces about 23% coal of the country. Damka, Hazaribagh, Dhanbad and Pallamu are the major coal producing areas of Jharkhand. Jharia, Bokaro, Girdih and Karanpura are other important coal producing regions.

Chhattisgarh and Orissa produce coal in very large quantities. Korba, Birampur, Lakhanpur, Jhilmili (Chhattisgarh), Sambalpur, Sundergarh (Orissa) are important coal producing areas.

Coal is also produced in the states of Madhya Pradesh, Andhra Pradesh, West Bengal, Maharasthra, Uttar Pradesh, Assam, Bihar, Meghalya, Arunachal Pradesh and Nagaland.

Petroleum or Mineral Oil

Petroleum or mineral oil is found in the sedimentary rocks, therefore, it is also called 'rock oil'. In present day world studded with machinery, petroleum substances have special importance. Petroleum is also known as 'liquid gold'. Oil is used in many machines, automobiles and industries. All the means of transport from scooter to aeroplanes depend upon mineral oil only. Although the reasons behind its accumulation in the rocks are not fully known yet it is assumed that it is an organic substance which comes from the decaying and decomposing of plants, animals and other creatures in the sedimentary rocks. The oil which is extracted from the earth cannot be used directly. This is known as 'crude oil'. This crude oil is refined and categorised in the oil refineries.


INDIA
ENERGY-MINERALS
KILOMETER
200 100 0 200 400 600
Coal
Oil Tanks
Oil Refineries
Sedimentary Rocks
Continental belt

Oil is extracted in many countries of the world. U.S.A., Russia and its adjoining countries and China have good resources of oil. Middle East countries- Iran, Iraq, Saudi Arabia, Behrain and Kuwait etc. all are very rich in Petroleum products. Oil is also extracted in many countries of Australia, Africa and South America continents.

The position of India regarding petroleum production is not very sound. It produces approximately 33.4 million tonnes (2003-04) of crude oil. Assam, Arunachal Pradesh, Gujarat, Maharashtra, Tamilnadu and Rajasthan states of India are producing petroleum products. Digboi, Naharkatia, Moran, Hugarijan (Assam), Ankleshwar, Khambat, Ahmedabad (Gujarat), Barmer (Rajasthan), Manbhum (Arunachal Pradesh) and Mumbai High (Maharashtra) are Chief mineral oil producing areas of the country.

Natural Gas

Natural gas is produced from the petroleum products. When any oil well is dug, natural gas is found accumulated over it. Natural gas is also a very good energy resource. It is used for cooking as fuel for vehicles and in various industries. Natural gas is found at all the oil producing regions of the world.

U.S.A. is the largest producer of natural gas in the world. Russia, Middle East countries, Canada, Uzbekistan, Azerbaijan are natural gas producing countries of the world.

Natural gas is found in many areas of India. Krishna-Godawari basin, a place in Bay of Bengal near Orissa and Barmer in Rajasthan are very important natural gas producing areas. Possibilities of natural gas have also been found in Khambat and Kachh in Gujarat and Tripura states. About 75% of the total natural gas comes from Mumbai High. Approximately 11% of the natural gas is being produced by the state of Gujarat.

Hydro Electricity

Hydro electricity is a non conventional source of energy. This source of energy depends on the renewable water resource. Electricity is produced mainly by two methods, one from water i.e. hydro-electricity and the other from burning of oil or coal in the thermal plants. Here we will study about hydro-electricity.

Water is a free and renewable resource. Large quantities of water is available in the world which can be used for generation of hydro-electricity. Water is thrown over turbines through tunnels by constructing dams over rivers and streams. The turbines are rotated with the force of water. When these turbines rotate, electricity is produced by frictional force. This electricity is then taken to various places through wires.

Important factors for generation of hydro electricity

(i) The water source should be perinnial in nature.

(ii) There should be required slope or height in the path of the water

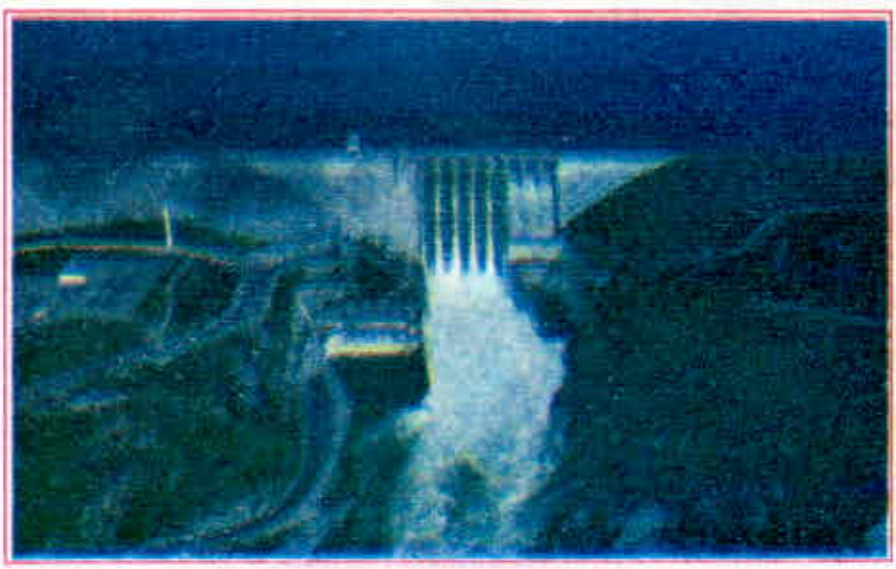
(iii) Sufficient amount of water for generation of electricity should be available.

(iv) There should be sufficient space behind the dam for reservoir or take of water.

(v) Capital for constructions of dams, power stations and electricity supply lines should be available.

(vi) There should be demand for electricity in the area.

Many countries of the world have abundant resources of water. Many of them have used this resource for the generation of electricity. The countries like U.S.A., Russia, Japan, Germany, Canada, England, France, Italy, Poland, Brazil and India need a special mention in this regard. The U.S.A. alone is producing 31% hydroelectricity of the world, Brazil and Canada depend too much on hydro electricity.



A Dam in California (U.S.A.)

India is producing 1% hydroelectricity of the world. Hydro electricity in India constitute 37% of the total energy sources. It shows that hydro electricity has special significance for a country like India. There is no shortage of water resources in India. These water resources are available in the form of rivers and streams. These can be divided into following categories :

(i) Rivers and streams of Himalayas in North India.

(ii) Rivers and Streams of South India.

The North Indian rivers i.e. Ganga, Brahmaputra and their tributaries due to

melting of snow flow throughout the year. They have a lot of capacity to generate electricity. These North Indian sources of water have more than 78% of the potential hydro power capacity of India. On the other hand the South Indian rivers are rainfed. These have only 21% of the total potential hydro power capacity of the country.

All the states of India except Goa produce hydro-electricity. The states of Andhra Pradesh, Karnataka, Maharashtra, Punjab, Tamilnadu, Orissa and Kerala have very good installed capacity to produce hydro-electricity. The hilly states like Uttaranchal and Himachal Pradesh also have good potential resources of hydro-electricity. There is need to develop the potential resources.

Nagarjuna Sagar Dam in Karanataka, Ganga Electric Grid system in Uttar Pradesh, Tata Hydro electric Grid in Maharasthra, Hirakund in Orissa, Mandi and Pandoh projects in Himachal Pradesh and Pong Dam & Bhakhra Dam in Punjab etc. are some worth mentioning hydro electric projects of India.

The dams or projects which are established for the generation of hydro electricity are also known as 'Multipurpose projects'. These projects fulfil the following objectives :

(i) Control floods.

(ii) Control soil erosion.

(iii) Generate electricity.

(iv) Canals for irrigation.

(v) Development of fisheries in the lake or reservoir.

(vi) Development of tourism.

Other Energy Resources

Inspite of hydro electricity the solar energy, wind energy, geo-thermal energy and atomic energy are also being used as energy resources. We use solar energy for heating the water, cooking or to keep our houses warm. The experiments of converting solar energy into electricity are also going on. The air in motion is called wind. We are also using wind energy to produce electricity. Geo thermal energy is also being used in different ways.Mainly it is used to heat our houses. In countries like Russia, Japan and NewZealand, electricity is being generated from the geothermal energy. Tides are also the energy resources which will be used in the future.

POINTS TO REMEMBER

Mineral and Power Resources

Minerals
- Metallic
  - Ferrous
  - Non-Ferrous
- Non Metallic
- Atomic

Metallic Minerals – Iron, Maganese, Chromite, Nickel, Cobalt, Gold, Copper, Silver, Bauxite etc.

Non-Metallic Minerals – Mica, lime stone, Diamond, Gypsum etc.

Atomic Minerals – Uranium, Thorium, Berylium, Lithium etc.

Energy Resources Old or conventional-coal, Petroleum, Natural Gas, Electricity etc.

New or Non-Conventional-Solar Energy, Wind Energy, Tidal Energy, Geo-Thermal Energy etc.

I. Answer the following questions in 10-15 words :

1. Write the definition of minerals resources.
2. Where do Iron-ore found in India ?
3. What are the uses of copper ?
4. Name the famous Gold mines in India.
5. How should we use the atomic minerals ?
6. What are the non-conventional sources of energy ?
7. Name the four types of coal.
8. What are multi-purpose projects ?

II. Answer the following questions in 50-60 words :

1. Which are the countries from where iron-ore is mainly found ? Write down the different types of iron ore.
2. Write down a note on the importance of bauxite.

3. What is the importance of natural gas in our life and name the major areas in our country where it is found ?
4. Name the important factors which are favourable for the generation of hydro-electricity ?

III. Answer the following questions in about 125-130 words :

1. What are the energy resources ? What is their contribution towards the development of the country ? Write in detail about any two energy resources.

IV. Show on each important area of the following minerals and energy resources on the map of India :-

(1) Iron-ore
(2) Manganese
(3) Gold
(4) Copper
(5) Mica
(6) Uranium
(7) Bauxite
(8) Coal
(9) Petroleum
(10) Hydro-electricity

V. Activity :

Prepare a list of atleast ten minerals according to list given below :

S.No.	Name of the mineral	Name of States of India in which mineral found	Write use of the mineral
1.			
2.			
3.			
4.			
5.			

Agriculture is very old occupation of man. In the beginning man collected his food from the fruits, leaves of plants and hunting. As the time passed, the number of human beings went on increasing. Then the need to grow the crops for food was felt. This way the man started the occupation of agriculture. With the passage of time, man made improvements in methods of agriculture. Presently he uses machines for the purpose of agriculture.

The meaning of agriculture is not just to produce the crops rather its field is very vast. Agriculture means growing of crops, raising of livestock and running of indusries based on agriculture. Dairy farming, poultry, honey bee keeping, pisci culture, gur making industry, flour mills, floriculture etc. all occupations are part of agriculture. Having extensive field, agriculture is influenced by many factors. Some of the important factors which affect the agriculture are given below :

1. Climate 2. Relief 3. Type of soil 4. Irrigation facilities 5. Methods of agriculture 6. Market facility 7. Means of transport, Banks and other facilities.

From the above mentioned factors, as many are favourable, more will be the development of agriculture. Due to the favourable climate for agriculture the state of Punjab, is ahead of all other states of India.

Types of Agriculture

It is not an easy task to divide the agriculture into different types because it does not depend on any single factor. There are many bases to divide the agriculture into various types. Agriculture can be divided on the basis of land use or methods of agriculture. It can also be divided on the basis of irrigation, social or economic factors. The types of agriculture on different bases are given as under :

1. Permanent Agriculture
2. Shifting Agriculture
3. Dry Farming
4. Wet Farming
5. Intensive Farming
6. Extensive Farming
7. Mixed Farming
8. Horticulture

9. Private type of Agriculture
10. Cooperative type of farming
11. Collective type of farming
12. Plantation Farming
13. Subsistence Farming
14. Commercial Farming

1. Permanent Agriculture : This type of agriculture is done by permanently staying at a place. The crops are grown continuously from the same piece of land. Manures or fertilisers are used to increase the fertility of the soil. Presently permanent type of agriculture is prevalent in most parts of the world. This type of agriculture is also known as stable agriculture.

2. Shifting Agriculture : In the hilly areas or open forests, tribal people clear the forests and practise agriculture for small period of time. When the land of this place loses its fertility, these people leave the place and start agriculture somewhere else. These people adopt shifting type of lifestyle. This type of agriculture is known as shifting agriculture or 'Jhooming Cultivation'. Still in many countries of the world this type of agriculture is practised.

3. Dry Farming : This type of agriculture is practised in the areas receiving less than 50 cm of annual rainfall. Mostly pulses, maize, oats etc. are grown. In the desert areas of the world including the state of Rajasthan dry farming is prevalent.

4. Wet Farming : This type of agriculture is carried on in the areas receiving 200 cm or more annual rainfall. There is no need of any irrigation facilities in such areas. South-East parts of Asia which receive heavy rainfall are famous for rice cultivation. West Bengal, Orissa and Southern areas of heavy rainfall also practice this type of agriculture.

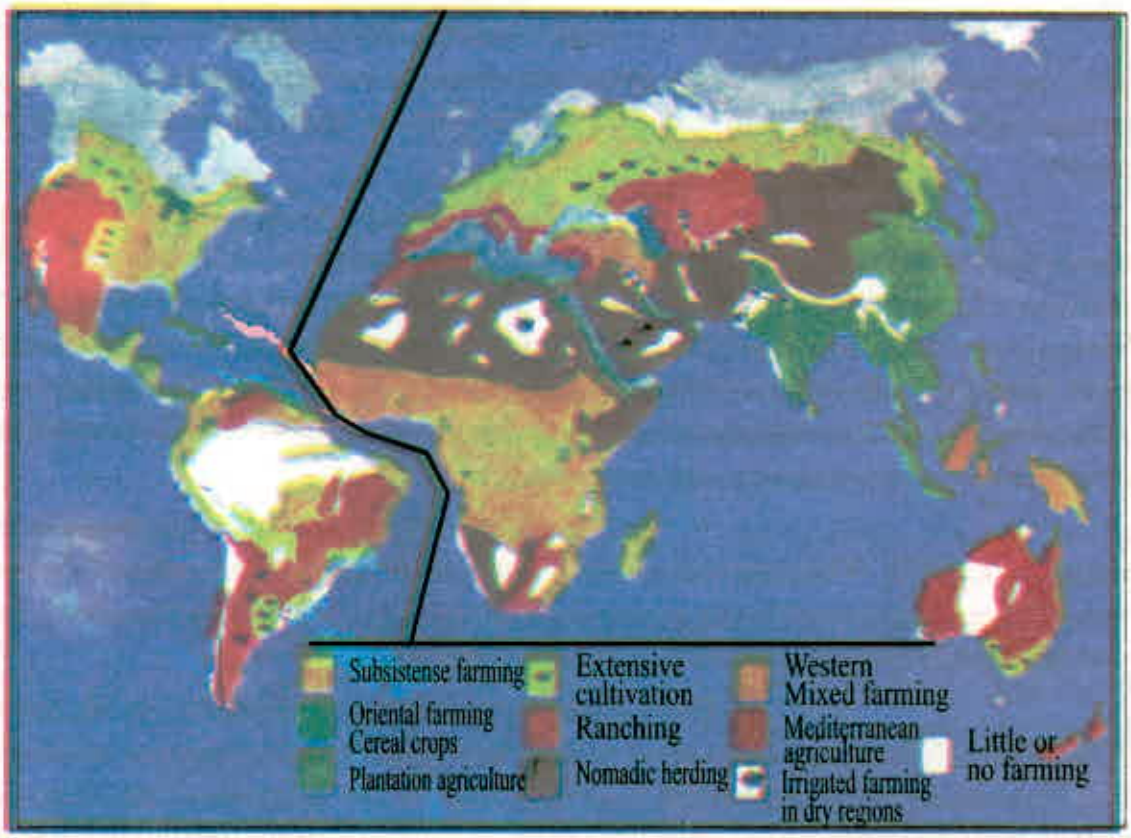
5. Intensive Farming : When with the full use of fertilisers and irrigation facilities more yield is taken from a small piece of land then this type of agriculture is called Intensive agrieulture. In the state of Punjab this type of agriculture is dominating.

6. Extensive Farming : When the size of the land holdings is large then the agriculture is done with the help of machines. This type of Agriculture is called Extensive farming.

In the countries like U.S.A. where the size of the fields is very large, this type of agriculture is practised. In this type of agriculture, yield per acre is less as compared to the intensive type of agriculture.

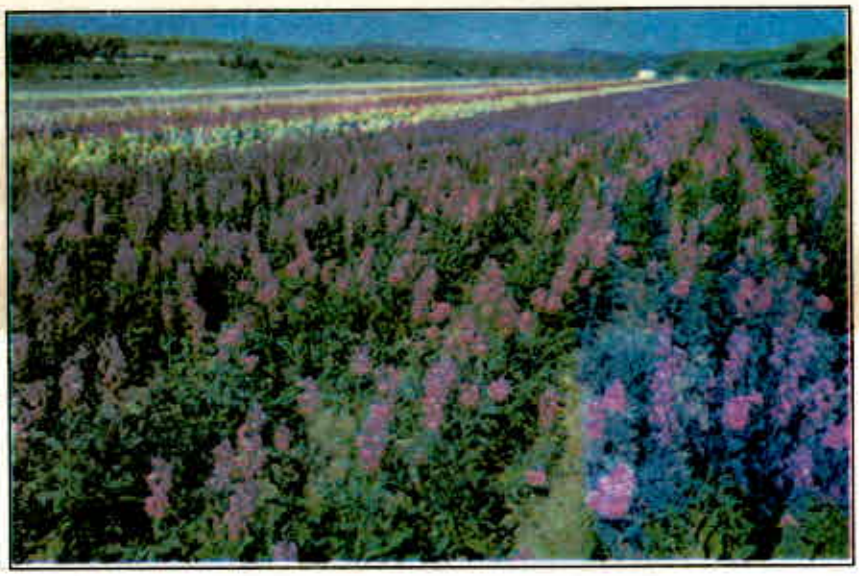
7. Mixed Farming : Along with growing of crops, fruits and vegetables the cattle are also reared in this type of agriculture. Honey bees and fish are also kept. The farmer gets good income from mixed type of activities.

