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KEY NOTES

CLASS XII- GEOGRAPHY (029)

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INDEX

VOLUME-I-FUNDAMENTALS OF HUMAN GEOGRAPHY

CHAPTER 1-HUMAN GEOGRAPHY - NATURE AND SCOPE

Geography is a subject which deals about the interaction between man and environment

There are two branches in Geography

- Physical Geography
- Human Geography

- Physical Geography deals with the physical features such as mountains, plains, valley, plateau, atmosphere, Ocean etc.
- Human Geography deals about the mankind spaced over the surface of the earth and their activities

Human Geography is divided into two branches

- Systematic Geography and regional Geography
- Systematic Geography is a study about man and his natural environment

Human Geography is defined by various scholars

- According to Friedrich Ratzel human Geography is the synthetic study of relationship between human Societies and earth surface
- Ellen C Sample says human Geography is the study of the changing relationship between the unresting man and unstable earth
- Vidal- la -Blache defines human Geography offers a new conception of the interrelationship between earth and man
- A more synthetic knowledge physical governing of the relationship between the living beings

Nature of human Geography

Human Geography is a study about interrelationship between physical environment and socio-cultural environment created by human beings through mutual interaction with each other.

Naturalisation Of Humans and Humanisation of Nature

- Concept of friction and heat helped to discover fire
- A proper understanding of the secrets DNA and genetics enabled to get many ideas in diseases
- Understanding of laws of aerodynamics helped in developing faster planes

Environmental Determinism

- It is a type of interaction between primitive old society or human society and strong forces of nature
- It is known as environmental determinism
- The environment determines human activities at the stage of the level of technology
- When the level of technology was very low the human activity was determined completely by the nature
- In olden days man started to worshipped the nature

Possibilism

- The people begin to understand their environment and the forces of nature with the passage of time
- They created possibilities with the resources obtained from the environment
- Man started to develop the technology and modified the nature
- For example, health resorts on highlands, urban sprawl pastures, plain areas sea port in the coastal areas and satellites

Neo determinism or stop and go determinism

- It was introduced by a scholar namely Griff Taylor
- He introduced this concept between two ideas of environmental determinism and possibilism
- It means that human beings can conquer nature by obeying it
- They have to respond to the red signal and then proceed in their pursuits of development when nature permits the modification

- It means the possibilities can be created within the limits which do not damage the environment
- There is no free run without accidents
- The development should not cause any ozone layer depletion, global Warming and degrading the lands

Different thoughts of human Geography

Welfare or humanistic school of thought

- Mainly concerned with the different aspects of social well being of the people
- Aspects like housing, health and education

Radical school of thought

It concerns to explain the causes of poverty, deprivation and social inequality

Behavioural school of thought

It laid great emphasis on experience and also on the perception of space by social category based on ethnicity, race and religion etc…

Human Geography Through the Corridors of Time

- Earlier there was little interaction between different societies and the knowledge about each other was limited.
- Travelers and explorers used to share information about the areas of their visits.
- Navigational skills were not developed and voyages were full of dangers.
- The late fifteenth century witnessed attempts of explorations in Europe and slowly the myths and mysteries about countries and people started to open up.
- The colonial period provided impetus to further explorations in order to access the resources of the regions and to obtain information.

FIELDS AND SUB FIELDS OF HUMAN GEOGRAPHY		
Fields of human Geography	**Sub fields**	**Sister disciplines**
Social Geography	----------	Social science-sociology
	Behavioral Geography	Psychology
	Geography of social well being	Welfare economics
	Geography of leisure	Sociology
	Cultural Geography	Anthropology
	Gender Geography	Sociology, anthropology, women studies
	Historical Geography	History
	Medical Geography	Epidemiology
Urban Geography	---------	Urban studies and planning
Political Geography	----------	Political science
	Electoral Geography	Psephology
	Military Geography	Military science
Population Geography	-----	Demography
Settlement Geography	------	Urban and rural planning
Economic Geography	--------	Economics
	Geography of resources	Resource economics
	Geography of Agriculture	Agricultural science
	Geography of industries	Industrial economics
	Geography of marketing	Business studies, economics, commerce
	Geography of tourism	Tourism and travel management
	Geography of international trade	International trade

CHAPTER 2-THE WORLD POPULATION

DISTRIBUTION, DENSITY AND GROWTH

What do you mean by population distribution?

It refers to the way people are spaced over the Earth surface

- 90% of the world's population lives in about 10% of its land area
- 10 most populated countries contribute 60% of the world population
- Of these 10 countries, 6 countries are located in Asia
- So Asia has the largest population in the world

Density of population

- Density refers total population divided by total area
- More than 200 persons are living in North Eastern part of USA North Western part of Europe, south and Southeast and East Asia
- On the other hand the population is less in North and South poles, hot and cold desert areas, equatorial areas have less than 1% per Sqkm

Why is population density low in these areas?

Because these areas are not having ideal conditions for life

Factors influencing distribution of population

- Geographical factors
- Economical factors
- Social and cultural factors

Geographical factors

- Availability of water
- Landforms
- Climate
- Soils

Availability of water

- People prefer to live where freshwater is easily available
- Used for various activities
- River valleys have very dense population

Landforms

- Plains, plateau and mountain
- Mountain areas have less population due to unfavourable conditions
- Plains have more population
- Easy for cultivation and to develop infrastructure facilities

Climate

- Due to extreme cold and hot population is less in some areas
- Population is more where ideal climate exists
- Example- Mediterranean region

Soil

- Population is more where fertile soil is found
- Population is less in unfertile soil areas (example desert area)

Economic factors

- Minerals availability
- Urbanization
- Industrialization

Minerals

- It generates employment opportunities in the name of mining activities and industries
- Hence skilled and unskilled people migrate and make the area more densely (example Katanga zambiya copper belt in Africa)

Urbanization

- Cities offer better employment opportunities
- Educational and medical facility
- Better means of transport and communication
- Good Civic amenities
- Attraction of the city life attract the people to the cities

Industrialization

- Industrial belt provides job opportunities and attract large no number of people
- These include not only factory workers but also transport operators, shop keepers bank employees, doctors, teachers and other service providers (example Kobe-Osaka region in Japan)

Social and cultural factors

Religious and cultural significance

Peaceful areas attract people

Population growth

- It refers to the change in number of inhabitants of territory during a specific period of time
- The growth is always expressed in percentage

Growth of population

Change of population in particular area in a region

Growth rate of population

This is the change of population expressed in %

Natural growth of population

The rate of increased population between birth rate and death rate of two ends of time of a region

Birth rate- death rate= Natural growth

Actual growth= birth –death + migration-out migration

Positive growth of population

Birth rate is more than the death rate between two end of time

Negative growth of population

When death rate is more than the birth date between two en of time

Components of population change

Crude birth rate: number of live birth/ 1000 person in a year

Crude death rate: number of death per/ 1000 persons 2015 in a year

Migration: the movement of people from one place to another for various reasons

Place of origin: a place from there people move

Place of destination: the place where the people reach

Immigration: migrants who move into new place

Emigration: migrants who move out of a place

Two sets of factors of migration

Push factors and pull factors

Push Factors	Pull Factors
Unemployment Poor Living conditions Political turmoil Unpleasant climate Natural disasters and Socio economic backwardness	Better job opportunities Living conditions Peace and stability Security of life and the property Pleasant climate

Role of Science and Technology

- The stream engine replaced human and animal energy
- Mechanized energy of water and wind
- Both led to the development of industries and Agriculture
- Epidemics and other communicable diseases were controlled by medical facilities
- Death rate was totally controlled by the medical facilities

Doubling time of world population

- World population was doubled due to the following reasons
- Settled agriculture

- Industrial revolution
- Technological advancement
- Development of transport and communication

Spatial pattern of population change

- The growth of developed countries is low as compared to developing countries
- There is negative correlation between economic development and population growth

Impact of population change

- Over utilisation of resources
- Leads to dieses like HIV& Aids
- When population declines it leads to the problem in production
- The average life span would be less
- Increased pressure agricultural land
- Problems in developing infrastructure

Demography transitional theory

First stage: birth rate and death rate are high

Why so it is?

- Infant mortality rate high resulting in high fertility rate
- No family planning
- More children for work
- Religious dogma of big families

Why of high death rate

- Attacks of epidemics
- Low quality of food
- No medical facility

2nd stage

- Birthrate remains high
- Death rate decreased rapidly due to medical facilities

- ❖ Healthy conditions
- ❖ Pure drinking water
- ❖ Increased in quality and quantity of food grains
- ❖ Low infant mortality

Third stage

- ❖ Death rate and birth rate both decreased
- ❖ It shows stable population growth

Why is it decreased?

- ❖ Family planning
- ❖ Industrialization
- ❖ Better living conditions
- ❖ Incentive for small family
- ❖ Women freedom

Population control measures

- ❖ Family planning to prevent the child birth
- ❖ Improving the women's health
- ❖ Propaganda and free availability of contraceptives
- ❖ Text disincentive for large families
- ❖ Thomas Malthus stated that number of people would increase faster than food supply
- ❖ For our sustainability of our resources we should have control over the population increase

CHAPTER-3-HUMAN DEVELOPMENT

What is meant by human development?

- It is described as the development that enlarges people's choices and improve their life
- people are central to all the development under this concept

Difference between growth and development

- Both are changing over a period of time
- Growth is quantitative and value neutral it
- Has a positive and negative sign
- Development means a qualitative change which is always value positive
- Development occurs when there is a positive change in quality
- Example -development of a city
- The concept of human development was introduced by
  Dr Mehboob Ul Haq
- According to his point of view the people must have a healthy life
- Chances should be given to develop their talents and skill
- Freedom should to be given to achieve their goals

Three indicators of human development

- Long and healthy life
- Gaining knowledge
- Leading a decent life

The four pillars of human development

- Equity
- Sustainability
- Productivity
- Empowerment

Equity

- It refers to make equal access to the opportunities available to everyone
- It should be irrespective of their gender, race, income and caste

Sustainability

- It refers to the continuity in the availability of opportunities
- It means each generation must have a small opportunity

- All the resources must be used keeping in mind the future
- Misuse of any resources will create a serious problem in future

Productivity

- It refers human work
- People must be enriched by building capabilities
- Because human resource is the ultimate resource to develop all other resources
- Therefore efforts are taken to increase their knowledge, providing better health facilities and better work efficiency

Empowerment

- It is to make choices in power
- Power comes from increasing freedom and providing opportunities
- The policies should be framed for the empowerment of the people
- The weaker section of the society should be focused

Approaches to the Human Development

1. The income approach
2. The welfare approach
3. Basic needs approach
4. Capabilities approach

Income approach

- It is one of the oldest approaches
- The level of income reflects in the section of society
- Higher level of income the higher level of human development

Welfare approach

- It refers the targets of all developmental activities
- The government expenditure goes higher on education, health and social amenities
- People are not participants in the development

Basic needs approach

- Six basic needs are proposed by International Labour Organisation
- Health, education, food, water supply, sanitation and housing
- These basic facilities are assessed to measure the human development

Capability approach

- It is associated with professor Amartya Sen
- Building human capabilities in the areas of health, education
- Access to resources is the key to increase the human development

International comparison

Some interesting facts

- Size of the territory and per capita income are not directly related to human development
- Smaller countries have done better than larger countries
- Example -Sri Lanka and Tobago have a higher rank than India in the human development
- Similarly Kerala being a small state in India is better than Punjab and Gujarat
-

Level of human development	Score in development Index	Number of countries
High	above 0.8	57
Medium	Between 0.5 to 0.499	88
Low	below 0.5	32

Countries with high index value- There are 10 countries

Sl.No	Country Name	Sl.No	Country Name
1	Norway	6	Sweden
2	Iceland	7	Switzerland
3	Australia	8	Ireland
4	Luxembourg	9	Belgium
5	Canada	10	United States

Norway tops in human development index in the world

Reasons for high HDI

- Providing better education and health care
- Higher investment on social sector
- Good governance
- Equal distribution of resources

Countries with medium index value

- Most of these countries have emerged in the period after the second world war
- Many countries are rapidly improving in human development by adopting more people-oriented policies and reducing social discrimination
- These countries have much higher social diversities
- Many in this group have faced political instability and social uprisings

Countries with low Index value

- Political turmoil and social instability
- Civil war
- Famine and high incidence of diseases
- Low education status

CHAPTER-4-PRIMARY ACTIVITIES

What do you mean by primary activities?

- Primary activities are directly related with land and water
- These activities include hunting, gathering, pastoral activities fishing, Forestry, agriculture, mining, quarrying

Economic activities

Human activities which generate income are known as economic activities

Types of economic activities

- Primary activities
- Secondary activities
- Tertiary activities
- Quaternary activities

Primary activities

Hunting and gathering

- The earliest human beings were depending upon their immediate environment
- They subsisted on animals hunting, gathering edible plants
- They ate animal plush
- Catching fish in the coastal areas
- The earliest people used primitive tools such as arrows, twigs and these tools are made up of stones
- Now the number of animals killed was limited
- The gathering is practiced in regions with horse climatic conditions
- It is done by primitive societies
- They depend upon plants and animals to satisfy their needs for food, shelter and clothing
- It requires very less amount of capital investment and technology
- No surplus is produced

Areas of gathering in the world

- High latitude zones like northern Canada, Northern Eurasia and southern Chile
- Low latitude zone areas like Amazon Basin, tropical Africa Northern fringe of Australia and interior parts of Southeast Asia

In modern time gathering is market-oriented practice. Justify?

Gatherers collect leaves, barks, nuts of the trees for medicinal uses and they are sold in the market after a small processing

Uses of the collected forest products

Products	Uses
Bark	Preparing quinine
Leaves	Preparing beverages, drugs, cosmetics
Nuts	To prepare different foods and oils
Liquid of trunk	Making rubber, gums and resins

Pastoralism

People living in different climatic conditions domesticate animals and they are totally depending upon geographical environment

Nomadic herding

- People move from one place to another along with their cattle
- The movement is depending upon the quality of pastures and water
- Territory is confined

Pastoral nomadism is practiced in three major regions

- Area extending from Atlantic shore in the North Africa East words Arabian Peninsula China and Central China
- The second region is Tundra region Eurasia
- The third region is South West Africa and island of Madagascar

- The process of migration from mountain areas to plain area during winter and plain area to mountain area in summer is known as *transhumance*
- Example- Gujjar, Bakarwal, Gaddis, Bhotiyas in India

Commercial livestock rearing

- It is well organised and capital intensive
- It is practiced in permanent ranches
- Ranches cover large areas and they are divided into different parcels
- Only one type of animal is reared
- Important animals are sheep, cattle, goats, and horses
- It is scientifically maintained and its products are exported to many countries
- Importance is given on breeding and genetic improvement
- Countries are New Zealand, Australia, Argentina and united states of America

Agriculture

Types of agriculture

- ❖ Subsistence agriculture
- ❖ Primitive subsistence agriculture
- ❖ Intensive subsistence agriculture

Subsistence agriculture

- Subsistence agriculture is one in which the farmers consume all or nearly so of the products locally grown
- Primitive subsistence agriculture
- Another name is shifting agriculture
- It is widely practiced in tribal areas of tropics particularly in Africa south and central America and south east Asia
- The vegetation is usually cleared by fire and asses of the vegetation is used to add the fertility
- Hence it is called *slash* and *burn* agriculture

- The patches are very small and cultivation is done by primitive tools
- As soon as the soil fertility gets over the family members move to other areas and clear the patches and start cultivation
- It is practiced in tropical forest areas

Problems of shifting cultivation

- Soil becomes infertile
- It leads to soil erosion
- yield is very less

Intensive subsistence agriculture

Two types

- Dominated by wet paddy cultivation
- Dominated by crops other than paddy

Dominated by the paddy cultivation

- Rice is the dominant crop
- Fields are very small due to high density of population
- Farmers work with the help of family members
- Machinery is limited and manual labour are more
- Farm yard manure is used (cow dung)
- Yield per unit area is high

Dominated by crops other than paddy

- Different crops are cultivated due to different geographical factors
- Wheat, soya bean, barley and sorghum
- In India wheat is grown in western part of Indo- Gangetic plain
- Millets are grown in dry parts of western and southern India

Plantation agriculture

- Introduced by the Europeans in the colonies situated in the tropics
- Example- tea, coffee, cocoa, rubber, cotton, oil palm sugar cane bananas and pineapples

Important characteristics

- It is a mono cropping system
- Farming is done with scientific methods and require large investment
- Skilled and unskilled labour are required
- Cheap labour is also required
- Good means of transport and communication is required
- The British developed tea gardens in India and Sri Lanka, rubber plantation in Malaysia and sugar cane in west Indies