Cattle rearing is one of the secondary occupations of Agriculture



World : Agriculture types

8. Horticulture : In this type of agriculture, the fruits, vegetables, flowers and flower seeds are produced. Modern techniques of agriculture are used. Horticulture is proving very beneficial for the farmers.



A View of Horticulture

9. Private type of Agriculture : In this case the farmer himself is the owner of the land. The instruments, equipments, other infrastructure and fertilisers etc. being used on the land are all controlled by the farmer. The income from the land belongs to the farmer.

10. Cooperative type of farming : In this type of agriculture a cooperative organisation is formed by adopting the democratic procedure. All the farmer members cultivate their land. The crop is sold by the cooperative organisation. Only those decisions are taken which are favourable to all the members of the organisation. The profit from the cultivation of land is divided among the members according to their share of land. It is very beneficial especially for the small farmers. The Government of India is also encouraging this type of agriculture.

11. Collective type of farming : This type of agriculture was popular in the erestwhile U.S.S.R. The land was owned by the government. Some part of the income from the agriculture went to the government in the form of tax. The remaining income distributed among the farmers who worked on the land.

12. Plantation Farming : This type of agriculture was started by the British in the 19th Century. In this type, the crop is planted like a garden and a large scale farming is done. For example for tea, coffee, coconut, rubber etc plantations are done. These gardens yield crops for many years. This type of farming is considered very economical.

13. Subsistence Farming : Small farmers who have small land holding cultivate their lands and grow the crops according to their social and economic needs. They use

the crops for their subsistence and do not sell in the market, therefore this type of agriculture is known as subsistence farming. If they sell some part of the produce, they use the money earned for the clothing or fulfil their small domestic needs.

14. Commercial Farming : In this type of agriculture, the farmers grow the crops on their lands by using machines and other sources on a very large scale. They earn a lot of money by selling their crops in the markets. This type of agriculture is done mainly to earn money. The countries of the world, having extensive areas, where the farmers have very large land holdings are known for this type of farming. The countries like U.S.A. and Canada practice commercial type of farming. The big farmers of India also practice this type of agriculture and earn a lot of money.

Major Crops

The crops grown in an area depend on many factors. Among these factors, the climate is the main deciding factor. Due to the variations in climate, different types of crops are grown in different parts of the world. For example apple crop requires cold and snowy type of climate whereas rice is the crop of hot and humid region. In our country, due to variations in climate and other agricultural factors, a lot of variations are found in the cultivation of crops. Different types of crops are grown in different areas. The crops can be of different types. We can categorise the crops as under :

MAJOR CROPS

Cereal Crops	Fibre Crops	Beverage Crops	Vegetable and Fruits Crops
Rice	Cotton	Tea	Apple
Wheat	Jute	Coffee	Orange
Maize	Hemp	Cocoa	Banana
Jowar			Mango
Bajra			Peach
Pulses			Vegetables
Oilseeds			

Cereal Crops

The population of the world is increasing day by day. It becomes very necessary to grow the food crops on a large scale to fulfil people's main necessity of food. For this purpose the agriculturally suitable countries of the world are trying to increase the production of food crops. In India also 75% of the total crops grown are cereal crops.

Some of the major cereal crops have been given in detail as under :

1. Rice : Rice is produced mostly in hot and humid climate countries. China, India, Bangladesh, Japan and other South-East countries of the world largely grow rice. China produces 36% of total world rice and takes the lead. A large quantity of rice is grown in the valleys of river yangtze-kiang in China. The Ganga Delta of Brahmputra also produces a good quantity of rice. High yielding varieties of rice like 'Japonica' are also grown in Japan. In Indonesia too, rice is grown in the plains and on the hilly slopes.

India ranks second in rice cultivation and stands next to China. India produces approximately 20% rice of the world.

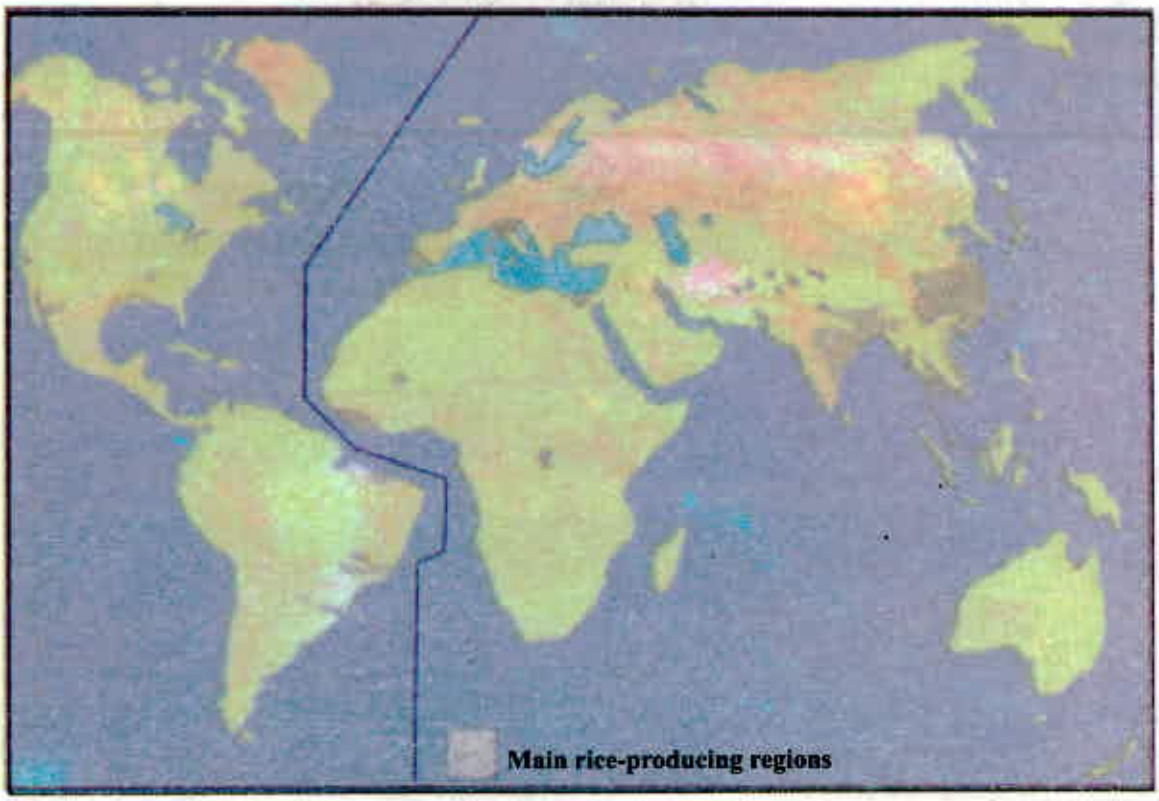
Condition required for the cultivation of Rice

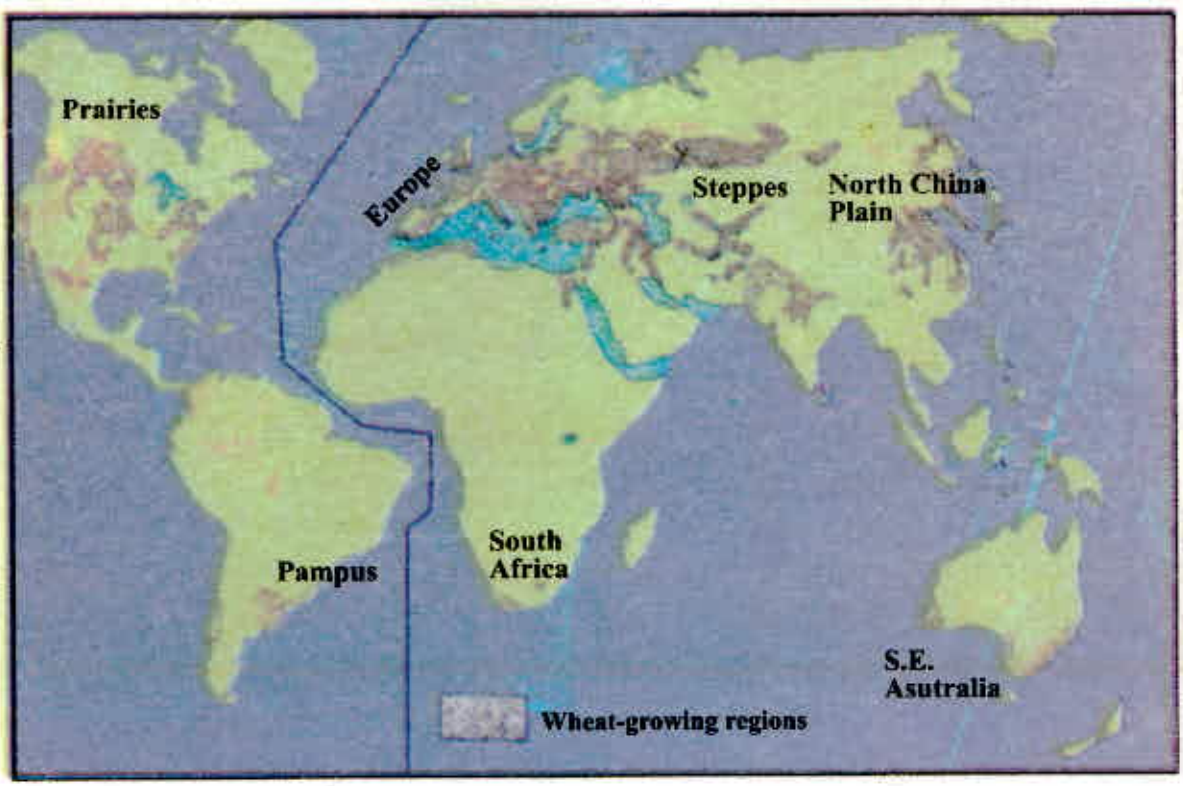
Temperature	:	20° – 30°C
Rainfall	:	100-200 cm or low rainfall areas
Soils	:	Alluvial soil, Clayey soil, Loamy soil, Delta soil or Black soil with irrigation
Relief	:	Should be levelled so that the water can made to stand in the field.
Labour	:	A large number of labourers are required for the cultivation of rice especially at the time of rice plantation and harvesting.

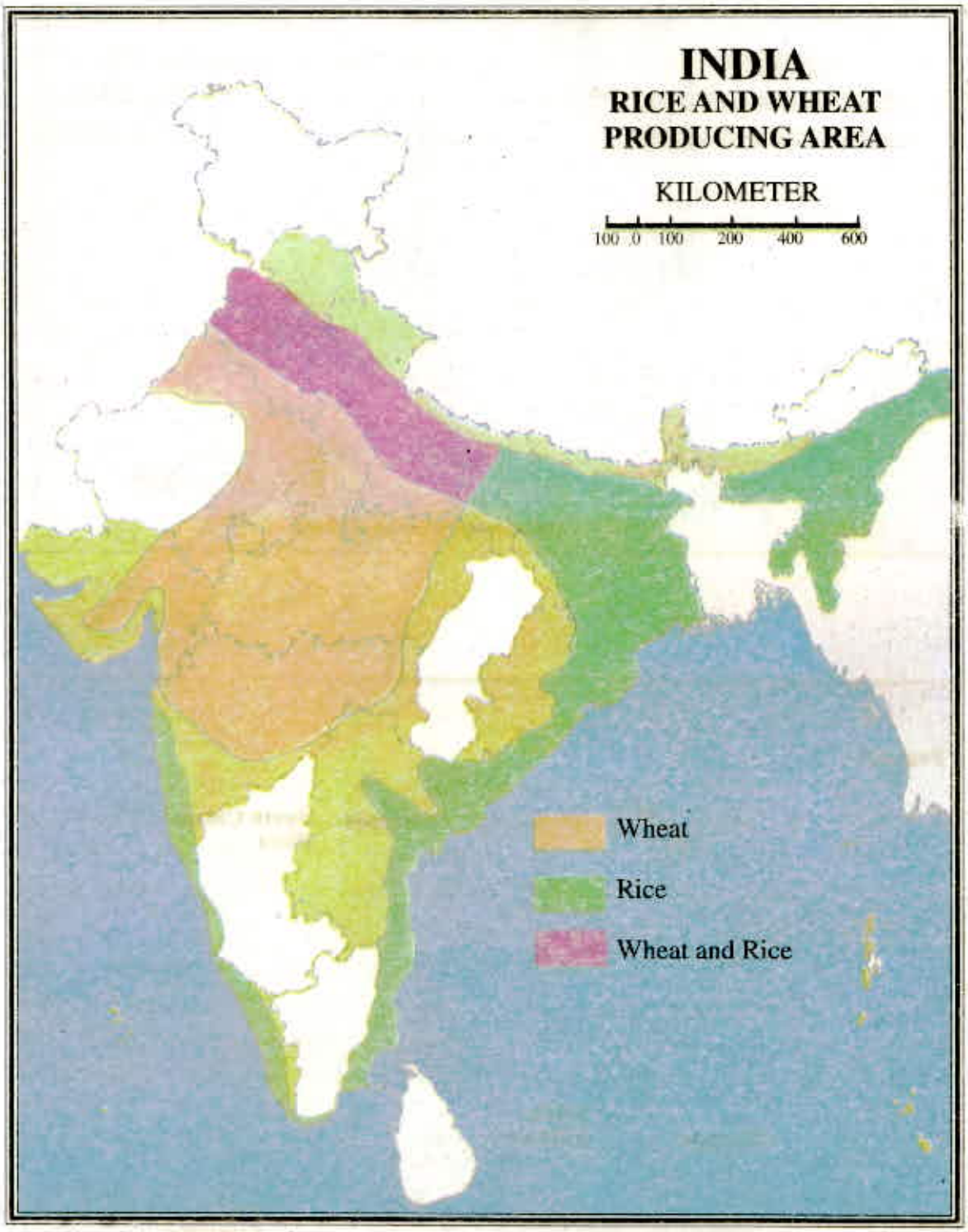
Although the machinery is being used to a large extend, yet many activities are done by man. For growing of rice cheap and trained labour is required. Rice cultivation is also done on the hilly slopes by making terraces or steps. To grow rice, first of all nursery is grown. The field in which the rice is to be planted is prepared by ploughing, filling with water and levelling. This whole process is known 'puddling'. Then the nursery rice plants are planted in the puddled field. Rice requires water since its plantation till sometimes before the harvesting. The weather should be dry at the time of crop harvest.

Labourers planting nursery rice plants

Areas of Rice Production : Rice is the crop of hot and humid countries of the world. It is very popular in the continent of Asia. The climate of Asia is highly suitable for rice growing. Because of high pressure of population the consumption of rice is also high. The rice in India is considered the major kharif crop. In India the rice is chiefly produced in the plains of Ganga-Brahmaputra, coastal areas and the heavy rainfall areas of South India. West Bengal, Bihar, Orissa, Punjab, Uttar Pradesh, Tamilnadu, Chhattisgarh, Andhra Pradesh and Haryana etc. states are very popular for growing of rice.


Main rice-producing regions


Prairies
Europe
Steppes
North China Plain
South Africa
Pampus
S.E. Asutralia
Wheat-growing regions


INDIA
RICE AND WHEAT
PRODUCING AREA
KILOMETER
100 0 100 200 400 600
Wheat
Rice
Wheat and Rice

Per hectare yield of rice in Punjab is the highest in India and produces about 2.2% of the total rice of the country. Punjab state ranks second after West Bengal. Amritsar and Ludhiana are important rice producing district of Punjab.

2. Wheat : Wheat is such a crop which is grown in many countries of the world. Its cultivation may take place in low lying areas to higher hilly slopes. People of the rich countries of the world consume more wheat as compared to rice. The wheat is considered as rich in protein, carbohydrates and vitamins. In the world there are two varieties prevalent winter wheat and spring wheat.

Conditions required for the Cultivation :

Temperature	:	10°-20° C
Rainfall	:	50-100 Cm
Relief	:	levelled or with gentle slope
Soils	:	loamy, clayey, black or red soil
Seeds and Fertilisers	:	Good variety seeds and fertilizers are necessary to increase the production.
Labour	:	Labour is required at the time of sowing and harvesting season.

Wheat is normally sown in the months of November and December. It requires low temperature at the time of sowing and high temperature at the time of reaping the crop. It requires rainfall or irrigation time to time. At the time of ripening the crop requires hot and dry weather conditions.

Areas of Wheat Production

China, Russia, U.S.A., France, Canada, Germany etc. are the main wheat producing countries of the world. In these countries due to less population and more land, more wheat is produced by using the machines on a very large scale. Kansas, Dakota, Montana, Minnesota, Texas, area around the great lakes (U.S.A.), Ontario and British Columbia (Canada) are important for wheat growing.

India holds the second position among the wheat producing countries of the world. From the northern parts to some states of south wheat is produced in India. These states of India namely Uttar Pradesh, Punjab and Haryana produce more than 72% of country's total wheat production. Rajasthan, Madhya Pradesh and Bihar states also produce wheat.

Almost all the districts of Punjab state produce wheat. Green Revolution in Punjab contributed a lot towards the production of wheat. With the use of good variety of seeds, fertilizers and irrigation facilities the production of wheat has increased manifold. Punjab's wheat contribution to the central pool is more than all other states of India.

3. Maize : The maize plant was originated in the U.S.A. It is a cereal crop in many countries of the world. In Europe, the production of maize started at the time of Columbus when he brought maize seeds from America. The maize is produced in many parts of Europe. Glucose, starch and alcohol is prepared from the maize. Vegetable oil is also made from this crop. Maize crop is also used as fodder for the animals.

Conditions required for the cultivation of maize

Temperature	:	18° - 27°C frost free weather conditions are required.
Rainfall	:	50-100 cm
Relief	:	levelled or gentle slope
Soils	:	Alluvial soil, Red soil or in other types of soils can also be grown.