Extensive commercial grain cultivation

- It is practiced in the interior parts of semi-arid lands of the mid latitude
- Wheat is the principal crop
- Other crops like corn barley oats are also grown
- It is completely mechanised cultivation
- It is practiced in Eurasian steppes, Canadian Highlands American prairies, the pampas of Argentina, the Wales of South Africa and New Zealand

Mixed farming

- It is found in the highly developed parts of the world
- Example- North Western Europe, Eastern North America parts of Eurasia and temperate latitudes of southern continents
- The farm size is moderate and crops are mixed with wheat barley, oats, maize fodder and root crops
- Crop rotation and intercropping play an important role in maintaining soil fertility
- Animals are reared with crop cultivation is to give extra income
- It requires very high capital to purchase from machineries buildings, chemical fertilizers and green manure
- Special skill and expertisation are required to the farmers

Dairy farming

- It is highly capital intensive
- Capital is required for constructing animal sheds, storage facilities, fodder feeding and milchig machines
- Emphasis is given on cattle breeding healthcare and veterinary services
- There is no off season during the year
- Practiced mainly near the urban and industrial centres
- Needs good means of transport, refrigeration and other important facilities
- Main regions are North Western Europe, Cannada, South Eastern Australia, New Zealand and Tasmania

Mediterranean agriculture

- It is practiced on either side of the Mediterranean Sea (Europe and North Africa)
- The viticulture is the other name (grape cultivation)
- The high quality of best wine is produced with the distinctive flavours from the high quality of grapes
- Also produce olive and figs
- Fruits and vegetables are grown in winters when there is the great demand in European countries and North American markets

Market gardening and horticulture

- Cultivation of high value crops such as fruits, vegetables flowers
- Farms are very small and are located near urban areas
- It is a labour and capital oriented
- Importance is given on use of irrigation HYV seeds, fertilizers, insecticides, greenhouse and artificial heating in cold region
- It is developed in thickly populated industrial area of North Western Europe, Northeastern parts of USA and the Mediterranean region
- The regions where farmers specialise in vegetables only is known as truck farming

What do you mean by truck farming?

- The truck covers the distance lies between market area and garden area in an overnight

Co-operative Farming

- A group of farmers form a cooperative society for more efficient and profitable farming
- It is very much successful in western European countries like Denmark, Sweden, and Italy
- The moment has been so successful in Denmark
- There every farmer is a member

Collective farming

- It was introduced in Soviet Union to improve efficiency in farming activities and to boost agricultural production for self sufficiency
- The farmers pool all the resources like land, livestock and labour
- However, they can keep a small piece of land for the family purpose
- Yearly target is fixed by the government and output is sold at fixed price
- The farmers have to pay tax to the government

Mining

Factors affecting mining activity

Physical factors

- It includes the size, grade and the mode of occurrence of the deposits

Economic factors

- It includes the demand for the mineral, technology available capital to develop infrastructure labour and transport cost

Types of mining

I. Surface mining (open cast mining)
II. Underground mining (closed mining)

- When the ore lies deep below the surface underground mining method (shaft method) has to be used
- Minerals are extracted through the pipes or passages to the surface
- It requires lift, drills, haulage vehicles, ventilation system

Problems of closed mining

- It is very risky
- Chances for poisonous gases
- Fire accident and flood
- Roof collapse

CHAPTER-5-SECONDARY ACTIVITIES

What do you mean by secondary activities?

- Those activities which convert primary products into more useful commodities are called secondary activities
- Example-sugarcane to sugar, iron ore to steel or iron rod, cotton to yarn

Manufacturing

- It means the conversion of raw material into more useful and valuable products with the help of machines
- Example iron ore is made as steel or iron rod

Industry

- It is a Centre where raw materials are converted as useful products

Characteristics of modern large-scale manufacturing

- Specialisation of skills /methods of production
- Mechanization- using machines for large production
- Technological innovation

Organisational structure and stratification of large-scale manufacturing involves

- A complex machine technology
- Extreme specialisation and division of labour for producing more goods with the less effort and low cost in materials
- vast capital
- Large organisation set up
- Executive bureaucracy

Locational factors of industries

Geographical factors

- Access to raw material
- access to labour and market
- Access to water supply
- Availability of energy resources (Hydel Power, Nuclear Power, Thermal Power, Non- Conventional energy resources)
- Distance of the raw material centers and manufacturing centre

Non-Geographical Factors

- Good management
- Government policies
- vast capital
- Good environment
- Human knowledge

Classification of industries based on size

i. Cottage Industries
ii. Small Scale Industries
iii. Large Scale Industries

Cottage industries or household industries

- Smaller in size and are carried in house only
- Using available local raw material with the very simple usage of tools
- Only family members are engaged
- Produced goods are sold in the neighboring areas

- Not required sophisticated transport network
- Does not require huge capital
- Example – foodstuff, mats, tools, furniture making, pottery making, and basket making etc…

Small scale industries

- Use modern Power drive and machines and a employee local labour as well
- Raw material is obtained from out side
- Larger in size than cottage industries
- Production is sold beyond the local markets
- Provide employment for large number of people in the local areas
- Example- textiles, Toys making, furniture making, edible oil and Leather goods

Large scale industries

- Production is in a large scale
- Sophisticated and hi-tech machines are used
- Requires huge capital
- Raw materials are brought from for off places
- Special care is taken for maintaining quality and quantity of the product
- Management is complex
- Finished products are sold in for off places
- Requires best well-developed transport network system

Based on size of operation and nature of products

1. Heavy industries and
2. Light industries

Heavy industries

- They deal bulky products
- Heavily depending upon raw material
- Hence, they are located very close to raw material centre
- Example iron and steel industries

Light industries

- They are small in size of operation
- They deal lighter and compact products
- Weight is very less
- Example- electronic industries

Classification of industries based on basic output

Basic industries

- These Industries produce raw material for other industries
- Example- iron and steel

Consumer goods industries

- They produce goods for final consumption
- Example tea, soap, radio, coffee etc…

Classification of industries based on input

Agro- based industries

- Based on agriculture products
- Example- cotton, sugarcane, edible oil

Forest based industries

- Based on forest products
- Example- paper, wood, furniture

Metallic industries

- These Industries use different types of metal

Two types

Ferrous

- Contains iron in raw material

- Example -iron and steel industry, motorcars, railway industries

Non ferrous

- Raw materials which don't contain iron
- Example- Copper and aluminum

Chemical Industries

- Based on chemicals
- Example –fertilizers, Textiles, paper industries, soap industries, glass Industries shampoo industries

Industries based on ownership

I. Public sector
II. Private sector
III. Joint sector

Public sector

- It is run by the government
- Profit is not the ultimate motto
- Welfare of the employee is given the top priority

Private sector

- Run by individual or group of people
- Profit is ultimate motto
- Time bound work
- Welfare is not at all considered

Joint sector

- Run by government as well as individual

Footloose industries

- It can be located in a wide variety of places
- They are not depending on any specific raw material
- It is weight loss and can be established anywhere
- They need small labour force
- They are generally not polluting the environment
- The important factor in their location is accessibility by road network

Traditional large scale industrial regions

- These industries are located near the source of coal
- Heavy industries and can be transported for long distance
- Industries are engaged in metal, chemical manufacturing textile production
- These industries are known as smoke stack industries

Important features of these industries

- High proportion of employment
- High-density in housing often of inferior type and very poor services
- Un attractive environment
- Problems of unemployment, emigration and land degradation near the industries

The Ruhr coalfield (Germany)

- The most important industrial region of Germany
- Steel, coal and iron ore are the backbone of this region
- Now this industrial region lost its importance by the following reasons
- The demand for coal is declined
- Iron ore resources are exhausted
- Future depends more on new industries like Opel car assembly plant, new chemical plants, Universities ..
- Industrial waste and environmental degradation

Concept of high Technology industry

- Hi- Technology or simply hi-tech is the latest version of manufacturing activities
- It is intensive research-oriented manufacturing to increase production
- White Collar workers make a large share in the total workforce

- These highly skilled specialists greatly outnumber the actual production (Blue Collar workers)
- Example- robotics on the assembly line
- Electronic control in smelting and refining processes
- The constant development of new chemical and Pharmaceuticals

Characteristics of high-tech industries

- Well and neatly Spaced
- Modern, disposed official plants and lab buildings
- Factories and storage areas mark the Hi-Tech industrial landscape look
- Planned business parks for high tech startups

Technopolis

- Hi- tech industries which are generally concentrated, self-sustained and highly specialised are called Technopolis
- Example- the Silicon Valley near San Francisco, Silicon Forest near Seattle