Maize is produced in the low rainfall areas. This crop does not require very good type of soil. Frost is very harmful for the crop. The crop has to be protected from birds and the wild animals.

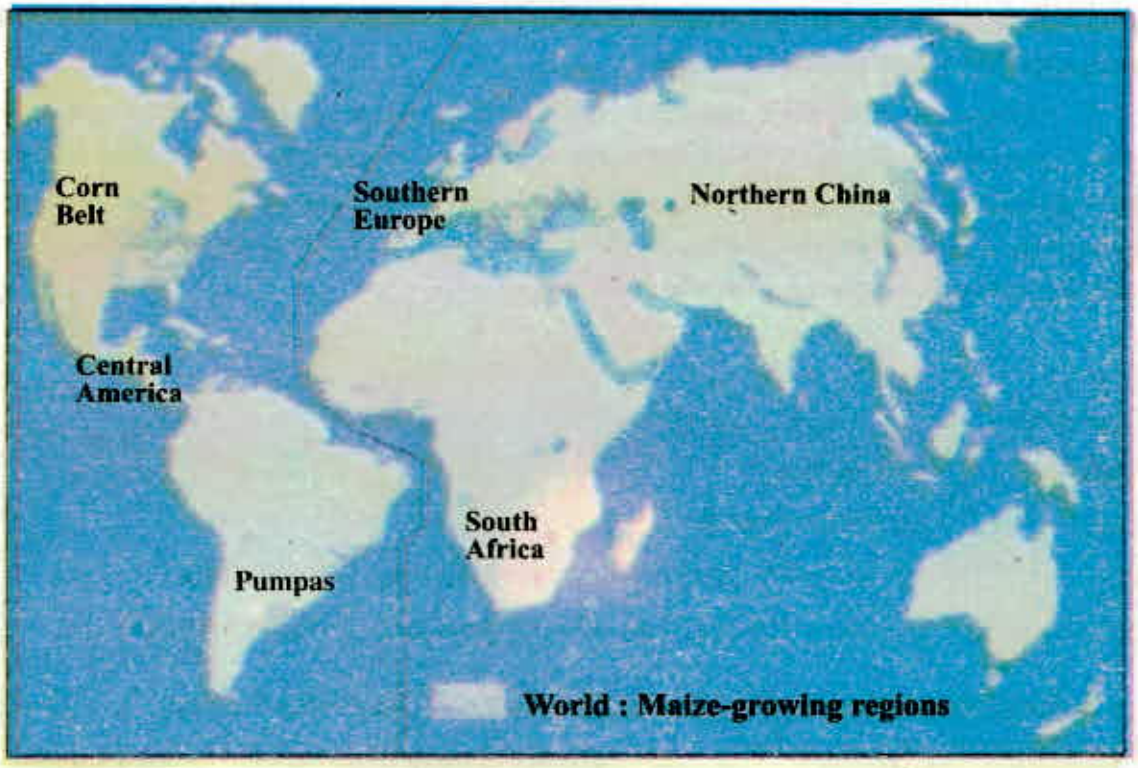
Maize Producing Areas

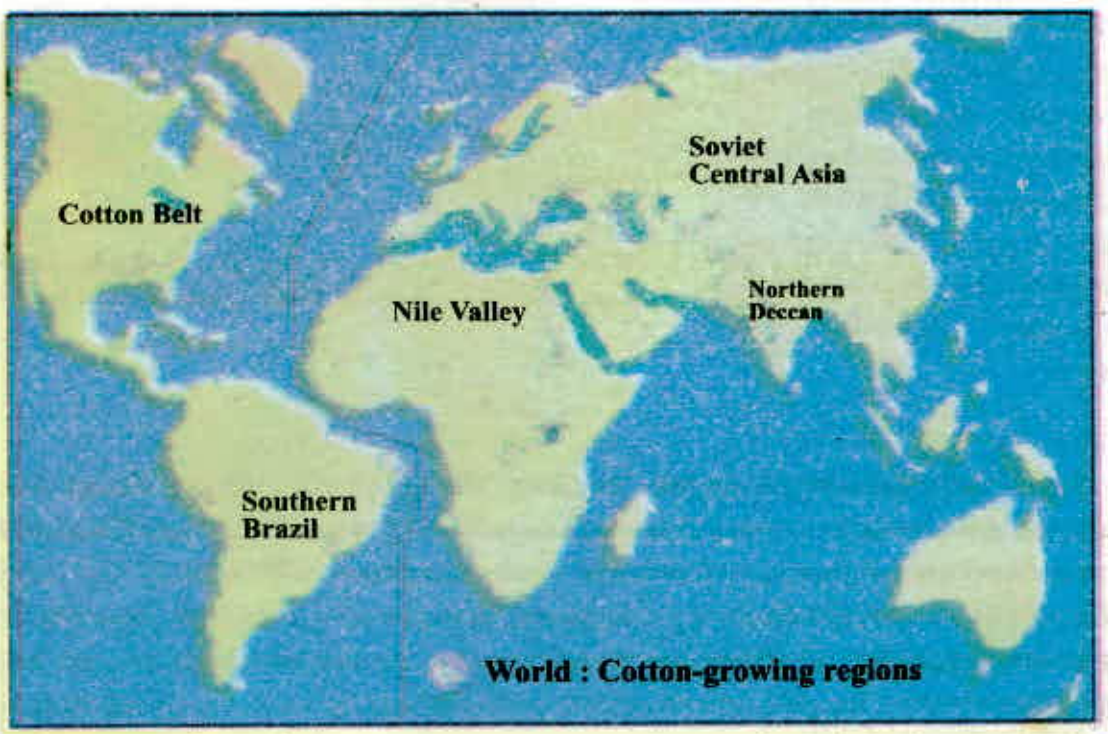
The countries like U.S.A., China and Brazil are the chief maize producing countries of the world. The U.S.A. alone produces 50% of the total world maize production and also exports, to many other countries. Brazil and Argentina also, produce as well as export maize. The 'corn belt' of the U.S.A. is world famous, where pigs, horses and cattle are fed on maize.

Many states of India produce maize.Madhya Pradesh, Andhra Pradesh, Karnataka and Rajasthan produce more than 50% of the total India's maize production. Uttar Pradesh, Himachal Praesh, Jammu & Kashmir, Maharashtra, Gujarat and Punjab are the other maize producing states. Mandla, Ujjain, Indore, Ratlam, Jhabua (Madhya Pradesh), Kangra, Sirmour, Mandi, Chamba (Himachal Pradesh), Rupnagar, Amritsar, Hoshiarpur and Jalandhar (Punjab) districts are main maize producing areas. The area under maize in Punjab is declining continuously and it is being replaced by other crops.

Cereal crops other than rice, wheat and maize are also grown in different parts of the world. The main among them are oats, millets (bajra), jowar, pulses and oilseeds. Oats, bajra and jowar are eaten by the human beings as well as animals. The pulses form a major part of our food. The oilseeds like mustard, Soyabeen sesame and sunflower have a special importance in our life. Oils are used as food and fulfil our other needs. The cultivation of pulses and oilseeds bring a lot of income to the farmers.

Fibre Crops : Fibre is obtained mainly from two sources – animals or plants. In the category of animals sheep is the main such animal from which a large quantity of fibre is obtained. This fibre is used for making woollen clothing. Fibre is also obtained from different types of plants. Most of the fibre is obtained from cotton and jute plants.


Corn Belt
Southern Europe
Northern China
Central America
South Africa
Pumpas
World : Maize-growing regions


Soviet Central Asia
Cotton Belt
Nile Valley
Northern Deccan
Southern Brazil
World : Cotton-growing regions

The cotton is used as chief raw material in the cotton Textile industry. Sacks, carpets, ropes and cloth etc. are also prepared from the jute. In this part of the lesson we will study about fibre crops cotton and jute.

1. Cotton : Cotton is an important fibre crop which is being used more than any other fibre in the textile industry. The cloth made of cotton is light in weight and of best quality. On the basis of length of the staple, the cotton can be categorised into three categories i.e. long staple cotton, medium staple cotton and short staple cotton. The long staple cotton is costly and the best in quality.

Conditions required for the cultivation of Cotton :

Temperature : 20° - 30° C minimum 200 frost free days.
Rainfall : 50-100 cm
Relief : levelled or gentle slope
Soil : Black soil or Alluvial soil. Fertilizers are also required
Labour : Cheap and skilled labour for picking of cotton is required.

In the plains cotton crop is sown in the month of April and May and is collected before the start of frost in month of December. In the southern parts of India, cotton crop is cultivated from October to April as thee is no possibility of cold or frost conditions. Good quality seeds and insecticides are required to save the cotton crop from diseases and insects. For picking of cotton flowers sheap and skilled labourers especially the women labourers are required.

Women Plucking Cotton flowers

Areas of Cotton Production

The U.S.A., erstwhile U.S.S.R. countries, China, Mexico, Egypt, Sudan, India and Pakistan etc. are major cotton producing countries. After the U.S.A. and China India ranks third in cotton production in the world. The cotton production in the U.S.A. is very old, but slowly-slowly production is declining. Russia and Uzbekistan also produce cotton in large quantities. In China the production and consumption both are very high. Long staple cotton of Egypt is world famous. Punjab and Sind states of Pakistan are famous for cotton production.

In India the states with black soil lead in cotton production. With the use of good quality seeds and fertilizers long staple cotton is being produced. Among the cotton producing states, Maharashtra, Gujarat and Andhra Pradesh produce more than 60% of India's total cotton production. Mainly black soil is found in these states which is highly suitable for cotton growing. Punjab and Haryana states together produce about 25% of country's cotton production. Nanded, Amravati, Wardha, Jalgaon, (Maharashtra), Surendernagar, Vadodara, Ahmedabad (Gujarat), Guntur, Parkasam (Andhra Pradesh), Bathinda, Faridkot, Ferozepur & Sangrur (Punjab) are important cotton producing districts of the country. In Punjab, B.T. cotton seed variety of cotton is giving good results. Cotton is known as 'white gold' in Malwa region of Punjab. The cities like Mumbai, Ahmedabad, Kanpur, Nagpur, Sholapur, Chennai, Delhi and Kolkata are known for textile industries.

2. Jute : Jute is reed like tall plant which grows upto 10-12 feet height. Jute is coarse but soft fibre. Jute has no competition with cotton as the uses of both the plant fibres are different. Jute is used for making sacks, ropes, carpets etc. but with the coming of plastics and synthetic fibres in the market, jute products are at risk.

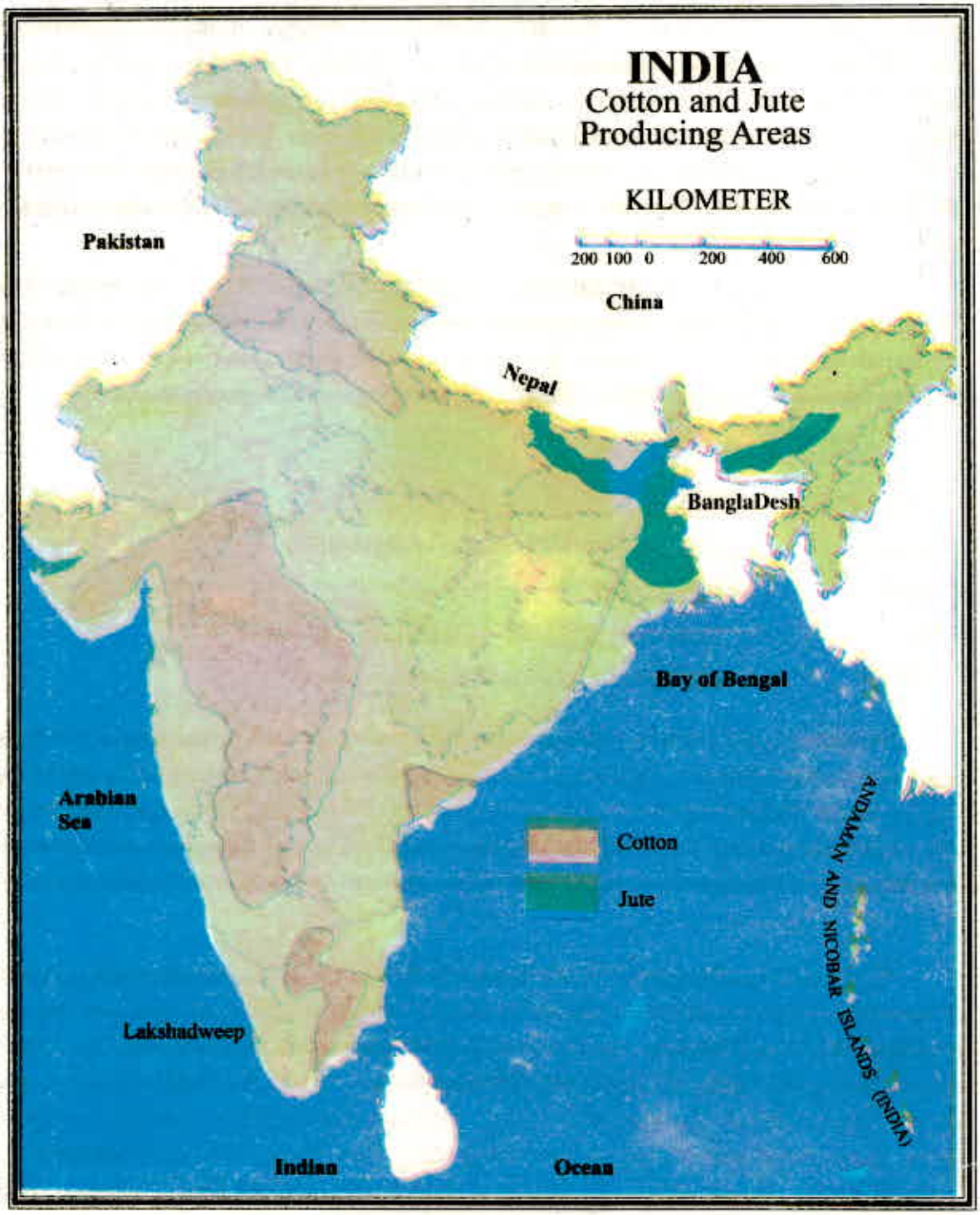
Conditions required for growing of Jute

Temperature	:	24° 35°C
Rainfall	:	120-150 cm 80-90% relative humidity
Relief	:	levelled land
Soil	:	Alluvial soil, Clayey Soil and Loamy Soil
Labour	:	Labourers in large number are required

Normally jute is sown in the month of February and cut in the month of October. Some short duration jute varieties are also being grown. After cutting of the jute crop, it is kept under stagnant water in small bundles for 2-3 weeks. When the fibre becomes soft and ready for removal then the bundles are taken out of the water and dried. After that the fibre is separated from the jute plants and put to various uses after cleaning.

Areas of Jute Production

China, India, Bangladesh, Thailand and Brazil are main jute producing countries of the world. Hot and humid type of climate is highly suitable for jute growing. India had Bangladesh are the leading countries in jute production, its cultivation is done on a large scale in the delta of Ganga and Brahmaputra rivers. Four states of India namely West Bengal, Bihar, Assam, and Orissa produce about 99% of India's total jute production. Some jute is also grown in the states like Uttar Pradesh, Maharasthra and Kerala. Nadia, Murshidabad, 24 pargana, Jalpaiguri, Hughly (West Bengal), Purnia, Katihar, Darbhanga (Bihar), Goalpara, Daring and Sibsagar (Assam) are important jute

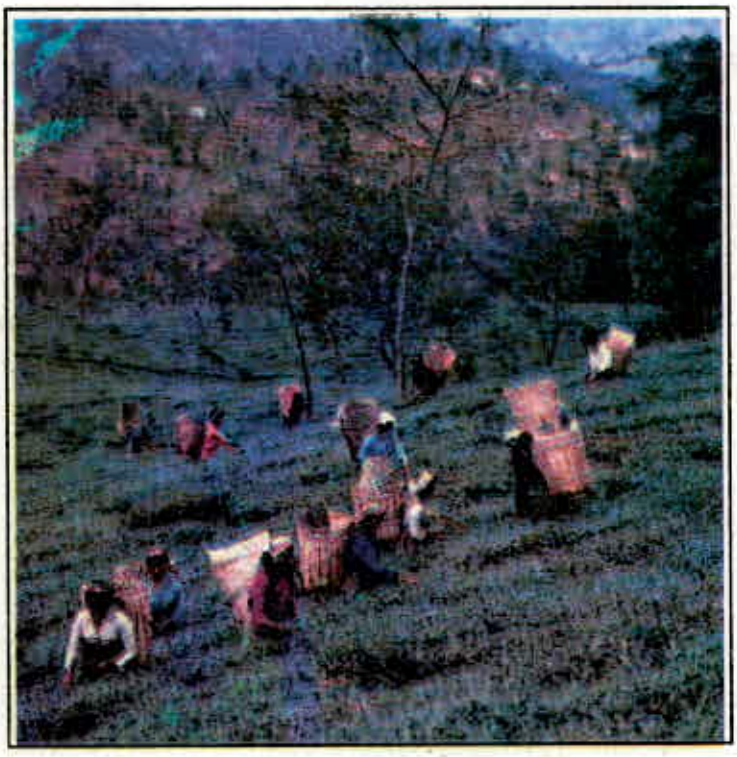

INDIA
Cotton and Jute
Producing Areas
KILOMETER
200 100 0 200 400 600
Pakistan
China
Nepal
BanglaDesh
Bay of Bengal
Arabian
Sea
Cotton
Jute
ANDAMAN AND NICOBAR ISLANDS (INDIA)
Lakshadweep
Indian
Ocean

producing areas of the country. All the conditions required for jute growing are favourable in West Bengal. West Bengal alone produces country's 80% jute and many jute mills are also located here.

Beverage Crops

Beverage crops mainly include tea, coffee and cocoa. In today's world beverage crops are very significant. After we get up in the morning and before we start our daily chores, a cup of tea or coffee has a special importance almost for all of us. Because of the presence of stimulating elements in these crops, these produce stimulation or excitement in our body. These can used as hot in cold and cold in hot weather conditions eg. hot or cold coffee etc. Here we will study about two beverage crops ie, tea and coffee in detail.

1. Tea : Tea plant is like a bush. Tea is obtained from its leaves. It is assuemd that drinking of tea started in China in the sixth century and since then it is being taken in China and Japan. Great Britain and other European countries also started drinking tea by the seventeenth century and it was considered as fun and enjoyment by the rich people. In today's world, the tea has become a common drink. 'Black tea' and 'Green Tea' are important varieties of tea.

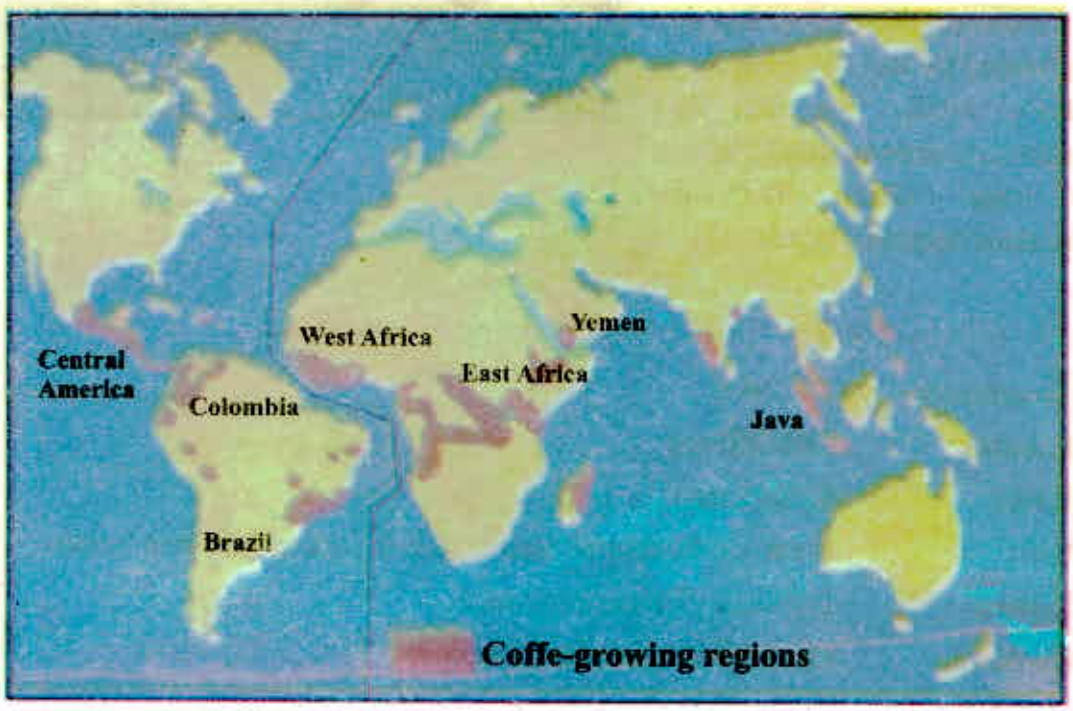


Women Collecting tea leaves

Conditions required for the Plantation of tea :

Temperature	:	20°-30 C
Rainfall	:	150-300 cm
Relief	:	Slopy Land
Soils	:	Loamy Soil, Forest Soil which is rich in iron and humus.
Labour	:	Labourers in large number.
Market	:	Demand for tea should be there.


Japan
Darjeeling
Green tea
Oolong
Taiwan
Nilgiri Hills
West Java
East Africa
Yerba Mate
Tea Growing Regions


West Africa
Yemen
Central America
East Africa
Colombia
Java
Brazil
Coffe-growing regions

Tea plants are planted on the cleared slopes. Use of fertilizers becomes necessary for the proper development of the plants. The rainfall should be distributed uniformly throughout the year. The rainwater should also not stand in the roots of the plants. Tea plant needs pruning for its proper growth.

Tea Producing Areas :

China, India, Japan, Sri Lanka, Taiwan, Indonesia and Bangladesh are the chief tea producing countries of the world. China had been the largest producer of tea for very long time but at present Sri Lanka is producing good quality of tea. Sri Lanka occupies third place in the world in tea production. Japan produces tea for its own requirements. The Oolong tea of Taiwan is famous for its taste. In Indonesia tea is produced on the slopes of volcanic hills in western Java. This tea is exported to Netherlands. Bangladesh also produces approximately 2% of the total world tea production.

India at present is the largest producer of tea. The consumption of tea in India is also the biggest in the world. Assam, West Bengal, Tamilnadu, Kerala, Tripura, Karnataka etc. are the main tea producing states of India. Assam state alone produces 51% of the total India's tea production. The Brahmputra and Surma valleys of Assam are famous for tea production. Dibrugarh, Lakhimpur, Sibsagar, Daring, Nagaon, Goalpara and Kachhar are main tea producing districts of Assam. West Bengal produces 22% of the total India's tea production. Darjeeling, Jalpaiguri and Koch bihar districts of West Bengal which are adjoining to Assam produce a good quantity of tea. In Tamilnadu tea is produced on Nilgiri and Annamalai hills. Kottayam, Kollam, Thuruvanathapuram (Kerala), Hassan, Chickmagalur (Karnataka) are the other important tea producing districts of India. India exports tea to Russia, U.K., U.S.A., Germany, Australia, Iran, Iraq and many other countries of the world. In the year 2003-04 India earned 1637 crores of rupees by exporting tea.

2. Coffee : Coffee is also a beverage crop like tea. Africa is considered as its place of origin. It started from Ethiopia, one of the African countries. It was taken to Saudi Arabia from Ethiopia. Coffee is costlier than tea in price. Coffee powder is prepared after the drying, roasting and grinding of coffee seeds. The coffee contains 'Caffeine'- an intoxicant which stimulates our body. The coffee is used in both i.e. the cold as well as the hot countries. 'Arabica' 'Robusta' and 'Liberica' varieties of coffee are considered very important.

The Coffee Seeds are being dried


INDIA
BEVERAGE CROPS
(Tea and Coffee)
Jammu and Kashmir
Himachal Pradesh
Punjab
Uttrakhand
Haryana
Delhi
Rajasthan
Uttar Pradesh
Bihar
Jharkhand
Gujarat
Madhaya Pradesh
Chhattishgarh
Orissa
Maharashtra
Andhra Pradesh
Karnataka
Tamilnadu
Lakshadweep (India)
Pakistan
China
Tibet
NEPAL
Bhutan
Assam
Arunachal Pradesh
Nagaland
Manipur
Mizoram
Bangla-Desh
Bay of Bengal
Arabian Sea
Indian Ocean
Andaman and Nicobar Islands (India)
Tea
Coffee
Kilometers
100 0 100 300 500

Conditions required for the Plantation of Coffee :

Temperature	:	15°-28° C
Rainfall	:	100-200 cm
Relief	:	Hilly or slopy Land
Soils	:	Loamy or soils rich in organic matter are required.
Labour	:	Skilled Labourers are required.

Coffee saplings are grown in a nursery. After 6 to 9 months these plants are planted in the fields prepared for the purpose. These plants start bearing fruit after 3 or 4 years. Once planted, these plants continue to bear fruit for 30 years if the care be taken. The coffee plants also require fertilisers, pruning and irrigation from time to time. Hot and sunny weather is required at the time of germination of plants and ripening of seeds. The height of coffee plant is kept upto 8 feet.

Coffee Producing Areas

Brazil, Columbia, Indonesia, Mexico, Ethiopia and India etc. produce coffee in the world. Brazil alone produces about 25% of the total world coffee production. Factors like climate and soils are very favourable for production of coffee in Brazil. Brazil exports a large quantity of coffee. Columbia is the second country of South America after Brazil which produces about 15% of the total world coffee. The taste and flavour of columbian coffee is better than that of Brazilian coffee.Indonesia, Mexico, Ethiopia and countries of central America also produce much coffee.

India produces only 2.5% of the total world coffee. Karnataka, Kerala, Tamilnadu and Andhra Pradesh states produce coffee in the country. Karnataka alone produces 70% of the total India's coffee. Kodagu, Chikmagalur, Shimoga, Hassan, Mysore (Karnataka), Mallaparam, Kollam, Kunoor (Kerala), Nilgiri, Madurai, Salem and Coimbatore (Tamilnadu) districts of India are famous for coffee production. Though India lags behind in coffee production yet it exports coffee to U.K., U.S.A. Russia, Australia and Iraq.

Development of Agriculture

Man has been working for the development of agriculture since the time he started the occupation. It has been his aim to increase the production by using the new seeds and developing the new methods of cultivation. Otherwise also, it has become necessary to develop the agriculture to fulfil the agricultural needs of continuously increasing population. Farmer of today cultivates his fields not only for subsistence but to sell the crops in the market and fulfil his various needs. To sell the crop in the market and earn good profit out of it is the necessity and aim of the now a days farmer.

A lot of variations are found in the levels of development of agriculture in different parts of the world. Some countries are agriculturally advanced whereas some are lagging behind. In many parts of Africa, agriculture is still very far behind where as in the country like the U.S.A. in North America, agriculture is considered a good income generating occupation. In this part of the lesson we will focus on the agriculture of U.S.A. and Punjab State of India.

Agriculture in the U.S.A. – A Glance

Agriculturally, US.A. is a developed country. About 3% of the total population is engaged in agriculture. The main reason behind this is that all the activities of agriculture are carried on by machines and not by men. The other people work in industries or engaged in service sector. Agricultural activities are carried on about 20% part of the land. The main agricultural areas include North-West, North-East, interior plains and coastal plains of the country. Different types of crops are grown in different parts of the country.

U.S.A. : Use of machines on a large scale

The farmers of U.S.A. have large land holding as compared to that of India. The farm size is very big. An average farm size in U.S.A. is 700 acres. Due to large size of the fields, extensive type of agriculture is practised. Machines are used at a very large scale. It is almost impossible to work in farms without machines. In a farm, only one type of crop is cultivated. from the sowing of crop to the taking of the crop to markets or stores, every work is done with the help of machines. Helicopters and aeroplanes are also used for the agricultural activities. The farmer of U.S.A. decides about the crop by taking into consideration of climate, type of soil, irrigation facilities etc. Insecticides and pesticides are properly utilized. The farmer of U.S.A. practise agriculture like a businessman and not like a mere farmer.

Agriculture in Punjab (India) – A Glance

Punjab in comparison to other states of India, is much advanced in agriculture, The agriculture sector contributes 35% of the total income of the country. About 58% population of the state is engaged in agriculture. The soils here are fertile in nature. To maintain the fertility of the soils, the farmer also uses fertilisers. The farmers of Punjab do not have too much of land. Land holding mostly range between 5 to 25 acres. Some farmers possess even less land. Six percent farmers of the state have more than 25 acres of land. The farmer grows, different types of crops in his fields. The variations in crops mainly depend on climate, size of land holding, type of soil, irrigation facilities and requirements of the farmer. The farmer of Punjab now uses refined and high yielding variety seeds. According to the size of the land holding the farmer uses tractor or combine harvester.

Tractors and Harvesters are used in the farms of Punab

Almost all the net sown area comes under irrigation. The farmer of Punjab also uses insecticides and pesticides at a large scale to get more production. Though the farmer of Punjab uses the machines, even then the contribution of labourers is too much. This we can estimate from the number of people working in the agricultural sector. In U.S.A. only 3% of population is engaged in agriculture whereas in Punjab 58% people are working in the agriculture sector. The farmer of Punajb (except a few big farmers) does not practise the agriculture like a businessman. He sows a number of crops in his fields. Two crops are taken at the same time. The agriculture of Punjab is intensive type of agriculture. Therefore the yield per acre is more than that of the U.S.A.

POINTS TO REMEMBER

Agriculture : A very important and old occupation.

Definition : Agriculture means growing of crops, raising of livestock and running the industries based on agriculture.

Factors affecting Agriculture :

- climate
- relief
- soil
- Irrigation facilities
- Methods of agriculture
- Market Facilities
- Means of Transport, Banks and other facilities

Types of Agriculture :

- Permanent type of agriculture
- Shifting
- Dry Farming
- Wet/Humid farming
- Intensive type of agriculture
- Extensive
- Mixed farming
- Floriculture
- Private type of Agriculture
- Cooperative
- Collective
- Plantation Agriculture
- Subsistence type of agriculture
- Commercial

Major Crops

- Cereal Crops - Rice, wheat, maize, Jowar, Bajra, Pulses, Oil seeds
- Fibre Crops - Cotton, Jute, Hemp
- Beverage Crops - Tea, Coffee, Cocoa
- Vegetable & Fruit crops - Apple, Orange, Banana, Mango, Peach, Vegetables

Geographical conditions required for cultivation of different crops :

Temp. Rainfall	Rice 20-30°C 100-200cm	Wheat 10-20°C 50-100cm	Maize 18-27°C 50-100cm	Cotton 20-30°C 50-100cm	Jute 24-35°C 120-150cm	Tea 20-30°C 150-300cm	Coffee 15-18°C 100-200cm
Relief	Levelled	Levelled or Slope	Levelled or Simple slope	Levelled or Simple slope	Levelled	Slope	Slope
Soils	Alluvial Clayey loam	loam Clayey Red	Alluvial Red	Black or Alluvial	Alluvial Clayey loam	Loam Forest Soil	Loam or Rich in humus
Labour	Required	Required	-	Trained Labour	Required	Trained Labour	Skilled Labour
Major Crop Producing Countries	China, India Bangladesh, Japan and other South East, Countries.	China, U.S.A., Russia, France, Canada Germany,	U.S.A., China, Brazil, Egypt,	U.S.A. East while USSR China Mexico Sudan	China India Bangladesh Thailand Brazil Indonesia	China India Japan Sri Lanka Taiwan Bangladesh	Brazil, Columbia Indonesia Mexico Ethiopia
Major Crop producing States of India	West Bengal Bihar Orissa Punjab Tamilnadu	Uttar Pradesh Punjab Haryana Rajasthan Madhya P. Bihar	Madhya P., Andhra P., Karnataka, Rajasthan Uttar Pradesh, Himachal	Maharashtra, Gujarat, Andhra Pradesh, Punjab, Haryana,	West Bengal, Bihar, Assam, Orissa, Uttar Pradesh	Assam, West Bengal, Tamilnadu, Kerala, Tripua,	Karnataka, Kerala, Tamilnadu, Andhra Pradesh, Karnataka,

Development of Agriculture :

U.S.A. : Large size of land holdings, extensive type of agriculture, full use of machines. The farmer produces the crops like a businessman. Yield per acre is less.

Punjab : Small size of land holdings, intensive type of agriculture, less use of machines. The farmer produces the crops for his own needs as well as for the market. Yield per acre is high.

I. Answer the following questions in 1-15 words.

1. What do you understand by agriculture ?
2. Which factors affect the agriculture ?
3. Write a brief note on plantation farming.
4. Write the names of the cereal crops.
5. What is puddling ?
6. What products are prepared from maize ?
7. How many types of cotton are there on the basis of the length of its staple ?
8. Which are the things that can be made from the jute ?
9. How does the tea plant look like ?
10. Write the names of three types of coffee.
11. What is the percentage of people engaged in agriculture in the U.S.A. and Punjab ?

II. Answer the following questions in 50-60 words :

1. After writing the types of agriculture, differentiate between Intensive and Extensive agriculture ?
2. Differentiate between subsistence and commercial type of agriculture.
3. Which are the main rice producing areas ?
4. Explain the conditions required for growth of cotton and jute.
5. Write a note on cotton production in Punjab.
6. Write about protection of tea and coffee plants.
7. Write a note on the uses of machines in agricultural operations in U.S.A.

III. Answer the following question in about 125-130 words :

1. After writing the conditions required for growth of wheat explain the areas of wheat production.
2. What are the conditions required for plantation of tea and coffee ? Explain the main areas of tea and coffee production in India.

3. Write down the process involved in jute production. Write in detail about the uses and distribution of jute in the world.
4. What are the Similarities and variations found in the agriculture of Punjab and the U.S.A. ?

IV. In the map of India show two places for the each where the following crops are produced :

1. Tea
2. Coffee
3. Wheat
4. Maize
5. Rice
6. Cotton
7. Jute

V. Activity :

Name three each of Kharif and Rabi crops produced in your region and mention geographical conditions needed for production of each crop.

Man gets primary products from agriculture, forests, fish, mines and animals. There may be a few products only which are used by man directly. For example wheat is produced in the fields but is not used as such. It is grinded in the machines to make flour, then this flour is converted into other products like bread, chapatis, biscuits etc. The cotton obtained from the fields is cleaned and ginned into yarn, the yarn further used for making cloth. Sugar or molasses is made from the sugarcane. Iron-ore is taken out from the earth, purified, used to make iron or steel products. Therefore, almost every primary product goes through a process before it is used by man. This process is known as 'Manufacturing'. To denote the activity of manufacturing the word 'industry' is used. Raw material is converted into finished products in the industries. To grow the sugarcane is included in 'agriculture' whereas manufacturing of sugar is included in the 'industry' where sugarcane is used as raw material.

The development of industries is very important for the existence and development of man. Industries are such sources which work as engines of economic growth and are helpful for the eradication of poverty and unemployment from the country. The development of industries transforms the old society into the modern society. The proper judgement of the economic development of a nation can be made out from its industrial development. All the developed nations of the world are industrially developed.

Before the setting up of industry at a place we must go through some important factors. These factors affect the development of industry to a great extent. Some important factors are given as below :

1. Raw material
2. Power Resoruces
3. Labour
4. Means of Transport
5. Market
6. Water
7. Climate
8. Capital
9. Government Policies
10. Banking and Insurance facilities
11. Security Arrangments

1. **Raw Material :** Raw material is that product which is converted into final product as for example cotton is used as a raw material in the textile industry. The availability of required raw material should be assured for setting up any type of industry. If the raw material is heavier, then the setting up of related industries near the existence of raw material becomes beneficial, if the raw material is lighter in weight, it can be transported to the distant places.

2. **Power Resources :** Power resources play very important role in any type of industry. Coal, mineral oil or electricity are considered the major power resources to run the industries. Therefore the required power resources should be available for setting up of an industry.