Iron and steel industry

- It is called a basic industry
- Because it provides raw materials for other industries such as machine tools used for the production
- It is also called a heavy industry because it uses large quantity of a bulky raw materials
- Raw materials are iron ore, manganese, coal and limestone

Cotton textile industry

There are three sectors

- ❖ Handlooms
- ❖ Power looms
- ❖ Mill sectors

Handlooms

- Give employment to Semi skilled workers
- It needs a small capital investment
- The sector involves spinning, weaving and finishing up fabrics

Power loom

- Less labour intensive
- volume of production increases

Mill sector

- Highly capital intensive and production is with high skilled and unskilled labour

Problems of cotton textile industry

- Very tough competition with synthetic fibers
- Non availability of good cotton
- Poor technology in developing countries

CHAPTER -6

TERTIARY AND QUATERNARY ACTIVITIES

Tertiary activities

- Tertiary activities are related to the service sector
- Example- doctors, teachers, plumber, electrician, technician, launderer, barber, shop keeper, driver, publisher etc…

Types of tertiary activities

- Trade
- Transport
- communication
- Services

Trade

- Trade is essentially buying and selling of items produced elsewhere
- The place where trade is carried out is known as trading centres
- They are acting as collection and distribution centres

Types of trading centres

- Rural Marketing
- Urban Marketing
- Periodic Marketing

Rural marketing

- Found nearby rural areas
- The trading centres are mostly rudimentary type
- Collection is done in rural area and distributed to the people
- Mandis (wholesale market) are available
- Rural based things are collected and distributed

Urban marketing centres

- Widely specialised in urban services
- Goods are sold from ordinary to sophisticated
- Many manufactured goods are available
- Service oriented people like doctors, lawyers, consultants dentist are available
- Areas are familiar in one particular item (example- jewellerys textiles)

Periodic markets

- It is found in rural area where there is no regular markets
- Organised in different temporal intervals
- People assemble from the surrounding areas to purchase the goods
- It may be weekly, bi weekly markets
- Markets are held on specified dates and move from one place to another
- The shopkeepers also move as per the specified dates

Retail trading

- The sale of goods is directly to the consumers
- Margin free market, supermarket and chain stores are the different types
- Street peddling is done by sellers who carry goods from door to door
- Others use trucks, hand pulled carts, auto rickshaws to sell goods
- Teleshopping is quite common today
- Payment is done either in advance or cash down at urban areas
- Vending machines supply goods by entering our requirements

Wholesale trading

- Business is done through intermediary merchants and dealers without turning to retailing
- Bulk buying and selling reduces the price
- Retailers take their stocks from wholesalers and dealers
- They also get goods on credit from wholesalers

Different types of stores

Consumer cooperative store

- Organised by the consumers under the Cooperative department
- These stores deal in all consumer items
- Members get special discount on the purchase

Departmental stores

- The heads of departmental stores have the authority to buy different commodities for sale
- They supervise their functioning

Chain stores

- They purchase goods most economically often directly from the manufacturers and farmers
- They follow very sophisticated techniques in buying and selling
- Skilled specialist conduct experiments in one store and extent the benefits to the next in the chain
- They even advance loans to the farmers on the assurance that the agricultural produce will be sold to them in mass

Transport

- Carry goods and passengers from one place to another

Transport distance can be measured as

- Kilometer distance: actual distance of the route length
- Time distance: time taken to travel on a particular route

Cost distance: it is expense incurred to travel in the same route

Network and accessibility

Network: it is a system in which different places are linked together

Node: it is the meeting point of two or more routes

Link: every road that joins two nodes is called link

Isochrones lines

- These lines are drawn on a map to join places having equal in terms of the time taken to reach them

Factors affecting transport

Demand

- It is influenced by the size of population
- The large of the population size the greater the demand for transport

Routes

It is a depending upon the location of cities, towns, villages, industrial centres, raw materials, pattern of trade, natural landscape, type of climate and funds available for overcoming obstacles along the length of the routes

Communication

- It is transmission of words and messages, facts and ideas
- It is carried out by hand, birds, animals, Canal, Road, rail, air
- That is why all forms of transport are referred as the lines of communication

Telecommunications

Radio, television, mass media, newspaper

Services

People do different types of services

Physical labour

- Physical labours migrate from rural areas to urban areas in search of employment and totally unskilled
- Gardner, Barber, housekeeping workers
- Example- Mumbai Dabbawala

Mental labour

Teachers, executives, lawyers, doctors

Tertiary activities

- In developed countries higher number of employments is in service sector
- Example- in USA 75% of workers are engaged in tertiary sector
- The trend of employment in this sector has been increased in developed countries
- In developing or underdeveloped countries, it is almost decreasing due to employment share in primary sectors

Some selected examples

Tourism

- India is one of the largest countries in medical tourism
- Tourism has become the world single largest activity
- 40% of the total GDP comes from this field
- It provides accommodation, meal, transport, entertainment and special shops serving to the tourist
- Tourism fasters the growth of infrastructure, Industries, retail trading and craft Industries
- It is seasonal because vacation period is depending on favourable weather conditions

Tourist regions

- Mediterranean Coast and the West Coast of India
- Winter sports regions found in Mountain areas
- Scenic landscape
- National parks
- Historic towns
- Cultural and heritage sites

Tourist attractions

Climate

- Mediterranean region has become an important tourist spot
- Because the Mediterranean climate offers almost higher temperature than the other parts of Europe
- Lots of sunshine and low rainfall throughout the peak holiday season

Landscape

- Mountains, lakes, seacoast, and landscape

Culture and economy

- Ethnic and local customs
- Tourist place which offers very cheap rate
- Home stay
- Example-Goa, Madikeri and Coorg in Karnataka

Factors affecting tourism

- Demand
- Transport

Medical Services for Overseas patients in India

- When medical service is combined with international tourism activity it is commonly known as medical tourism
- India is the leading country emerged in medical tourism

Reasons

- World class hospitals located in Metropolitan cities
- Treatment cost is cheap and affordable
- Dedicated service of the doctors and nurses in the hospital
- Homely environment In Hospital
- Better means of transport systems

Leading countries in medical tourism

- India
- Thailand
- Singapore and
- Malaysia

Beyond medical tourism

- Outsourcing of medical test and data interpretation is also done through Outsourcing
- Interpretation is done for MRI scan and ultrasound test for improving quality result

Quaternary activities

It involves the following

- The collection, production, dissemination or production of information
- Quaternary involves research & development
- It is advanced form of services with highly specialised knowledge

Quinary activities

- The highest level of decision makers or policymakers perform this
- It focuses on the creation, rearrangement and interpretation of new and existing ideas
- Data interpretation and use of new technologies are often called *gold colour* professions
- Example- business executives, government officials, scientist financial and legal consultant

Importance of quinary activities

- Opening up of a large number of call centres
- Created new jobs for the skilled people
- It is boon to the countries where cheap and skilled workers are available
- Migration can be controlled
- Outsourcing countries are facing residence problem from job seeking youths

What is meant by outsourcing?

Outsourcing is a process in which work is given to an outside agency to improve efficiency in work and to reduce the cost

The Digital Divide

- It is a gap between developing countries and developed countries to provide access to information and communication technology
- Developed countries have gone for ahead in information technology

CHAPTER -7

TRANSPORT AND COMMUNICATION

Modes of transport

- Land transport: Rail transport& Road transport
- Water transport: Inland and overseas
- Air transport
- Pipeline transport

Land transport

Advantages of Land transport

- Door to door service
- It connects industrial areas with the raw material centres
- Cheaper for short distance
- Road can be constructed anywhere on land
- Maintenance cost moderate

Disadvantages of Land transport

- Costly for long distance
- Does not provide basic amenities like railway
- Maintenance cost is too high in mountain and desert areas
- Fuel consumption is more
- Traffic jam in city area
- Road accident is quite common

Advantages of rail transport

- It is more convenient for long distance
- Cheaper for long distance and it has all basic amenities
- Bulky material can be transported for long distance at a stretch
- Large number of passengers can be carried in one time
- It plays major role to mobilize army soldiers during emergency period and natural calamities

Disadvantages of railway transport

- It is not convenient for short distance as it is costly
- It is not flexible
- Accidents are more common
- Transshipment is a main problem
- Train theft and maintenance are the major problems
- It is not suitable to construct in mountain and inaccessible areas

Water transport

Advantages of water transport

- It is very cheap due to less friction
- There is no need of any road construction
- It is suitable for transporting perishable goods like fruits and vegetables
- Heavy and bulky materials can be transported easily