3. **Labour :** For the running of industries, labour is also required inspite of availability of raw material and power resources. For various types of jobs, cheap and trained labourers are required in the industries. Inspite of a large number of machines in the industries, the importance of labour has not declined.

4. **Means of Transport :** To collect different types of materials required for the industry, commuting of labourers and to take the finished products to the market, means of transport must be available.

5. **Market :** There should be proximity to the market to sell the products prepared in the industries. It means that there should be demand for the finished products.

6. **Water :** Water is also one of the requirements for setting of an industry. That is the reason that most of the industries are set up on the banks of the canals, rivers or lakes. The industries which require less of water can be set up elsewhere also but even then the required supply of water is necessary for the use of the labourers or other minor activities.

7. **Climate :** The climate plays a crucial role in the setting up of the industries. The places which are too cold or too hot are not preferred for the industries. The places with moderate type of climate are suitable for the industries. Humid type of climate is beneficial for textile industries becuase the thread being used for making of cloth breaks again and again in the dry conditions. Therefore the suitable type of climate contributes positively towards the development of industries.

8. Capital : Inspite of the suitability of all other factors the development of industry will not take place if required money or capital is not available. Therefore, required capital should be available.

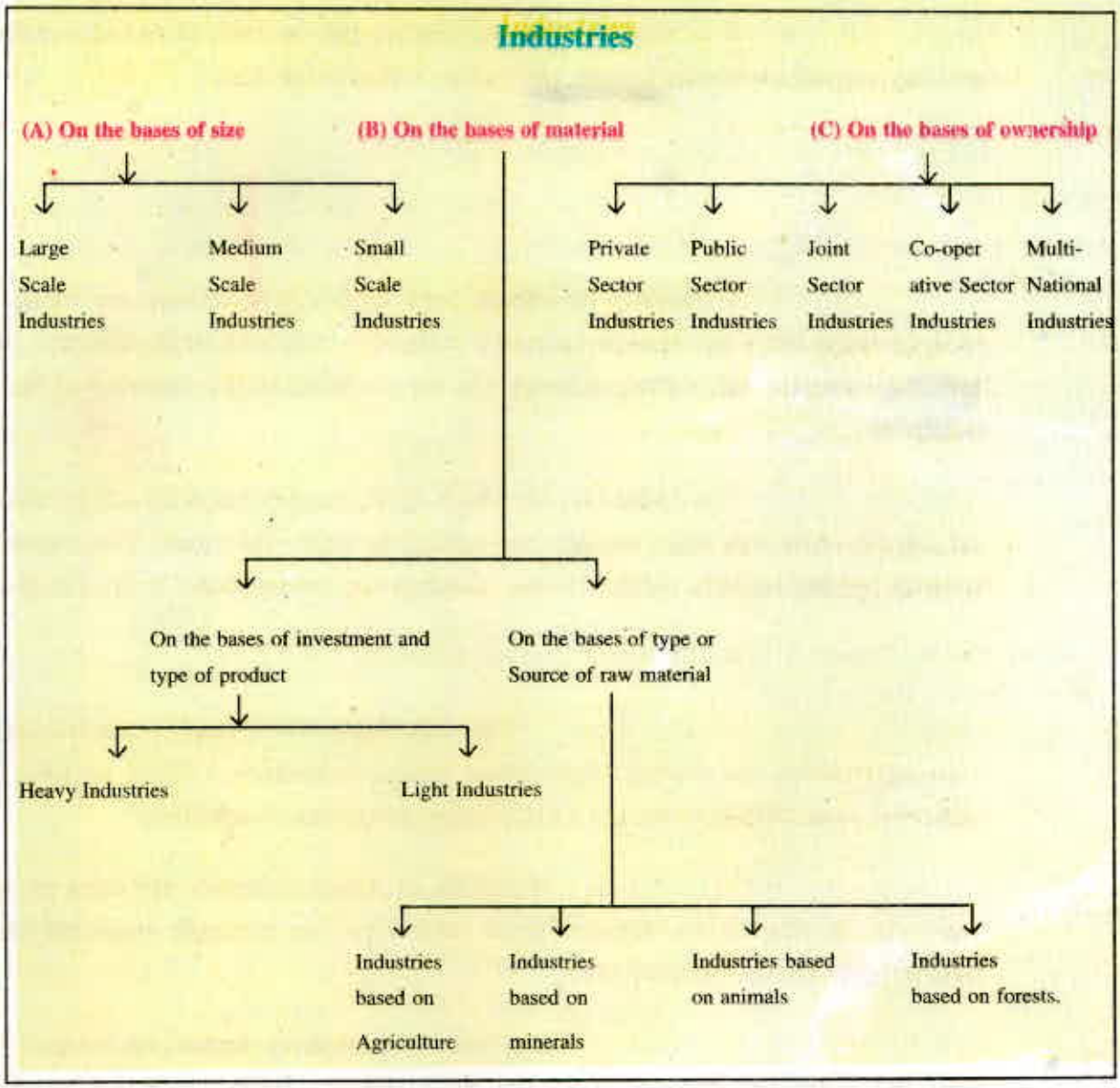
9. Government policies : The government's approval is essential for setting up of industry at a place. A few modalities has to be observed in various fields and government departments like – Pollution Control Board, Forest department, defence organisation etc. grant permissions for setting up of any industry. The state and the central governments, according to their planning policies, allow the settlement of industry at a place. To develop an area industrially or decentralise an industrial centre, it is all according to the pre decided government policies. It is due to the decided government policies that no industrial unit development has to take place in the border areas.

10. Facilities like Banking and Insurance etc. : A lot of money transaction is involved in the activities like setting up of an industry, to give salaries to the workers and to sell the finished product in the market etc. For the safety of money and maintenance of accounts the banks should be near to the industry. The money can be withdrawn or deposited according to the requirements.

There are very costly machines which are used by the labourers. Any damage to the machine or labourers may take place at any time. For the fulfilment of such possible damage to the machines or workers, insurance facility is required. The banks, insurance companies, industrialists and workers all get benefitted if such facilities are available nearby.

11. Security Arrangements : Security arrangements and resource of fine law and order are necessry for development of industry.

Clasification of Industries : Different types of materials are produced by the industries. From small domestic things to the biggest machines are produced in the industries. If the products are different to one another, then obviously there will be different types of industries. The industries can be classified on many bases. Here we will classify the industry on the basis of size, raw materials being used and the ownership of the industries.



(A) Industries on the bases of size :

1. **Large Scale Industries :** The industries in which a large number of workers are engaged are called 'large scale industries'. There is very big capital investment also in these industries. The industries with investment of 5 crores or more are included in this category.
2. **Medium Scale Industries :** The industries in which the number of workers and capital investment is less than that in case of large scale industries are called 'Medium Scale Industries'. The capital investment in these industries ranges between 60 lacs to 5 crores.

3. **Small Scale industries :** In this type of industry the number of workers is very less and capital investment ranges between 5 lacs to 60 lacs.

(B) Industries on the bases of material

I. On the bases of investment and type of product

1. **Heavy Industries :** Industry in which very heavy investments are made to produce huge item are known as heavy industry. Iron and steel indsutry, ship building industry and railway industry etc. are included in the category of heavy industries.

2. **Light Industries :** The Industries in which light weight mateirals are produced and invest. ents are also smaller are called as light industries. For example industry producing fans, electric irons, watches etc. are included in this category.

II. On the bases of type or source of raw material

1. **Industries based on Agriculture :** The industries which get its raw materials from agriculture are called 'agriculture based industries. Cotton textile, tea industry, sugar industry etc. are called 'agriculture based industries.

2. **Industries based on minerals :** Industries in which minerals are used as raw materials are known as mineral based industries, for example iron and steel industry, aluminium industry etc.

3. **Industries based on animals :** These types of industries depend on animals for their raw materials. Among these are dairy industry, leather industry, woollen textile industry and industries related with animal bones are worth mentioning.

4. **Industries based on forests :** The Industries which depend on the forests for their raw materials are called 'forest based industries'. The paper industry, wood industry etc. are included in this category.

C. Industries on the bases of ownership

1. **Private Sector Industries :** The industries which are run by the people individually or as a firm are called private sector industries e.g. Hero Cycle Industry and Punjab Tractors Limited. In this type of industry the investment and profit both are controlled by the owner.

2. **Public Sector Industries :** The industries run by the government or its agencies are included under this category. In this case the investment and profit both are controlled by the government. For example Bharat Heavy Electricals or Rail Coach Factory, Kapurthala etc. are public sector industries.

3. **Joint Sector Industries :** The industries which are established jointly by the government of private individual or agencies are called as joint sector industries. For example Gujarat Alkalis Limited etc. come under the joint sector.

4. **Cooperative Sector Industries :** Industries which are run by the members of a cooperative organisation are called cooperative sector industries. Cooperative sugar mills or cooperative cotton mills are inlcuded in this type of industries.

5. **Multinational companies or Industries :** In this case a company sets up its industries in other countries also, that is why these are called multinational industries. Multinational car companies and coca-cola industry etc. are included in this category.

Major Industries and their distribution

Many types of industries have been set up at the world level and still some are being set up. Type of industry in a country or part of the country depends on the suitability of the factors affecting the location of the industry. In the agriculturally developed areas more industries will be based on agriculture. More industries will be mineral based in the areas where under ground minerals are found. The industries are of different types but iron and steel industry, textile industry, automobile industry, ship building industry, air craft industry, railway coaches and engine industry and electronics industry etc. are included in the major industries. These industries are located in different parts of the world. The U.S.A., countries of the erstwhile U.S.S.R. and Germany are much advaned in iron and steel industry. These countries produce about 50% of the total iron and steel production of the world. England, France, Japan, Canada, China and India are the other important iron and steel producing countries of the world. Bihar, Madhya Pradesh, Orissa and West Bengal are the Iron and steel producing states of India.


INDIA
ENGINEERING INDUSTRIES
PAKISTAN
CHINA
TIBET
NEPAL
Bhutan
Bangla-
Desh
Kapurthala
Jalandhar
Rupnagar
Ludhiana
Gurgaon
Dharumera
Faridabad
Sonipat
Delhi
Surajpur
Alwar
Lucknow
Varanasi
ODHAV
Bhopal
Jabalpur
Pithampur
Bhilai
Chittranjan
Asansol
Durgapur
Jamshedpur
Kolkata
Mumbai
Pune
Satara
Hyderabad
Vishakhaptam
Bay of
Bengal
Arabia
Sea
Railway Equipment
Automobiles
Ship Building
Aircraft
Bicycles
Perambur
Bangalore
Mysore
Chennai
Lakshadweep
(INDIA)
KOCHI
ANDAMAN AND NICOBAR ISLANDS (INDIA)
Kilometers
200 0 100 300 500

Textile Industry is located in many countries of the world. England is the pioneer country in this industry. The U.S.A., Russia, Japan, China, Egypt and India are famous in textile industry. Maharasthra, Gujarat, West Bengal, Uttar Pradesh, Tamilnadu, Punjab etc. are important states in textile industry.

Automobile Industry was started in end of 19th century. The U.S.A., England, Germany, Japan, France, Sweden and many other countries of Europe are important countries in this type of industry. Many automobile industries are also located in the countries like Canada, Australia, Spain, China and India. The cities like Mumbai, Chennai, Jamshedpur, Jabalpur, Kolkata, Kanpur, Ahmedabad, Faridabad, Gurgaon and Mysore etc. are improtant automobile industrial centres of India.

The ship building industry is mainly located in the coastal countries. The ships are mainly used to ship the luggage and the passengers from one place to another. The countries, like the U.S.A., England, Japan, China, Brazil, Venezuela and India manufacture ships in the world. Vishakhapatnam, Kolkata, Chennai, Cochin and Mumbai are the major ship building centres of India.

Railway coaches and Engineering Industry : The U.S.A., England, Russia, Germany, Japan etc. are the chief manufacturer of railway coaches and engines in the world. In India, Chittranjan (West Bengal), Varnasi (Uttar Pradesh) and Jamshedpur (Jharkhand) are famous in making railway engines. Perambur (Tamilnadu), Bangalore (Karnataka) and Kapurthala (Punjab) are the well known industrial centres where railway coaches are manufactured.

The use of aeroplanes is increasing day by day at a very fast speed. The aeroplanes are used to carry the luggage and passengers. The fighter planes are used during war. The United States of America is manufacturing as well exporting the aeroplanes in a large number. The countries like Russia, England, France, Canada, Italy, Australia, Japan and China are also manufacturing the aeroplanes at a large scale. Bangalore, Kanpur, Lucknow and Nasik cities of India are the prominent aeroplane manufacturing centres.

POINTS TO REMEMBER

Industry : Industries have great significance in human life.

Manufacturing : Every primary product goes through a process before being used by man. This process is called manufacturing.

Important Factors affecting the Industry :

1. Raw material,
2. Power Resources
3. Labour
4. Means of Transport
5. Market
6. Water
7. Climate
8. Capital
9. Government Policies
10. Banks and Insurance etc. facilities
11. Security Arrangement

Classification of Industry

(A) On the bases of size :
- Large Scale Industries
- Medium Scale Industries
- Small Scale Industries

(B) On the bases of materials :

1. On the bases of type of product and investment
   - Heavy Industries
   - Light Industries
2. On the bases of type or source of raw materials.
   - Based on Agriculture
   - Based on Minerals
   - Based on Animals
   - Based on Forests

(C) On the bases of ownership :
- Private Sector Industries
- Govt. Sector Industries
- Joint Sector Industries
- Cooperative Sector Industries
- Multinational Companies or Industries

I. Answer the following questions in 1-15 words :

1. What do you understand by the term manufacturing ?
2. How can the economic development of a country is judged properly ?
3. What factors affect the industries ?
4. Which industries are called private sector industries ?
5. Which are the raw materials used in the agriculture based industries ?
6. Where are the ship building industries located in India ?
7. When did the automobile industry start ?

II. Answer the following questions in 50-60 words :

1. What is the importance of industries in human life ?
2. How do the raw material and power resources affect the industries ?
3. What is the role of the government policies in the development of the industries ?
4. Write briefly about the large, medium and small scale industry.
5. Differentiate between heavy and light industries with examples.
6. Name the chief textile and iron and steel indsutrial centres. Write the names of three textiles centres of India.
7. For which purpose are the aeroplanes used ? Which are chief aeroplanes manufacturing centres in India ?

III. Answer the following questions in about 125-130 words :

1. Explain in detail the factors affecting the industry.
2. What are the bases on which the industries have been classified ? Explain the types of industries on the basis of the raw material.

IV. Show the following in the map of India-

1. One state each famous in textile and iron and steel industry.
2. Kanpur, Chennai and Mumbai centres of automobile industry.
3. Ship building industry-Vishakhapatnam and Cochin.
4. Chitranjan, Kapurthala and Lucknow centres.

V. Activity :

Visit any industrial unit situated nearby and find out what is produced in the unit, using what type of raw material. Also list where these products are being sold and problems being faced by such unit.

In the last chapter we have studied about various types of industries. We will get more knowledge about three major industries known as infrastructure industries, in this chapter. These three industries are given as under :

1. Iron and steel industry
2. Textile industry
3. Information Technology Industry.

1. Iron and Steel Industry :

The iron and steel industry is known as the basic or the primary industry. It is not only because it provides raw material to other industries like engineering, automobile or electronis industry etc. but all the machines or tools used in other industries are dependent on iron and steel industry. All the machines being used in the manufacturing are made of iron and steel. The iron is being used to such an extent that it will not be wrong to call the present time with the name of iron and steel age.

In the manufacturing of iron and steel, first of all iron-ore is smelted in the furnaces. The iron-ore is purified by removing all the impurities. Then steel is made from the purified iron and the required products are made from the steel.

Conditions required for the setting up of Iron and Steel Industry

1. **Supply of Iron-ore :** Iron-ore is the main substance required for the iron and steel industry. Iron-ore being heavy in weight should be available near the industrial centre.
2. **Availability of good quality coal :** For the smelting of iron-ore in the furnaces, good quality coal should be available in large quantities Inspite of coal, limestone, dolomite, manganese etc. are also required for the iron and steel industry. Therefore, these substances should also be available in required quantities.

3. **Regular water supply :** After smelting the iron, water in large quantity is required for washing and cooling of hot iron. Therefore, water in abundance should be availabe near the units of iron and steel industry.

4. **Proximity of manufactured material to the consumption centres :** There should be proximity (nearness) of the markets for selling the products of iron and steel industry. A lot of money is earned by selling these products. The nearness of the consumption centres will reduce the transportation costs and save the time also. If the industry is to be set up for the export motive then the nearness to port should also be kept in mind.