Disadvantage of water transport

- Initial cost of construction of Port is too high
- The maintenance of port needs extra skill and care
- Oil leakage in the sea water causes destruction in marine ecosystem
- Dredging (removal of silt) in the canal areas requires huge capital

Distribution of land transport

Railway transport

- The first public railway line was opened in between Stockton to Darlington in Northern England
- It opened up Continental interior for commercial farming mining and manufacturing in USA
- Invention of steam engine had made revolution in this transport

Distribution of Railways

- In the world, the most dense railway network is found in Europe with multiple tracks
- In Belgium for every 6.5 square kilometer area there is one kilometer of railway
- London, Paris, Brussels, Milan and Warsaw are very important Railway junctions
- Here passenger traffic is greater than goods
- Underground railway connects London with Paris
- Trans Continental Railway lines of Europe have lost their importance due to more flexible transport system of Airway and Roadways
- Russia has 90% of its transport done through Railways
- Moscow is the most important node
- Moscow also has underground Railways and travel is carried out mostly to the industries by railways only
- In North America most of the bulky cargo like grains Timber and machinery are sent by railways
- East Central USA and Canada have the most dense railway network
- Canadian Railway are under the public sector
- The pampas of Argentina and the coffee estates of Brazil account 40% of South America's total railway length
- Chile connects coastal centres with the mines

Trans Continental Railway

It runs across the continent and links two ends

Trans-Siberian Railway

- It runs in Russia from St Petersburg in the west to Vladivostok on the Pacific coast in the east passing through Moscow
- It is Asia's longest double tracked Railway

- It runs across the mountains Ob and Yenisei River and it connects important agro and fur centres

Trans Canadian Railways

- The total length is 7050 km
- It runs from Halifax in the east to Vancouver on the pacific through Montreal, Ottawa, Winnipeg and Calgary

Economic importance

It connects the Quebec - Montreal industrial region with the wheat belt of prairies and the coniferous forest region in the north

- This line is the economic artery of Canada

The Union and Pacific Railways

- It connects New York on the Atlantic coast to San Francisco on the Pacific coast passing through Cleveland, Chicago, Omaha
- The most valuable export on this route is ores, paper Chemicals and heavy machinery items

The Australian Trans -Continental Railway

- It runs in Australia from Perth on the West Coast to Sydney on the east coast
- It passes through Broken Hill and port Augusta
- It is connected to Adelaide and Alice spring

The Orient Express

- It runs from Paris to Istanbul
- Today this railway line has reduced more than 96 hours of travel compared to10 full days by ship route

Road

- Metal Road
- Unmetalled Road

- The quality of roads varies from place to place
- It is mainly because of expenditure
- In developed countries good quality roads are seen and provide long distance link
- Interstate highway for speedy moment

Highways

- High ways are metal roads connecting distant places
- They are constructed in a manner for unobstructed vehicle moment
- The 80 m wide with the separate traffic lanes, bridges, flyovers and dual carriage ways to facilitate uninterrupted traffic flow

Distribution of highways

- The world total motorable road length is only 15 million, in which North America alone accounts 33%
- Highest road density and highest number of registered vehicles are in this continent

The Trans Canadian highway

It links Vancouver in British Colombia with St.John city in Newfoundland

Alaskan Highway

Links Edmonton in Canada and anchorage in Alaska

Pan American highway

It connects the highway of South America, Central America and USA and Canada

The Tran-Continental Stuart Highway

- It connects Darwin with Melbourne

- In Russia roads are not that much connected like the development of Railways
- In Indian National Highway connecting Varanasi to Kanyakumari is the longest highway
- Golden Quadrilateral of super Expressway connects four important cities like New Delhi, Kolkata, Chennai, Bangalore and Mumbai

Border roads

- Roads laid in international boundaries are called border roads
- It plays a major role for defense personal

Water transport

Important sea routes

- North Atlantic Sea route
- The Mediterranean Indian ocean sea route
- The cape of good hope route
- The north Pacific Sea route

North Atlantic Sea route

- It links North Eastern USA and North Western Europe
- It is called BIG TRUNK route
- One fourth of the world foreign trade moves on this route
- Important sports are Colombo, Mumbai, Aden and Singapore
- After the construction of Suez Canal distance and time has been greatly reduced

The Mediterranean Indian ocean route

- It links Western Europe with west Africa south Africa Southeast Asia Australia and New Zealand
- Rich natural resources like gold diamond copper tin groundnut oil palm and fruits are the main cargo on this route

The Cape of Good Hope Sea route

- It connects countries of Western Europe and west African countries with Brazil Argentina and Uruguay
- Trade along this route is comparatively less

The north Pacific Sea route

- Ports on West Coast of North America are connected with those of Asia through the north Pacific route

The South Pacific Sea route

- It connects West Europe and North America with Australia and New Zealand and scattered pacific islands

Shipping canals

Panama shipping Canal

- It is constructed across the Panama Isthmus between Panama City and colon by the US government
- It connects the Atlantic Ocean in the East and Pacific Ocean in the west
- Total length is 72 km
- Wide is 12 km and it has 6 lock systems
- It has shortened the distance between New York and San Francisco by 13000 km
- The distance between Western Europe and West Coast of USA has been drastically reduced

The Suez Canal

- It was made in 1869 in Egypt
- It lies between port said and port Suez connecting the Mediterranean Sea with Red Sea
- This Canal has reduced the sea route distance considerably between South East Asia and European countries
- Total length is 160 kilometer and has 15 meters depth
- More than 100 ships move up and down daily
- It takes around 12 hours to cross this canal
- But the ships have to pay very heavy toll to use the canal

Inland waterways

- Rivers, canals, lakes and coastal areas have been important waterways since long time
- Boats and steamers are used as means of transport for cargo and passengers
- The development of navigability depends upon the width and depth of the Canal, continuity in the water flow and technology is used

The Rhine waterway

- It flows through Germany and Netherlands
- It is navigable for a distance of 700 km
- River Ruhr joins this river and flows through a rich coal field
- Dusseldorf is the port here and is the most heavily used water way
- More than 20000 ocean going vessels and 200000 inland vessels going up and down every year
- This river way connects Switzerland Germany France Belgium and Netherlands with the North Atlantic Sea route

The Danube waterway

- It Rises in the black forest and flows down towards the east covering several countries
- Vessels are carrying wheat Timber maize and heavy machinery

The Volga water way

- It is one of the prominent water way in Russia
- It has 11200 km long navigable waterways
- It empties itself into Caspian Sea

The Great Lakes St Lawrence Seaway

- North America superior Huron, Erie and Ontario are which form an inland waterway
- The mouth of river St Lawrence and the Great Lakes form commercial waterway in North America
- Duluth and buffalo are important ports on this route

The Mississippi waterway

- It connects the interior parts of the USA with the Gulf of Mexico in the south

Air transport

- The fastest means of transport
- It is very costly
- It is prepared by the passengers for long distance travel
- It is the only means of transport to reach inaccessible areas
- It has brought about the connectivity revolution in the world

Intercontinental air routes

- In the Northern hemisphere there is a distinct east-west belt of Intercontinental aircraft
- Dense network exists in Eastern USA Western Europe and Southeast Asia

- Asia and USA alone accounts for about 60% of the Airways of the world
- The important International Airport New York London Paris Frankfurt Rome Mumbai New Delhi Singapore Tokyo and Chicago
- Africa and South America part of Russia do not have standard air travel services due to thin population and lack of economic development

Pipeline transport

- Pipelines are used extensively to transport liquids and gases such as water petroleum and natural gas for an uninterrupted flow
- Water is supplied through pipeline is familiar to all of us
- Cooking gas LPG is supplied through pipeline in many parts of the world
- Pipeline can also be used to transport liquefied coal
- In New Zealand milk is being transported through pipeline from farm area to the factories
- BIG INCH pipeline of USA is famous pipeline which carries mineral oil from the wells of Gulf of Mexico to the north eastern part
- Another important pipeline is COME CON
- It connects oil wells of the Ural and the Volga regions to the countries of east Europe

Communication

- The Telegraph and the Telephone were the most commonly used long distance communication system
- In the early part of the 20th century the American Telegraph and Telephone Company had Monopoly over the countries telephone industry
- Many different countries started their main offices in cities and branches in towns
- Satellite communication

- More than 1000 million people living in over 100 countries communicate with one another through the Internet
- Satellite communication has influenced human lives immensely
- USA and USSR pioneered space research in 1970s
- Artificial satellites are sent up to orbit the earth and keep in touch with the station scattered all over the world
- Our country also made giant effort in satellite Communication
- On 19th April 1979 we launched Aryabhatta, Rohini in 1980. INSAT 1B made long distance communication television and radio very easy and effective
- Even weather forecasting is done with the help of the satellites

Internet

- Cyberspace is the natural environment in which Electronic Communication takes place
- The world wide web encompasses cyberspace
- In this world electronic digital communication information is available over computer networks without physically moving the sender of the receiver
- Electronic network has spread all over at an unprecedented speed
- In 1995 only less than 50 million people used the Internet but in 2008 it went up to 40 million and in 2005 it went over 1 billion and in 2010 it went over two billion
- Initially the Internet users were only in developed countries but today all developing countries have joined
- People in India China Germany Japan USA and UK are in the forefront in the use of the Internet
- With most of the people using Internet cyberspace will enhance economic and social space through email E-Commerce e-Learning and e-Governance.