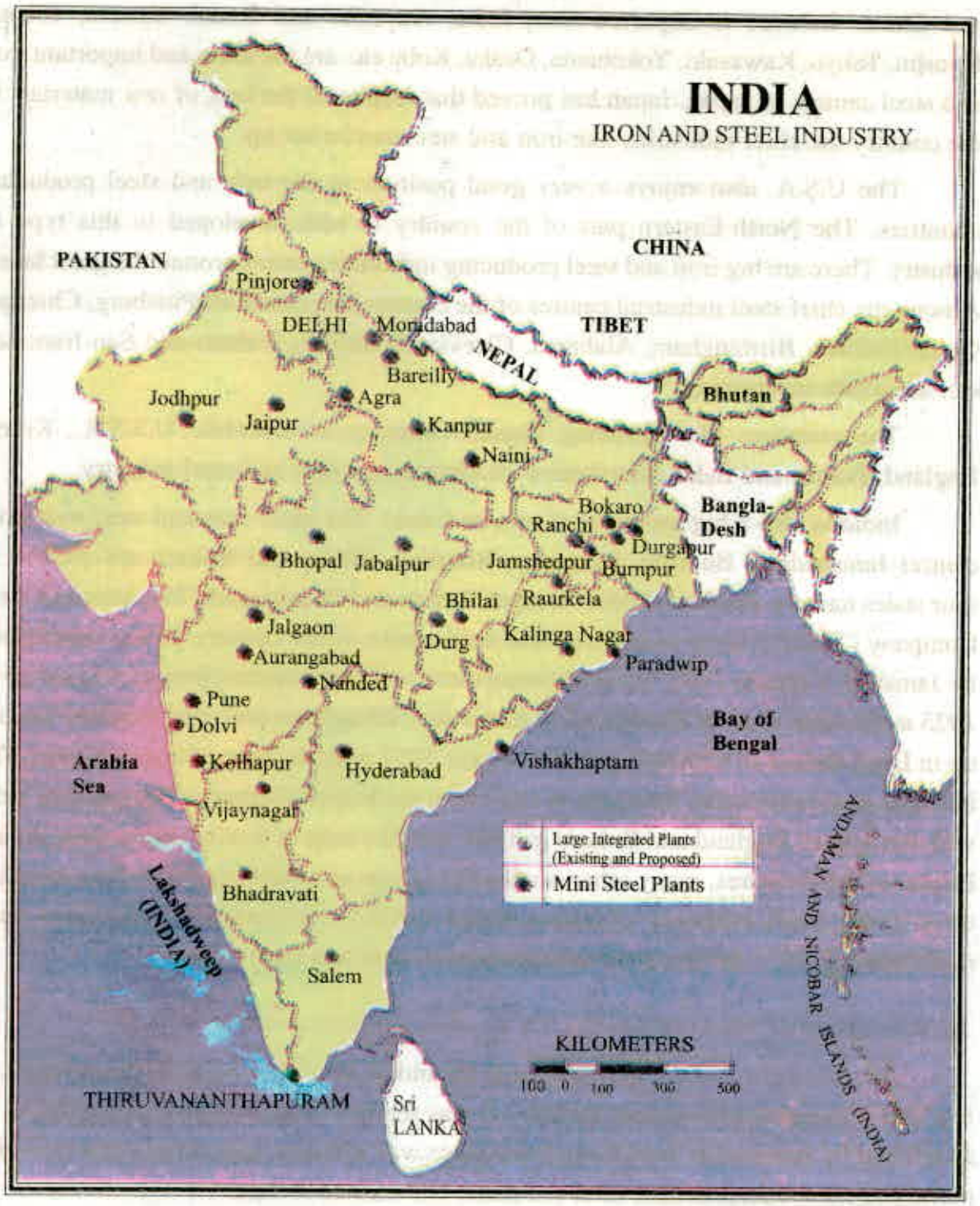
5. **Cheap and developed means of transport :** For the transportation of different types of products for the industry and commuting of workers, good and cheap means of transport should be available.

6. **Need for skilled labour :** For different types of jobs in the iron and steel industry, skilled and experienced workers in the related field are required. Therefore, labour of this type should be easily available.

7. **Capital :** A lot of capital is required to set up such industries. Only the government agencies, big financers or other foreign institution can fulfil the capital requirements. If capital requirement is met by some source only then this type of industry can be set up and carried on.

Areas with Iron and Steel Industry : Iron and steel industry mainly depends on availability of required raw material along with other factors. This type of industry is set up at the places where the suitable conditions required for the industry are available. As iron and coal are not evenly distributed in the world, that's why variations in the distribution of this industry are found at world level. Some countries are leading in iron and steel production while others are lagging behind in it. The countries like

China, Japan, U.S.A., Russia, Germany and Brazil are leaders in iron and steel production. Korea, India, England, France, Italy, Spain and Poland are also important countries in iron and steel industry. At present China is the biggest producer of iron and steel in the world. Manchuria, Yangtze Valley and Hopei,-Shantung are the chief iron and steel industrial centres of China. Big reserves of iron-ore and coal are found in Manchuria and Yangtze Valley.


INDIA
IRON AND STEEL INDUSTRY
PAKISTAN
CHINA
TIBET
NEPAL
Bhutan
Bangla-
Desh
Pinjore
DELHI
Moradabad
Bareilly
Jodhpur
Jaipur
Agra
Kanpur
Naini
Bokaro
Ranchi
Durgapur
Burnpur
Jamshedpur
Bhopal
Jabalpur
Bhilai
Raurkela
Jalgaon
Durg
Kalinga Nagar
Aurangabad
Paradwip
Nanded
Pune
Dolvi
Bay of
Bengal
Arabia
Sea
Kolhapur
Hyderabad
Vishakhaptam
Vijaynagar
Large Integrated Plants
(Existing and Proposed)
Mini Steel Plants
Bhadravati
Lakshadweep
(INDIA)
Salem
KILOMETERS
100 0 100 300 500
THIRUVANANTHAPURAM
Sri
LANKA
ANDAMAN AND NICOBAR ISLANDS (INDIA)

Japan is also a big producer of iron and steel. Japan lacks in the raw material required for the industry. Therefore, Japan imports iron-ore and coal from other countries of the world. The coal is mainly imported from the U.S.A., Canada, Australia and China. Iron-ore is imported from India, Australia and Brazil. Yawata, Tobata, Kyushu, Tokyo, Kawasaki, Yokohama, Osaka, Kobe etc. are the main and important iron and steel centres of Japan. Japan has proved that inspite of the lack of raw materials in the country the chief industries like iron and steel can be set up.

The U.S.A. also enjoys a very good position in the iron and steel producing countries. The North-Eastern part of the country is well developed in this type of industry. There are big iron and steel producing industrial centres around the great lakes. Among the chief steel industrial centres of the country, the names of Pittsburg, Chicago, Garry, Dullath, Birmingham, Alabama, Cleevland, Buffalo, Pubelo and San-francisco etc. are worth mentioning.

The countries like Germany, Brazil, countries of erstwhile U.S.S.R., Korea, England, France and India contribute a lot towards the iron and steel industry.

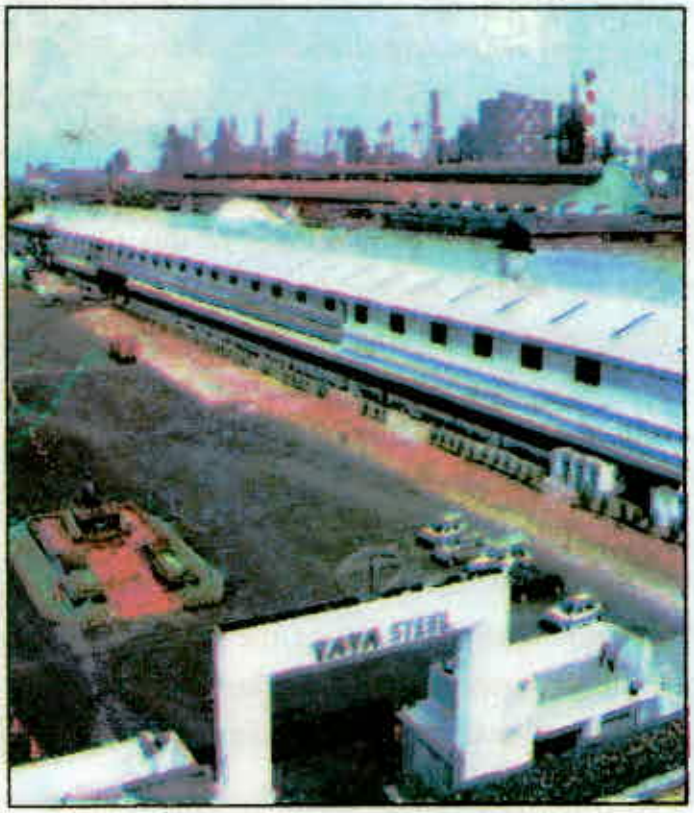
India is also a big producer of iron and steel. The chief iron and steel industrial centres-Jamshedpur, Burnpur, Durgapur, Rourkela, Bhilai and Bokaro are located in four states namely-Jharkhand, West Bengal, Orissa and Chhattisgarh. Tata Iron and Steel Company (TISCO) is the oldest iron and steel centre of our country. It was established by Jamshed ji Tata in 1907. Vishveshvaraya Iron and Steel limited project was set up in 1923 at the bank of river Bhadravati in Karnataka. Bhilai Iron and steel Industry was set up in Durg district of Chhatitisgarh in the year 1957 with the help of Soviet Union. The iron and steel centres like Rourkela in 1957 with the help of Germany, Durgapur in 1959 with the help of England and Bokaro in 1964 with the help of Soviet Union were set up. Inspite of these centres, many other small and big iron and steel industries have been set up in India. Steel Authority of Inda Limited (SAIL), a government body have been established in 1973 for the good management of iron and steel industry.

Jamshedpur (India) and Detroit (U.S.A.)-A comparative study.

Jamshedpur India : Jamshedpur is the oldest iron and steel industry of India. It is a Tata Iron and steel company industry. It was set up at Sakchi in district Singbhum of Jharkhand by Jamshed Ji Tata. Earlier this place was in Bihar state. After some time this place was named Jamshedpur after the name of Jamshed Ji Tata.

In the beginning, the production of this industry was low but now it is producing 3 million tonnes of steel annually. For this industrial centre good quality iron-ore is

available from Singhum mines in Jharkhand and Mayurbhanj mines of Orissa about 75-100 kilometers away. The coal supply is available from Jharia and Raniganj mines. The raw material like manganese and limestone are available from Orissa. The water requirements are met by river Subernrekha. The port of Kolkata is about 250 km from Jamshedpur. In this part of the country the means of transport are well developed. The cheap labour for the industries is easily available from the states of Jharkhand, Bihar and Orissa. Being connected to the big cities like Mumbai, Chennai, Delhi and Kolkata with roads and railway network, the finished products can be sent to the different parts of the country. For the export to other countries, the port of Kolkata proves to be very beneficial. Onspite of Iron and steel industries, many other industries have been developed at this place.



Tata Industry of India


Iron and Steel Industry of U.S.A.

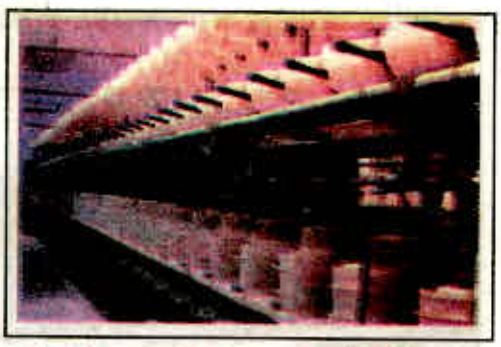
Detroit (U.S.A.)

If we look at the iron and steel industry map of North America our eye first of all moves towards North-Eastern part of the U.S.A. It has a very large number of industries. Due to the presence of iron-ore and coal reserves around the great lakes, the area is highly developed industrially. The big industrial centres like Chicago, Cincinnati, Younstown, Cleevland, Buffalo

and Pittsburg are located here. Among these centres, there is one more important industrial centre named Detroit. Detroit is located between the two lakes i.e. Huron and Erie in Michigan State. One finds many iron smelting and steel making industries in the Detroit city. Detroit is known as 'motor city' and is recognised as the leading industrial centre of the U.S.A. The geographical location of this city has become as a blessing in the development of industries of this place. This city is also known as 'Automobile Capital' of the world. Many big companies have set up thier industries at this place. Being located at the banks of the Great lakes, the facility of water transport is available. This place is joined with the big markets of Europe and Asia through water. Inspite of iron and steel and automobile industries, the industries like farm machinery, machine tools, chemicals, food processing and the ship building industry are also very important in Detroit.

2. Textile Industry : The cloth is manufactured by using various types of raw material. The chief among these are cotton, jute, wool, silk and synthetic fibre. The textile industry provides employment to a large number of people and contributes a lot to the national income. Textile industry is included in the main industries by many countries of the world.

The cloth manufactured by the textiles is used for wearing, decoration of rooms and packing of commodities. The cloth has a special place in the three fundamental needs of man i.e. house, food and clothing. We can classify the textile industry on the basis of raw material being used by it in the following categories :



An Internal view of a clothmill

(A) The Cotton Textile Industry

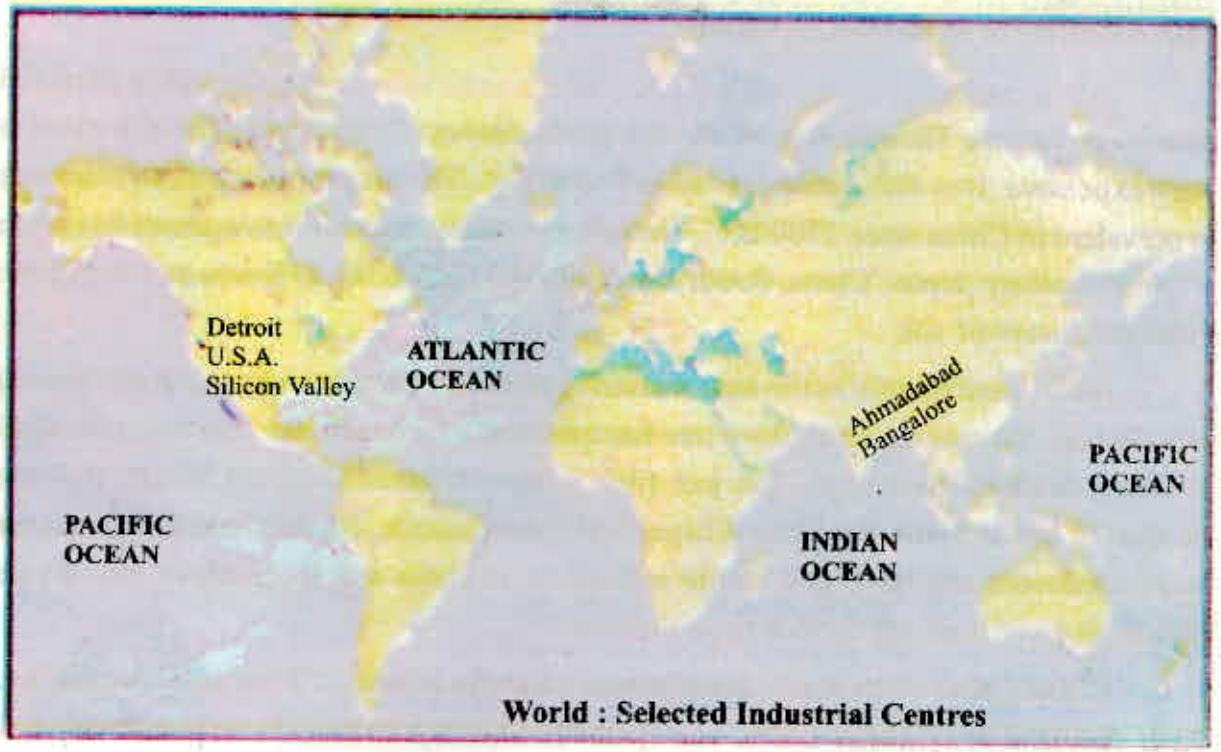
(B) The Woollen Textile Industry

(C) The Silk Textile Industry

(D) The Jute Textile Industry

(E) The Artificial Silk and Synthetic Fibre Textile Industry.

The Woollen Textile Industry : depends on hair or fur of the animals. The fur of the animals like sheep, goat, camel, yak, rabbit etc. is used for making cloth. The sheep is such an animal from which the largest quantity of wool is obtained. Long staple and good quality of wool is obtained from 'Marino'-a type of sheep. The sheep are reared to get wool in almost every continent of the world. Australia, NewZealand, Russia, Argentina, South Africa, China, Uruguay, Turky, U.S.A. and England are the important


Detroit
U.S.A.
Silicon Valley
ATLANTIC
OCEAN
Ahmadabad
Bangalore
PACIFIC
OCEAN
PACIFIC
OCEAN
INDIAN
OCEAN
World : Selected Industrial Centres


Russia
Canada
U.S.A.
ATLANTIC
OCEAN
China
Egypt
India
PACIFIC
OCEAN
Africa
PACIFIC
OCEAN
INDIAN
OCEAN
South
Africa
Australia
World : Selected Industrial Centres

sheep rearing countries of the world. The woollen textile industry is also well developed in the sheep rearing countries. The cloth made of wool is warm in nature is worn in the cold countries or in the winter season.

Silk is used as raw material in the silk textile industry : The silk is obtained from 'silk worm'. The silk worms are fed on the leaves of the plants. The silk cloth is very expensive. It is also known as 'luxury clothing'. The art of making cloth from silk is prevalent in China since 2500 B.C. The other countries came to know about this art in 3rd or 4th century. Japan, China, South Korea, Russia, India, North Korea and Brazil are chief producers of silk.

Jute is used mainly in the manufacturing of sacks, carpets, mats and ropes among other things but making cloth from jute has emerged as a new trend. The thin jute cloth is in big demand these days. The jute fibre is also obtained from the plants. It is the product of hot and humid regions. China, India, Bangladesh, Thailand and Brazil are the chief producers and have jute textile industries. In India and Bangladesh jute textile industries have been set up in a large number.

In these days cloth is also being produced in the industries from artificial silk and other chemical or synthetic fibres. The synthetic fibre is a chemical compound which is produced in the industries. Nylon, terralene, acrylene, tetron etc. are synthetic fibres. The artificial or synthetic fibre is giving a big competition to the natural fibres as it is very cheap in price. The countries like Japan, U.S.A., England, Germany, India, China and Italy are the chief manufacturers of cloth from synthetic fibre.

Cotton Textile Industry

Cotton textile industry is based on 'cotton'-the natural fibre. The cotton is obtained from the plants. The long staple cotton is considered to be the best quality cotton. The cloth made from it is sold at a high price in the market. The factors required for the setting up of cotton textile industry are given as under :

(A) Availability of raw material

(B) Availability of Capital

(C) Cheap Labour

(D) Developed means of transportation

(E) Proximity to the market

(F) Suitable climate

For the cotton textile industry first of all the cotton is picked from the fields with the help of labourers or machines. Then the cotton seeds are separated from the cotton with machines called gin. After that the cotton is cleaned and turned into yarn. Then the yarn is put to weaving and the cloth is manufactured. Then the cloth is dyed, printed or decolourished according to the requirements.

Areas of cotton textile industries

The cotton textile industries have been set up in many countries of the world. The countries like U.S.A., countries of erstwhile U.S.S.R., England, Japan, China, Egypt and India are chief cotton textile industrial centres of the world. The European countries like England, France, Germany, Italy and Polland are the old countries producing cotton cloth. The production of cotton cloth in these countries started in the beginning of 18th or 19th century. Belgium, Netherlands, Spain, Portugal, Turkey, Czechoslovakia etc. are the other countries having cotton textile industries.

Japan is not very old country in cotton textile industry but it has progressed too much in this field. Japan produces about 5% of the total world yarn. Japan imports its raw material i.e. 'cotton' chiefly from U.S.A., China and India. Osaka, Kobe and Kyoto centres in Nobi Plain and Hanshin regions are famous for cotton textile industries.

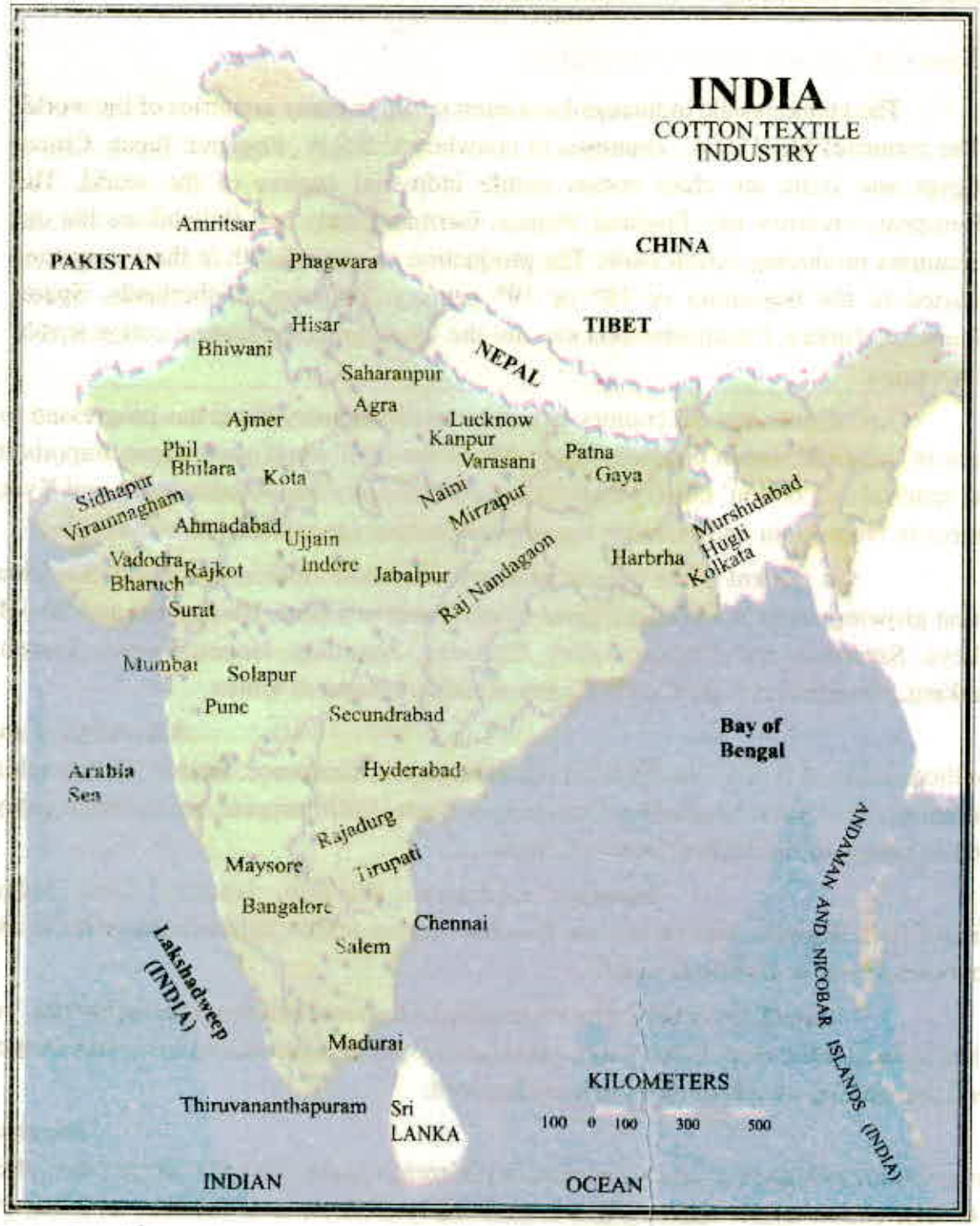
China at present is the biggest producer of cotton cloth in the world. The chief cotton growing areas of China are great North Plains of China, Hwang-Ho and Wei-He valleys, Szechwan and Yangtze valley. Chikiang, Shantung, Hopei, Hunan, Shanshi, Nanking, Shanghai etc. are the chief cotton textile centres of China.

U.S.A., Cotton textile industries are located in North-East, Mid Atlantic and Southern areas of U.S.A. Newbedford, Manchester, St. Lawrence, Boston, Philadelphia, Baltimore, New York, Greenville, Columbia, Atlanta, California etc. are the main cotton textile centres of the United States of America.

Erstwhile U.S.S.R., Moscow, Leningrad, Ukraine, Ivanova, Ural, Volga, Middle-Asia Region, Siberia etc. are the chief cotton textile indudstrial centres in the Countries of the erstwhile U.S.S.R.

Egypt, though is far behind in cotton production and cotton textile industries, yet it has great significance. Long staple good quality cotton is produced here, from which very fine quality of cotton cloth is manufactured.

Indian, Manufacturing of cotton cloth in India is also very old. The hand woven cloth had been in great demand in different countries of the world since 3000 B.C. The cotton textile industry had to face many difficulties at the time of country's partition in 1947 because the areas producing good quality cotton went to Pakistan. India kept its old and important industry alive by importing cotton from other countries.


INDIA
COTTON TEXTILE
INDUSTRY
Amritsar
PAKISTAN
Phagwara
CHINA
Hisar
TIBET
Bhiwani
NEPAL
Saharanpur
Agra
Ajmer
Lucknow
Kanpur
Phil
Bhilara
Varasani
Patna
Kota
Gaya
Sidhapur
Viramnagham
Naini
Mirzapur
Murshidabad
Ahmadabad
Ujjain
Hugli
Vadodra
Rajkot
Indore
Jabalpur
Harbrha
Kolkata
Bharuch
Raj Nandagaon
Surat
Mumbai
Solapur
Pune
Secundrabad
Bay of
Bengal
Arabia
Sea
Hyderabad
Rajaburg
Tirupati
Maysore
Bangalore
Chennai
Salem
Lakshadweep
(INDIA)
ANDAMAN AND NICOBAR ISLANDS (INDIA)
Madurai
KILOMETERS
Thiruvananthapuram
Sri
LANKA
100 0 100 300 500
INDIAN
OCEAN

Maharashtra, Gujarat, Tamilnadu, Punjab, Madhya Pradesh, Uttar Pradesh, Rajasthan, Pondicherry, Karnataka and Kerala are main cotton cloth producing states of India. Mumbai, Sholapur, Pune, Kolhapur, Satara, Nagpur, Aurangabad, Amravati (Maharasthra), Ahmedabad, Vadodara, Barooch, Surat, Rajkot (Gujarat), Gwalior, Ujjain, Indore, Jabalpur, Bhopal (Madhya Pradesh), Chennai, Madurai, Salem, Perambur (Tamilnadu), Kolkata, Murshidabad, Hughly (West Bengal), Kanpur, Muradabad, Varanasi, Agra Baraily, Saharanpur, Lucknow (Uttar Pradesh), Hyderabad, Secunderabad, (Andhra Pradesh), Thiruvananthapuram, Kollam (Kerala), Gaya, Patna (Bihar), Pali Vijay nagar, Bhiwara, Kota, Ajmer (Rajasthan), Ludhiana, Amritsar, Phagwara (Punjab), Bhiwani, Hissar, Panipat (Haryana), Bangalore, Mysore (Karanataka) etc. are the chief cotton textile centres of India.

Ahemadabad (India) and Osaka (Japan) – A Comparative study

Ahemadabad (India) :

Ahemadabad is a very big cotton textile centre in Gujarat. This city is situated at the bank of river Sabarmati. Ahmadabad stands second after Mumbai in cotton textile production in the country. The first cotton mill in Ahmadabad was set up in 1859. Of the total 118 cotton mills of Gujarat, 73 mills are present in Ahmadabad only. Ahmadabad city falls in the 'cotton belt' of India, therefore the cotton is easily available for the cotton textile indsutries. The climate of this place is humid which proves to be suitable for the cotton textile industry.

Subsidised electricity and cheap labour are also easily available for the industry. The city of Ahmadabad is well connected to other parts of the country through roads and railways. Land for the setting up of industry is also available at cheaper rates as compared to that of Mumbai. Market for the manufactured cloth is available within the country. The government is also providing many types of facilities to encourage the industry in this city.

Osaka (Japan) :

Osaka is an important city of Japan as far as the industrial development is concerned. This city is situated in the Kini region of Japan. It is a port city from where a large number of ships pass through. It is very famous cotton textile centre. About 10% of the total cotton textile centres of the country are located in this city only. This city is also known as the 'Manchester' of Japan. The geographical location of this city have contributed greatly towards the development of cotton textile industry. Being situated on the sea route, the import of raw material and the export of finished products becomes very easy. The climate of this place is also highly suitable for the cotton textile industry. Alongwith the cotton textile industry the trend of this city is also turning toward other industries.

3. Information Technology Industry

The present time is the time of machines. Every type of industry is growing at a very fast speed. The world has squeezed and become very small. The devices like radio, telephone, television, mobile phones and computer have provided a good connectivity to the peoples of the world. The use of these instruments has brought development and happiness for the human beings. With the help of these instruments or equipments any

Information Technology Industry Infosis in Pune

information can be sent to or received from any corner of the world in a very short period of time. This type of industrial development is named as 'information technology industry'. With the help of the devices of information technology we can get information regarding any part of the earth or an incident in minutes or seconds. Money can be withdrawn from our bank accounts at any place and time by using A.T.M. Computer is a big revolution in the field of information technology. The computer can be taken to any place. A lot of information can be stored in the computers. In today's world computers and internet facilities are being provided in the tiny mobile phone sets.

If we talk about the start of the computers, the first digital electronic computer was built by the U.S.A. in 1946. Though the computer has reached very late in India yet it has made a good progress in the field of information technology industry. All the developed countries of the world are also much advanced in information technology industry. The countries like U.S.A., Canada, England, France, China, Russia, Japan and Germany have achieved a lot in this industry. The cities like Bangalore, Mumbai, Pune, Chennai, Hydrabad, Delhi, Noida, Gurgaon, Mohali and Chandigarh are chief industrial centres of information technology in India.


INDIA
Information Technology Industry
Shri Nagar
PAKISTAN
Mohali
(Chandigarh)
CHINA
TIBET
Gurgaon
Delhi
Noida
NEPAL
Jaipur
Gandhinagar
Bangla-
Desh
Kolkata
Indore
Aurangabad
Bhubaneshwar
Mumbai
Pune
Bay of
Bengal
Arabia
Sea
Hyderabad
Vishakhapatnam
Bangalore
Chennai
Mysore
Kozhikode
Coimbatore
Kochi
Lakshadweep (INDIA)
ANDAMAN AND NICOBAR ISLANDS (INDIA)
Thiruvananthapuram
Sri
LANKA
KILOMETERS
100 0 100 300 500
INDIAN
OCEAN

Bangalore (India) and Silicon Valley (U.S.A.) – A comparative Study

Bangalore (India) : Bangalore is the capital city of Karnataka a state in India. This city is one of the chief industrial centres of the country. Many types of industries have been developed over here. Machine tools, telecommunications, watches, electric motors and aircrafts etc. are the chief industries found over here. The development of information technology industry started after 1970. At present many Indian and foreign companies are manufacturing computers in the city. The biggest export of computers in the country is being done by this city only. This city is also known as the 'Silicon Valley' of India. The educated and trained people required for the information technology industry are easily available here. The climatic conditions of the city are very favourable for the work and stay. The government of Karnataka is providing a lot of help required for the industrial development of information technology.

Silicon Valley (U.S.A.) :

Silicon Valley is situated in Western U.S.A. in the state of California. There was a time when this area was famous for fruit growing but today it is one of the greatest 'Science parks' of the world. It is spread over about 1000 sq. km area where hundreds of

An office of Oracle in Silicon Valley

high tech. industries have been established. It is the biggest information technology centre of the U.S.A. The biggest computer companies like APPLE, INTEL and SUN have set up their industries in this city. Standford Research Park was inaugurated here in 1951 to promote research in different fields. For this purpose all the facilities are provided by the university. Till 1959 about 100 information technology companies had established their indudstries over this place. In the year 1990 the number of these companies increased to 3200. At present about 3 lakh people are working in the Silicon Valley. Billions of rupees are earned by selling various products. The conditions required for the information technology industry are suitable over here. The means of transport are fully developed. The government is providing different types of facilities for the further development of this centre.

POINTS TO REMEMBER

Iron and steel Industry : This industry is also known as the basic or the primary industry.

Conditions required for setting up of iron and steel industry :

1. Supply of iron ore
2. Availability of good quality coal
3. Regular water supply
4. Nearness of the consumption centres
5. Cheap and developed means of transport
6. Need for skilled labour
7. Capital

The Chief Iron and steel producing countries :

China, Japan, U.S.A., Russia, Germany, Brazil, India and England.

Chief Iron and steel producing centres of India :

Jamshedpur, Burnpur, Durgapur, Bhilai, Rourkela and Bokaro.

Jamshedpur (India) and Detroit (U.S.A.) – A comparative Study of Iron and steel Industry.

2. Textile Industry : Cloth is one of the basic or fundamental requirements of man and it is manufactured from different type of raw materials.

Types of textile industry on the basis of raw materials :

(a) Cotton Textile Industry

(b) Woollen Textile Industry

(c) Silk Textile Industry

(d) Jute Textile Industry

(e) Artificial silk and synthetic Fibre Textile Industry.

Cotton Textile Industry : This industry depends on 'Cotton' the raw material.

Factors required for cotton Textile Indutry :

(a) Availability of raw material

(b) Availability of capital

(c) Cheap labour

(d) Developed means of transportation

(e) Nearness of the market.

(f) Suitable climate

Main countries producing cotton textile : U.S.A., Russia, Japan, China, England, India & Egypt.

Chief Centres of India (Cotton Textile) : Mumbai, Sholapur, Nagpur, Ahmadabad, Surat, Gwalior, Chennai, Kolkata, Hughly, Kanpur, Lucknow, Hyderabad, Bhilwara, Ludhiana, Amritsar, Phagwara, Panipat, Banglore & Mysore.

Ahmadabad (India) and Osaka (Japan)- A comparative study of cotton Textile Industry.

3. Information Technology Industry.

Importance : This industry has a great significance in today's world.

Main devices : Radio, T.V., Telephone, Mobile Phone, Computer etc.

Chief Countries of Information Technology Industry : U.S.A., Canada, England, France, China, Russia, Japan, Germany and India.

Chief Centres of Information Technology in India : Bangalore, Mumbai, Pune, Chennai, Hydrabad, Delhi (Noida), Mohali & Chandigarh.

Bangalore (India) and Silicon Valley (U.S.A.) – A comparative study of Information Technology Industry.

I. Answer the following questions in 1-15 words :

1. Why iron and steel industry is known as the basic or primary industry ?
2. What are the conditions required for setting up of iron and steel industry ?
3. Where are the cities of Jamshedpur and Detroit located.
4. Which substances are used for making cloth ?
5. Classify the textile industry and name them.
6. From where do we get silk ?
7. Which type of cotton is considered the best ?
8. Write about the India has progressed in the field of information technology industry ?
9. What type of industries have been set up in Bangalore ?
10. Where is Silicon Valley and for what it was famous earlier ?

II. Answer the following question in 50-60 words :

1. Explain the process of steel making from the iron-ore.
2. Write the names of iron and steel centres of China and Japan.

3. Which are the favourable conditions available in Jamshedpur for setting up of Iron and steel industry ?

4. Write about the development of iron and steel industry in Detroit.

5. Write a note on woollen textile industry.

6. What are the reasons that are responsible for the development of cotton textile industry in Osaka city ?

7. In Bangalore, what are conditions which are favourable for information technology ?

8. Write a note on the development of information technology industry of Silicon Valley.

III. Answer the following questions in about 125-130 words :

1. What is the importance of iron and steel industry and write about the conditions required for it. Name the iron and steel centres of India.

2. Write in detial the distribution of cotton textile industry in the world.

3. Write the importance of information technology industry and its chief centres in India as well as in the world.

IV. Mark the following in the map of India :

1. Two centres of Iron and steel industry.

2. Two centres of cotton textile industry.

3. Two centres of information technology industry.

4. Ahmadabad, Jamshedpur and Bangalore cities.

V. Activity :

Name any ten industrially developed cities of India. Also explain which industrial units are situated in these towns and in which states these cities are situated.

Importance :

In the previous chapters we have studied in detail about the resources. The countries which have more and developed resources are much advanced than the other countries. The abundance of resources depends on the nature but the development of these resources depends on many other factors. The one important factor among these is the 'development of human resource'. From human resource we mean the population of a country. If the people of a country are more educated, the country will progress speedily. The development of all other resources depends on the level of education and knowledge of science and technology of man.

The human resources are evaluated from both the aspects i.e. quality as well as quantity. It is the qualitative aspect of the human resource which forms the basis for country's progress. In the present age of machine, a great skill and qualification is required to work on the machines. Therefore it becomes essential that the population should be qualified and possess the scientific and technical knowledge. Population of the countries with these qualities have made big strides in development. The small countries like Japan, Switzerland and Taiwan are the biggest examples of development before us where inspite of lack of natural resources, much progress has taken place. All this has become possible with the development of the human resources.