CHAPTER- 8

INTERNATIONAL TRADE

What do you mean by trade?

- Trade is essentially buying and selling of items produced elsewhere

Types of trade

International trade

- National trade
- International trade
- International trade is the exchange of goods and services among countries across National boundaries
- Countries need to trade to obtain commodities which they cannot produce or they can purchase at lower price

National trade

- Trade is carried out within the country

Barter system

- It is the system of direct exchange of goods instead of money or currency
- it was in practice in olden days

History of international trade

- In ancient times transporting goods over long distance was very risky due to theft
- Hence trade was restricted to local markets
- People then spent most of their resources on basic necessities like food and clothes
- Only the rich people bought jewellery, costly dresses and this resulted in trade of luxurious items

- The well-known Silk Route from Rome to China was very famous in ancient period
- Traders took the silk route to bring Chinese silk Roman wool and precious metals from India Russia and Central Asia
- After the disintegration of Roman Empire European commerce grew up during 12th and 13th centuries
- European colonies began in the 15 century and trade also grew with it
- Slave trade was emerged
- The Portuguese the Spanish and the British traders captured African natives and took them to newly discovered America
- They were forced to work on the plantation gardens
- Slave trade flourished for over 200 years
- Slave trade was abolished first in Denmark in1792in Great Britain in 1807 in 1808 in USA
- After the industrial revolution demand of raw materials was increased
- So industrialized nations began to import raw material and exported finished products to the non-industrialized countries
- Thus, the trade was developed

Why international trade?

- Specialization of goods
- Benefits the world economy
- Specialization of the goods can give rise to the trade
- It gives comparative advantage complementary and transferability of goods and services
- Mutual benefits to the trading partners

Bases of international trade

Difference in national resources

- Geological structure
- Mineral resources availability

- Climate -example different crops are cultivated in different regions

Population factors

Cultural factors

- Example China is famous for porcelain products for carpet Iran, North Africa for leather goods

Size of population

- Large population have great volume of internal trade
- High standard of living cannot be expected of a population that leads- to -hand to mouth life

Stage of economic development

- Agriculture based countries export agro products and import manufactured goods
- Industrilised countries export machinery items and import grains

Extent of foreign investment

- Developed countries invest capital on poor countries to import food materials and Minerals and create market for their own finished products
- Thus, trade is developed between developing and developed countries

Transport

- In the past days due to the lack of proper transport facilities trade was confined in the local market only
- When railways waterways and airways developed trade also increased
- With the introduction of refrigerator containers trade increased much more

Important aspects or components of international trade

- Volume of trade
- Composition of trade
- Direction of trade

Volume of trade

- Volume of trade is measured by the tonnage of goods traded
- It means the total value of goods and services traded in particular period

Composition of trade

- It refers the types of goods and services entering the world market
- Importance of manufacturing goods has increased over the years
- It is due to the fast growth of manufacturing industries and then the reduction in tariff barriers especially under gatt
- A number of primary products such as coal cotton rubber and oil have lost importance in recent years
- Petroleum occupies one of the most important places in international trade

Direction of trade

- Until the 18th century manufactured and high value sophisticated goods were exported from the present days developing countries to Europe
- But now the direction of trade is changed
- In 19th century manufactured from Europe were exchanged for food stuffs and raw materials from three Southern continents
- But at present the developing countries are able to compete with the developed countries in manufacturing goods

Types of international trade

Bilateral trade

- It is the exchange of commodities between two countries
- One country provides raw materials or energy in exchange for a manufactured goods

Multilateral trade

- It is exchange of goods and services among a number of countries

Balance of trade

- The difference in value between imports and exports

Negative trade

- If import value exceeds export it is known as unfavourable or negative trade

Positive trade or favourable trade

- If the value of exports exceeds imports it is known as favourable trade or positive trade

Free trade

- Free trade or trade liberalization is opening up economies of countries for trading
- Tariffs, taxes etc… are brought down or totally removed and free flow of goods and services to other countries is allowed

Impact of free trade

- Free trade and globalisation adversely affect domestic traders of developing countries

- The rich countries will dump their goods at cheaper prices which will adversely affect the producers within the developing country

What do you mean by dumping?

- Selling a product in two countries at different prices is called dumping
- For example- China products are sold in Indian market

World Trade Organisations

- It is an international body which frames rules and regulations for global trade
- It was set up in 1995
- At present it has 159 member countries
- Its headquarters is in Geneva in Switzerland
- WTO is the only international organisation dealing with the global rules of trade between nations
- It sets the rules for the global trading system and resolves disputes between its member nations

Criticism against WTO

- It is argued that free trade does not make ordinary people lives more prosperous
- It is actually widening the gap between rich and poor by making rich countries more rich
- This is because the influential nations in the WTO focus of their own commerce
- Another important criticism is, it does not give any importance to child labour, workers rights and environmental degradation

Regional trade blocs

Regional trade blocs have come up in order to encourage trade between countries with geographic proximity, similarity and complementary in trading items and to curb restrictions on trade of developing world

Problems related with international trade

- Trading at local level affects every aspect of life
- Production will go up but natural resources will be exhausted soon. Even marine life may be depleted
- Forest will be cleared for all other purposes
- Different industries taken up by multinational corporations will go on expanding the pollution
- If they are interested only in making profit nothing will be done to protect the environment
- It would lead to serious future problem

Gateways of international trade

- Ports and harbours are the main gate ways to international trade
- Men and material move from one place to another through ports and harbours
- Ships are docked in ports and harbours which provide loading unloading and storage facilities

Ports are called the gate ways of international trade. Why?

- It is a Gateway from land to sea or from sea to land
- Coast provide facilities such as docking, unloading etc…
- It handles exports and imports of different countries
- Imports are sent to Hinterland of a port
- Travellers pass from one part to another part of the world

Types of port on the basis of location

- Inland port
- Outport

Inland port

- They are situated away from the sea and connected to the sea through a river or a canal
- Example- Manchester connected to the sea by a canal
  Memphis on the river Mississippi
  Kolkata port on the river Hooghly

Outport

- Deep water port and built away from the actual port
- They receive large ships which cannot enter the port because of their large size
- Athens port is an example
- Based on specialized function
- Oil port
- Port of call
- Packet stations
- Entre port
- Navel port

Oil port

- Tanker ports and refinery ports are two types
- Their main function is processing and shipping oil
- Abadan in Persia is an example

Port of call

- This port is used for refilling, watering and replenishing food stocks
- Aden and Singapore are the examples

Packet stations

- They are also known as ferry ports
- They carry passengers and mail across short distances
- Dover in English canal in England is an example

Entrepot ports

- They are the collection centres for goods from different countries
- Singapore and Rotterdam in Europe are examples

Naval port

- It is for serving warship only
- Repair workshops are also available
- Cochin and Karwar in India are the naval port

BOOK 2-CHAPTER - 1(INDIA)

POPULATION: DISTRIBUTION, DENSITY, GROWTH AND COMPOSITION

- Total population of India (2011 census) is 1210 million.

- Population is distributed unevenly.
- Uttar Pradesh has the highest population followed by Maharashtra, Bihar, West Bengal.
- Uttar Pradesh, Bihar, West Bengal, Andhra Pradesh, Tamil Nadu, Madhya Pradesh, Rajasthan, Karnataka, Gujrat account for 76% of population.
- Share of Population is very small in Jammu and Kashmir (1.04%) Arunachal Pradesh (0.11%) & Uttarakhand (0.84%) of total population of India.

FACTORS RESPONSIBLE FOR UNEVEN DISTRIBUTION OF POPULATION:

- PHYSICAL FACTORS:
- Climate, water, terrain and soil.
- SOCIO ECONOMIC FACTORS:
- Evolution of Settled Agriculture and agricultural development.
- Pattern of human settlements,
- Development of transport, industries, urbanization

HISTORICAL FACTORS: Development of cities such as Mumbai, Kolkata, Chennai by British

DENSITY OF POPULATION

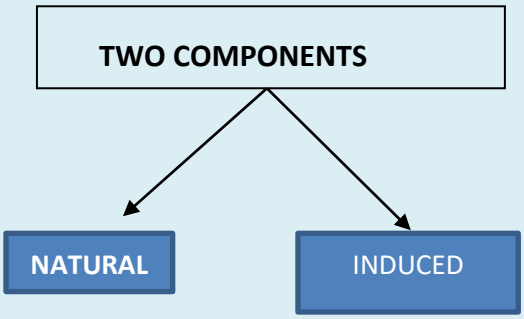
- Number of persons per unit area.
- The density of population (2011) is 382 person / sq km.

- Lowest population density in Arunachal Pradesh: 17 person/ per sq km.
- Highest population density in Bihar (1106) followed by West Bengal (1028), Kerala (860) & Uttar Pradesh (828)

- Himalayan states and North East have low density whereas Ganga plain has highest density and other states have moderate population
- Physiological density → Total Population / Net Cultivated Area
- Agricultural density → Total Agriculture Population / Net Cultivable Area

GROWTH OF POPULATION:

- Change in the number of people living in a particular area between two points of time. It is expressed in percentage.



- Natural growth : Crude birth rate and crude death rate
- Induced growth : Crude birth rate, crude death rate, in migration and out migration
- The annual growth of India's is 1.64 % census (2011)

PHASES OF POPULATION GROWTH IN INDIA

Following four phases are recognized in demographic history of India:
STAGE I: 1901 -1921 stagnant growth, slow growth rate, BR & DR were high, poor medical facilities, low literacy rate, inefficient distribution of food and basic facilities. Demographic divide;
STAGE II: 1921-51: steady growth, improvement in health and sanitation low mortality rate. Better transport facilities, high birth rate and decline death rate. The influence of world war and Economic depression influenced, Mortality Induced Growth

STAGE III: 1951-81: Population explosion, rapid fall in mortality rate, high fertility rate, introduction of five-year plans, improvement of living condition, increased migration. Fertility Induced Growth
STAGE IV: 1981 onwards: growth rate declined, crude birth rate declined due to increase marriage age, improved quality of life& education.
FEATURES OF ADOLESCENTS POPULATION:

- An important aspect of population growth in India is the growth of its adolescents.
- At present the share of adolescents (age group of 10-19 years) is about 20.9 per cent (2011).
- Male adolescents constitute 52.7 per cent and female adolescents constitute 47.3 per cent.
- High potential, quite vulnerable.

CHALLENGES FACED BY SOCIETY ABOUT ADOLESCENTS

- Lower age at marriage
- Illiteracy
- Female illiteracy
- School dropouts
- Low intake of nutrients
- High rate of maternal mortality of adolescent mothers,
  - High rate of HIV AIDS
- Physical and mental disability
- Drug abuse alcoholism
- Juvenile delinquency
- Commitence of Crime

Steps taken by the government to channelize the adults

- National youth policy (2014)
- Holistic vision for the youth of India
- To empower the youth of the country to achieve their full potential
- To enable India to find its rightful place in the community of nations

- NYP defines youth as persons in age group of 15-29 years
- Policy of skill development for adolescents (2015)
- Encourage the youth for constructive development of the society
- Improve patriotism and responsible citizens
- Youth empowerment
- Giving importance for youth health, sports and recreation
- Innovation in the field of science

POPULATION COMPOSITION

- Population composition is a distinct field of study within population Geography with a vast coverage of analysis of age and sex, place of residence, ethnic characteristics, tribes, language, religion, marital status, literacy and education, occupational characteristics, etc

RURAL URBAN COMPOSITION

- 68.8% population lives in villages.
- India has 640867 villages according to 2011 census.
- The state of Himachal Pradesh, Bihar and Sikkim have very high percentage of rural population
- Goa, Maharashtra and Tamil Nadu have low rural population
- Union Territories have low rural population except Dadra and Nagar Haveli.
- The size of villages varies from one region to another region.
- In the North- East India and Rajasthan, it is less than 200 persons while it is more than 17,000 persons in Kerala and in parts of Maharashtra.

URBAN POPULATION

- It is equal to 31.16 % it is quite low.
- It is increased due to economic development, improvement in health, hygienic conditions.

LINGUISTIC COMPOSITION

- According to Grierson (Linguistic survey of India 1903-1928) there are 179 languages 544 dialects,
- In the modern context there are about 22 scheduled languages
- Hindi speakers are 40.42% the smallest language is Kashmiri 0.01%.

LANGUAGE FAMILIES

- Austric(Nishada) – (1.38 %) – Mon-Khmer – Meghalaya Nicobar, Munda-West Bengal, Jharkhand,Odisha, Assam, Madhya Pradesh, Maharashtra
- Dravidian (Dravida) - (20%) –- Tamil Nadu, Karnataka, Kerala, Andhra Pradesh, Bihar, Odisha,Madhya Pradesh,
- Sino-Tibetan (Kirata) - (0.85%) – Tibeto- Myanamari – Jammu & Kashmir, Himachal Pradesh, Sikkim, Siamese-Chinese -- Assam,Aruncahal Pradesh, Nagaland, Mizoram, Tripura.
- Indo-European (Aryan)-(73%) -North Western, Central & North India (73%)- Indo Aryan

RELIGIOUS COMPOSITION

- Hindus are distributed in all states except in the districts of state along Indo-Bangladesh border, Jammu & Kashmir, North- East states

Minority Groups:

- Muslims are concentrated in Jammu & Kashmir, West Bengal, Kerala, Uttar Pradesh, Delhi, Lakshadweep
- Christian population is concentrated in mainly western coast & NE states
- Sikhs are concentrated in Punjab
- Jains Buddhists are concentrated in Rajasthan, Maharashtra and Gujarat
- Tribes are located in North East & Central India
- Hindus -79.8% Muslims-14.2% Christians – 2.3% Sikhs 1.7% Buddhists-0.7 Jains-0.4%
- others- 0.7%, Religion not stated-0.2%

COMPOSITION OF WORKING POPULATION

- Main worker: work more than 183 days (or six months)
- Marginal worker: less than 183 days (or six Months)
- 39.8% worker 60.2% non-workers
- Large % of dependent population. Large number is unemployed
- 39.6% working population in Goa, 49.9 per cent in Daman and Diu

OCCUPATIONAL CATEGORIES

- Cultivators
- Agricultural labourers
- House hold industrial workers
- Other workers
- SPATIAL VARIATION OF WORKING PARTICIPATION
- Himachal Pradesh and Nagaland have high proportion of cultivators
- Andhra Pradesh, Chhattisgarh, Odisha, Jharkhand, West Bengal high proportion of Agricultural Workers
- In urban centers high proportion of services
- Non availability of land and presence of industries encourage workers

CHAPTER-2-HUMAN SETTLEMENTS

Cluster of dwellings of any type or size where human beings live

- They vary in size from hamlet to metropolitan cities,
- they may be small and large closed or spaced
- they may practice primary / secondary/ tertiary activities

DIFFERENCE BETWEEN RURAL AND URBAN SETTLEMENTS

	RURAL	URBAN
1.	Primary occupation	other than primary
2.	Provide raw material	process the raw material
3.	Produce food	provide services
4.	Low-income	high income
5.	Low density	high density
6.	Spaced	clustered

TYPES OF RURAL SETELEMENT

CLUSTERED SETTLEMENTS;

- Compact and closely built houses
- Living area is different form surrounding farms
- Recognizable pattern
- Different shapes such as geometric rectangular, radial, linear,
- Sometimes defense may cause shape of the settlement
- Availability of water also decides the shape

SEMI-CLUSTERD SETTLEMENTS

- Formed due to result from tendency of clustered in restricted area of dispersed settlement
- Segregation of large settlement may also cause
- Some may be forced to live separately from the main village
- Dominance group live in the center of the village
- People of lower strata live in out skirt of the village
- Most common in Gujarat. Rajasthan

HAMLETED SETTLEMENTS

- Physically separated and located in different place having common name
- They are locally called panna, para Palli,Nagla ,Dhani
- They are motivated by social and ethnic factors
- Found mostly in middle and lower ganga valley

DISPERSED STTLEMENTS

- They are isolated huts are hamlets
- Located on hills or agricultural lands
- It is due to nature of terrain, and land resource, water
- Found in Meghalaya, Uttaranchal, HP, Kerala.