At present every country is trying to develop its human resources. Some countries also get good quality human resources from other countries very easily. For example highly educated and experienced people of India are migrating to countries like U.S.A., Canada and Australia. Therefore, this way some countries are getting richer in human resources and others remain poorer.

The counting of population is done after every 10 years. This counting is known as 'census'. The distribution of population is not uniform throughout the world. Some countries are densely populated while others are sparsely populated. Large scale variations are found in the distribution and density of population. There can be various reasons for this. Before knowing about the reasons we will study about some undermentioned aspects of population :-

(A) Composition of population

(B) Population change

(C) Distribution of population

(D) Density of population

(A) Composition of Population :

We can divide the population on the bases of many characteristics as for example on the bases of religion, caste, race, sex, age, language, literacy etc. The analysis of population composition adds to our knowledge regarding social, economic and statistical aspects. This analysis is used for preparing various human development plans. Here we will study about composition of population on the basis of sex, age groups and literacy.

1. Gender Composition : Gender composition is an important characteristic or aspect of population which has an important place from the point of population studies. The gender composition simply means the relation between the number of women and men. Gender composition goes on changing. We come to know about the social, economic and cultural changes from the change in gender composition. On the bases of these changes the development plans are made. Gender composition is expressed by a ratio which is known as 'gender ratio'. In this ratio the number of women per 1000 of men is calculated. The formula for calculating sex ratio is as given :

$$\text{Gender Ratio} = \frac{\text{The number of women}}{\text{The number of men}} \times 1000$$

If this ratio is more than 1000 then the number of women in comparison to men is more. If the ratio is less than 1000 then the women are less than men in the population.

Many variations in gender ratio are found in different parts of the world. The ratio is 1074 in Europe, where as in North America and Asia it is 1032 and 960 respectively. The gender ratio for whole of the world is 984 which is less than the natural balance. In India the gender ratio is 943. Kerala is the only state of India where the gender ratio is 1084 meaning thereby that the number of women is more than the number of men. The union territory of Pondicherry also has more gender ratio 1037. The gender ratio in the states of Punjab and Haryana is 895 and 879 respectivley which is very low. Mahe (Pudduchery) and Daman (Daman and Diu) are country's highest and the lowest gender ratio districts respectively. When the gender ratio declines then many social problems arise. There are many factors which are responsible for the decline in gender ratio in India. Some of these are as given below :

(i) People to give preference to the boy and neglect the girls. Girls are also neglected as far as the feeding is concerned. Because of malnutrition they also die soon. Thus their number is greatly affected.

(ii) Boys born more than the girls by nature.

(iii) Girls are killed by their parents. The practice of killing girls after birth has been continuing by some people for a long time. But in the present time with the development of science, girls are being killed in the womb before they are born. This is known as 'female foeticide. Now our government has come up to fight with this evil. The law has been made against it and the punishment has also been fixed.

(iv) In small families if the first child is male then there is no need of giving birth to second child.

(v) Some girls are killed for dowry.

If the gender ratio goes on declining continuously, it may result into bad consequences in the future. Our government, social service organisations and we all should take the appropriate steps to bring balance to the gender ratio.

2. Age composition : The population includes all the human beings from children to the elderly people. We divide the population according to the age. By dividing them into different age groups, the different type of required plans can be chalked out. What type of facilities are required for them is known from the age group. for example from the number of school going children we come to know about the required number of schools and other facilities. Therefore the required facilities can be created according to the age groups. The avenues for employment can be created for required number of people in the working age group. The population can mainly be divided into three age groups :

(a) 0-14 years

(b) 15-64 years

(c) 65 years and above.

In the well developed or economically advanced countries of the world the percentage of 0-14 years children is low and 15-64 age group is high. In the less developed or poor countries the picture is entirely opposite. In these countries 0-14 age group children are more in number than the 15-64 age group people are in the working age group. The number of 0-14 years children is 30% in India. The age of this group is the age of enjoyment, growth and education. They are fully dependent on the elders. It also becomes difficult for the government to arrange the health and education facilities for such a large number. It is also the responsibility of the government to provide employment opportunities for the working age group. The government has to arrange food, health facilities, old age pension etc. for the people above 65 years of age.

3. Literacy : Litercy means the education of the people. A person who can read,

write and understand any language is called a 'literate' and is included among the educated people. As the population of the world increases, the number of literates and illiterates also increases. Normally the people of the developed countries are more educated than that of the developing countries. Because of less resources in the developing countries, people do not get the opportunties of education. Their first preference is to earn their living. The position of literacy is even worse in the backward countries. If we talk about the literacy of women in the backward or developing countries the conditions is pitiable. In the Muslim countries of the world the women do not get too much opportunities of education. In comparison to this the literacy rate and women literacy rate both are very high in the Christian Countries. In the countries like England, France, Switzerland, Japan, U.S.A. and Canada more people are educated. Whereas Bangladesh, Afghanistan, Middle East Countries and African countries are lagging behind in literacy.

Literacy position of India is not very bad 73% percent people are educted. Kerala state has the highest number of literates. If we talk about the women literacy, even then Kerala is the leading state of India. Bihar state has the least number of literates. Only 61.8 percent people are educated. Among the union territories Lakshadweep ranks first with 91.8 percent literates whereas Dadra and Nagar Haveli is the last with 76.2 percent literates. In Punjab state about 75.8 percent of the people are educated and women literacy rate is 70.7 percent.

The education is being spread at a very large scale in India to make the people literate. The government is trying hard in this direction. There are about 8.5 lakh primary and upper primary schools in the country. More than 44 lakh teachers are teaching in these schools. To uplift the level of elementary education in the country the programme of Sarav Sikhya Abihyan (SSA) has been started since November 2000. The main objective of the programme is to impart 8 years edudcation to all the children in the age group of 6-14 years. National Literacy Mission is doing great efforts to impart adult education. The government is puting all the efforts to achieve 100 percent literacy by removing all the hurdles on its way.

(B) Population Change :

The counting of population is called the 'census'. This counting is conducted by all the countries. The data pertaining to some important aspects of population is collected in the 'Census'. This census is being conducted regularly in India at the interval of 10 years since 1881. After the census of 2011 the next census will be conducted in 2021. from the census was come to know about the changes in various aspects of population because changes do take place in the aspects of population of every place. Whether the population of a place has increased or decreased or remained

the same is known by the study of population change. The increase or decrease in population is caused by the change in the birth rate or death rate or migration of population. The birth rate means the number of live births per 1000 of people. The deaths which took place per 1000 of people is known as 'death rate'. The difference between the birth rate and the death rate is known as the 'natural growth rate'. For example if the birth rate is 30 and the death rate is 10 then the natural growth rate will be (30-10) 20. It means that there has been increase of 20 persons per 1000 people. Inspite of this increase, some people migrate from one place to another place thereby creating increase in population of that place.

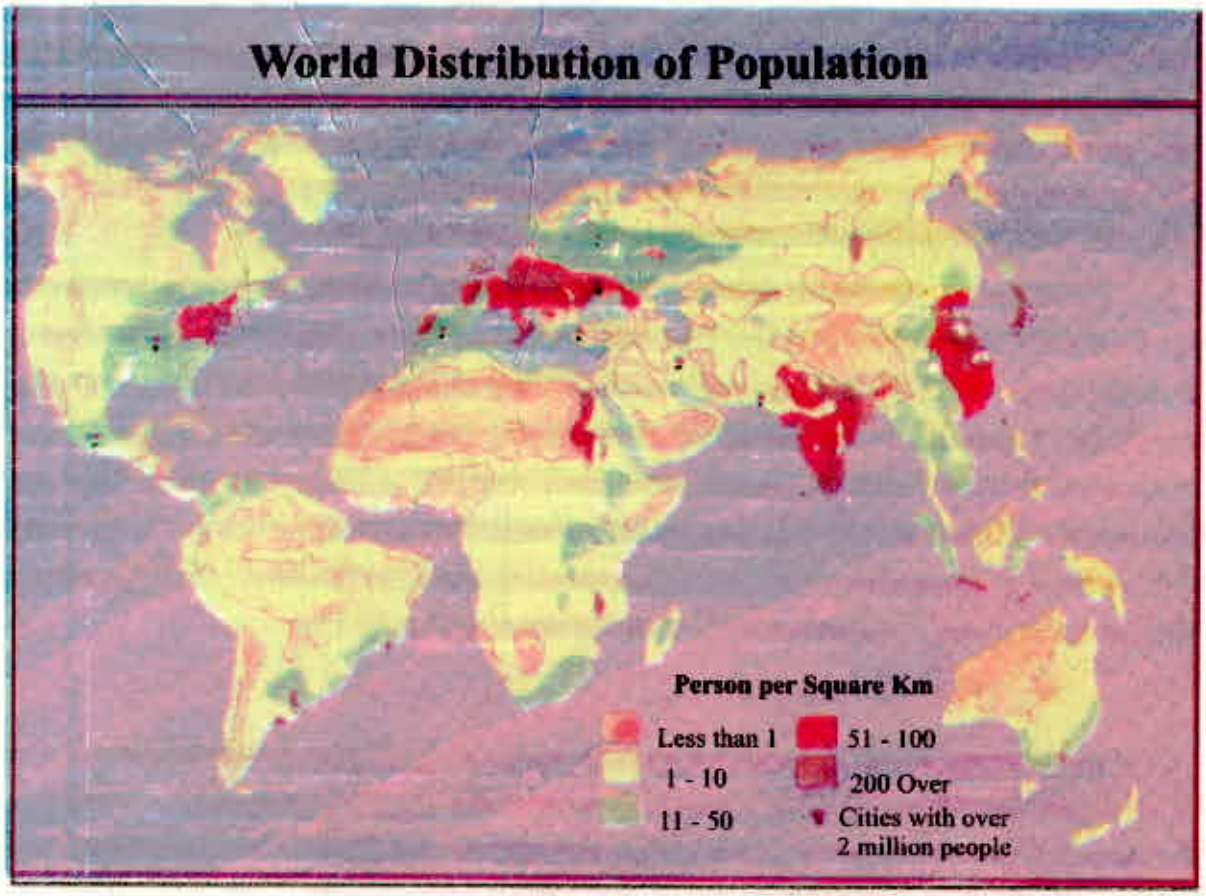
According to 2011 Census, China is the most populated country of the world. Its population is 1,34,14,03,687 (1341.4 millions) which constitutes 19.1% of the world's total population. India with total of 1,21,05,69,573 ranks second in population in the world. Around 17% percent people of world live in India. The other countries with more population after India are U.S.A., Indonesia, Brazil, Pakistan, Nigeria, Russia, Bangladesh, Japan, Canada and Australia. Because of migration, the population of the countries, like U.S.A., Canada and Australia is increasing further.

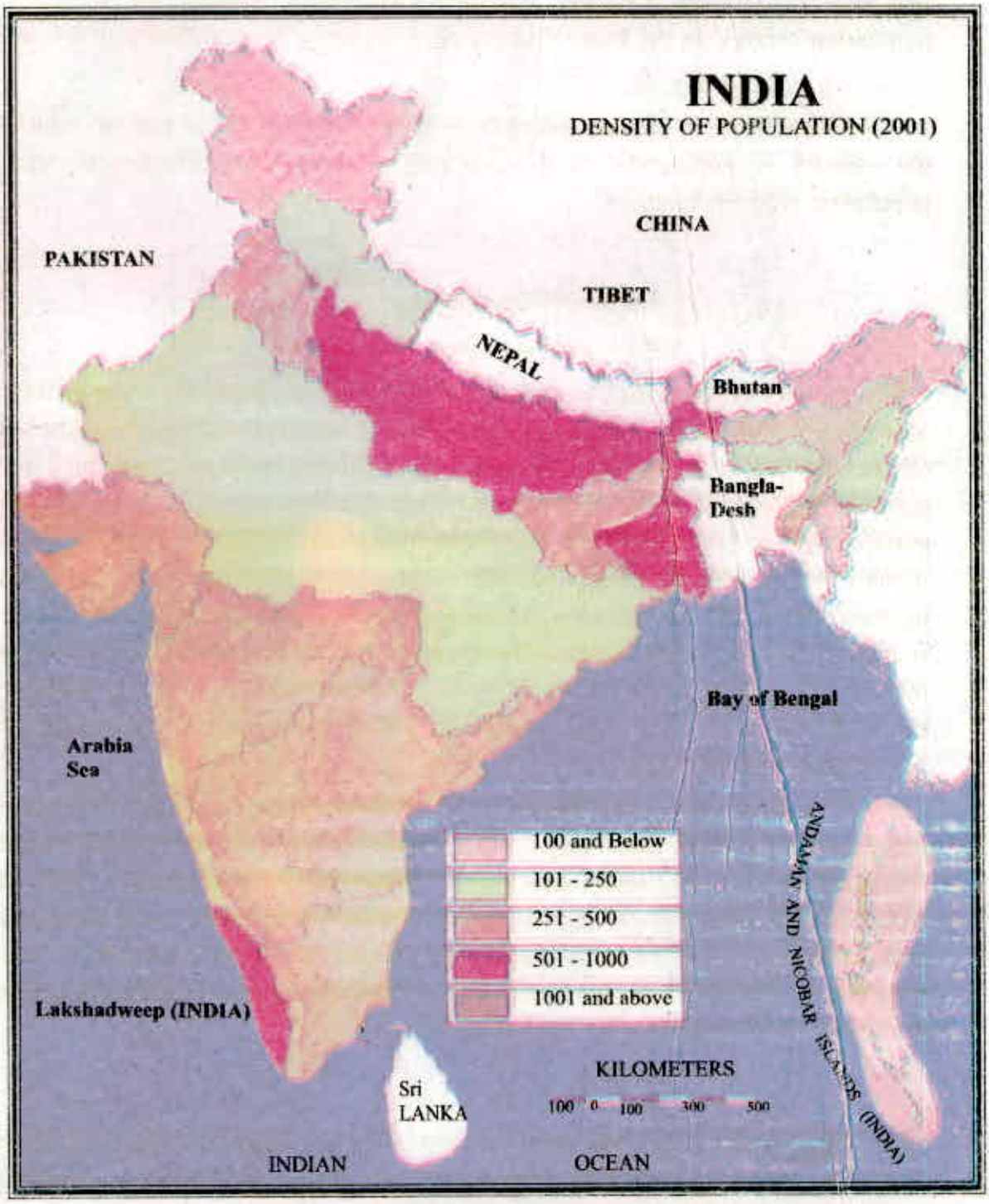
A fast population change has taken place in India. The increase in population in the decade of 1901-1911 was 5.75 percent. From 1991 to 2001 it was 21.54 percent while it dipped to 17.7% during 2001 to 2011. The period of 1981-2001 is considered as the biggest increase in population. Though in the past the increase in population has been very fast yet the estimates of decline in population growth rate are being considered. The objective of adopting the National Population Policy in 2000 is to bring the stability in population till 2045. Keeping in view the importance of decline in population, 11 July is celebrated as 'World Population Day' every year.

(C) Distribution of Population :

By looking at the world population map we come to know that the population is not evenly distributed over the globe. Some parts are highly populated whereas sparse population is found in others. There is no population on the North and South poles. At present the population of the world is about 700 crores. About 59 percent of the total world population is found in Asia, 14 percent in Africa, 11 percent in Europe and the remaining in other continents of the World. China is the most populated country of the World and India ranks next to it. The countries which are developed in agriculture and industry are more populated countries of the world.

The area and population of India is 3.28 million sq. km and 1,21,05,69,573 respectively. About 50 percent of country's population is concentrated in five states only. Uttar Pradesh, Maharasthra, Bihar, West Bengal and Andhra Pradesh are the highly


World Distribution of Population
Person per Square Km
Less than 1
1 - 10
11 - 50
51 - 100
200 Over
Cities with over
2 million people


INDIA
DENSITY OF POPULATION (2001)
CHINA
PAKISTAN
TIBET
NEPAL
Bhutan
Bangla-
Desh
Bay of Bengal
Arabia
Sea
100 and Below
101 - 250
251 - 500
501 - 1000
1001 and above
ANDAMAN AND NICOBAR ISLANDS (INDIA)
Lakshadweep (INDIA)
KILOMETERS
100 0 100 300 500
Sri
LANKA
INDIAN
OCEAN

populated states of India. The remaining 23 states and 7 union territories provide habitat to half of the population of the country. The big city of Delhi which is also the capital of the country houses 1.39 percent population of India. The other big cities of the country like Kolkata, Mumbai, Chennai, Bangalore, Hydrabad, Ahmedabad etc. are also big population centres. In the Eastern states of the country the population is low or sparse.

(D) Density of population :

The number of persons living in an area of one sq. km or one sq. mile is called the 'density of population' of that place. The formula to calculate the density of population is given as under.

$$\text{Density of Population} \quad \frac{\text{Total Population}}{\text{Total Area}}$$

Density of population is different in different countries. Even the different parts of a country differ in their densities of population. Some places have high density while others have low density of population. Asia and Europe continents have high density of population. North America, Australia and South America continents have low density of population. The big cities of the world like Shanghai, Tokyo, Newyork, London, Paris, Sydney etc. are densely populated. The average population density of the World is 52 persons per sq. km. India is also a densely populated country. Its density of population is increasing with every census. The average density of population of India was 77 persons per sq. km in 1901 but in the year 2001 it has reached upto 325 persons per sq. km while by 2011 it has risen to 382. It has actually increased very fast after the independence of the country.

The hilly tracts and the Eastern states of India have very low density of population. The states like Gujarat, Karnataka, Andhra Pradesh, Tripura, Maharashtra, Jharkhand, Assam and Goa have moderate type of density of population. Uttar Pradesh, Kerala, Bihar, West Bengal and the union territories are densely populated areas. The population density of Delhi and Chandigarh cities is 11320 and 9258 persons per sq. km. respectively. The districts like Leh (J & K) and Lahaul-Spiti (Himachal Pradesh) have the density of 3-4 persons per sq. km. only.

Advantages of dense population :

(i) The densely populated areas are developed at a faster speed by the government.

(ii) The rate of industrial developmet is also higher in the highly populated areas.

(iii) Cheap labour for the **industries** is easily available in the densely populated regions.