URBAN SETTLEMENTS

- Compact and large in size
- Non-Agriculture, eco, admin activities
- Exchange of goods and services
- Directly linked with rural settlements

EVOLUTION OF CITIES

Ancient towns

- having historical background spanning over 2000 years most of them developed as religious and cultural centres
- Varanasi is one of the important towns among these
- Prayag (Allahabad) Patliputra (Patna) Madurai or some other examples

Medieval towns

- Developed as headquarters of principalities and kingdoms
- these towns were developed on the ruins of ancient towns like forts
- important towns are Delhi, Hyderabad, Jaipur, Lucknow, Agra and Nagpur

Modern towns

- the British and other Europeans have developed number of towns in India
- starting their foothold on coastal locations
- they first developed some trading port such a Surat, Daman, Goa
- Pondicherry etc
- later they developed principle nodes of Mumbai, Chennai and Kolkata
- they established administrative centres, hill towns as summer resorts and made them as military areas

Administrative towns

- after independence a large number of towns were developed as administrative headquarters example Chandigarh, Bhubaneswar, Gandhinagar and Dispur

URBANISATION IN INDIA

1. % of urbanization in India is 28%
2. Urbanization developed 11-fold during 20th century
3. It is due to development of planned cities

CLASSIFICATION OF TOWNS ON THE BASIS OF POPULATION SIZE

Cities	Population size
CLASS I	>100000
CLASS II	50000-99999
CLASS III	20,000- 49,999
CLASS IV	10,000-19,999
CLASS V	5000-9,999
CLASS VI	< 5000

URBAN AGGLOMERATION:

1. Town and its adjoining urban outgrowths

2. Two or more towns with or without their outgrowth

3.The city and one or more adjoining towns

- Ex . Out growth: railway colony, university, port area, military cantonment
- According to 2001 census there were 423 first class towns and 35 metro cities in India six of them are mega cities grater Mumbai is the largest city in India

FUNCTIONAL CLASSIFICATION OF TOWNS

- Administrative towns: All capitals of states with national capital
- Industrial towns: Mumbai. Salem, Coimbatore Modinagar, Jamshedpur
- Transport towns: Kandla Cochin, Vizak
- Commercial towns: Satna Kolkata
- Mining towns: Digboi, Ranigunj, Jharia
- Garrison cantonment towns: Ambala, Mhow. Jalandhar
- Educational towns: Pilani, Aligarh, Varanasi
- Religious cultural towns: Amritsar, Varanasi, Tirupati
- Tourist towns: Shimla, Mussori, Nainital

CHAPTER-3

LAND RESOURCES AND AGRICULTURE

What do you mean by resources?

- It means anything which fulfill the need of human wants is known as resources

Land Use Categories in India

- Land is used for various purposes like constructing roads, buildings playground, Park etc...

The land – use categories are maintained in the land revenue records of India as

Forest

- Area is covered with forest

Land Put To Non Agricultural Uses

- Land under settlement, construction of roads, canals, Industries shops etc

Barren And Wastelands

- Not used for cultivation
- Example Barren hilly terrains, desert lands, ravines etc...

Area under permanent pastures and grazing lands

- Used mainly for grazing cattle
- Most of this type of land is owned by village panchayat and the government

Area under miscellaneous tree crops and groves

- The land under orchards and fruit trees

Culturable waste land

- Land which is left uncultivated for more than 5 years

Current fallow

- This is the land which is left without cultivation for one or less than one agricultural year

Fallow other than current fallow

- This is also a cultivable land which is left uncultivated for more than a year but less than 5 years

Net sown area

- The actual use of land for cultivation in a year

Land Use Changes In India

Three Types of economic changes affect land use

  - The size of the economy
  - The composition of the economy
  - The contribution of the agricultural activities

The size of the economy

- Increasing population, increasing income, modern technology and associated activities make the economic grow
- As a result demand for land increases with time
- So even a waste land or Barren land begin to be used somehow or other

The composition of the economy

- There is a fast growth in secondary and tertiary sectors than the agricultural sector
- So the land for agriculture use gradually decreases
- Such sudden shift are more evident in urban areas
- A lot of agricultural land is being used for constructing multi storage complexes

The contribution of Agricultural activities

- Even though the contribution of the agricultural activities comes down, demand for agricultural production does not come down
- This is mainly because of ever growing population

- Moreover the agricultural sector has to feed the large number of people goes on increasing day by day

Three categories that have undergone increase and four categories have declined

- Area under non agricultural uses
- Area under forests
- Current fallow lands

  - Non agricultural use area shows the maximum rate of increase
  - It depends on the contributions from Industrial and service sectors
  - Expansion of area under Urban and rural settlements also helped this increase
  - So area under non agricultural uses increases by reducing waste land and agricultural land
  - Increase in forest area is due to the increase in the area demarcated as forest and not as actual forest cover
  - Rainfall variations and cropping cycle variations have led to the increase in fallow land

The four categories that have registered a decline

- Barren and waste land
- Culturable waste land
- Area under pastures and tree crops
- Net area sown
  - As the pressure on land increased both from the agricultural and non agricultural sectors, the wastelands and cultural wastelands have witnessed decline over time
  - The decline in net sown area is due to the increases in area under non agricultural use
  - Example- building construction on agricultural land
  - The decline in land under pasture and grazing land is due to the expansion of cultivation on common pasture lands .

Common property resources (CPR)

It can be broadly classified based on its ownership

- Private land and
- Common property resources

  - Private land is owned by an individual or a group of individuals

  - Common property resources or owned by the state and it is exclusively for the community
  - Common property resources provide fodder for the livestock and fuel for the house holds along with other Minor products like fruits nuts, fibre, medicinal plants etc…
  - Common property are also important for women as most of the fodder and fuel collection is done by them in rural areas

What do you mean by common property?

  - It is a community's natural resource where every member has the right of access and usage with the specified obligations without anybody having property rights over them

Examples-Community Forest, pasture lands, village water bodies

Agricultural land use in India

- Agriculture is purely land based activity different from secondary or tertiary activities
- If the people have no access to land especially in rural areas it means they are very poor
- Quality of land is very important for agriculture
- If the land is not fertile the farmers who work on the land will get low yield
- In rural areas land ownership has a social value
- The land is often offered as security for loans

Cropping intensity

It refers to optimum or maximum utilisation of cultivable land

It can be calculated as

$$\text{Cropping Intensity} = \frac{\text{Gross Cropped Area}}{\text{Net Sown Area}} \times 100$$

Cropping Seasons In India

- Kharif
- Rabi
- Zaid

- *The kharif season* largely coincides with the Southwest monsoon
- Tropical crops such as rice, cotton, jute, Jowar, Bajra, and tur are cultivated
- *The rabi season* begins with the onset of winter in October - November and ends in March – April
- The low temperature conditions during this season facilitates the cultivation of temperate and subtropical crops such as wheat, gram and mustard
- *Zaid* is a short duration summer cropping Season beginning after harvesting of Rabi crops
- The cultivation of watermelon, cucumber, vegetables and fodder crops during the season is done on irrigated land

However, this type of distinction in the cropping season does not exist in the southern part of the country

Here the temperature is high enough to grow tropical crops during any period in the year provided the soil moisture is available

Types of farming

It can be classified into two types

- Irrigated farming
- Rainfed farming

Irrigated farming has two types

I. Irrigation for protection
II. Irrigation for production

- Protective irrigation is to protect the crops from adverse effects of dryness
- The soil might lose its moiture and we increase it by watering the plants

- In productive irrigation we provide sufficient soil moisture to achieve high productivity
- In this we have to use more water than in the protective irrigation

Rainfed cropping

It has two types

I. Dry land farming
II. Wetland farming

- The regions have the annual rainfall less than 75 cm have dryland farming
- Year drought resistant crops like Ragi, Bajra,mong, gram and fodder crops are cultivated
- Formers followthe system of rainwater harvesting and soil moisture conservation technique

- In wetland farming farmers grow water intensive crops like rice, jute and sugarcane
- The rainfall is in excess of soil moisture requirement of plans during rainy season
- These regions may face flood and soil erosion hazards

cropping patterns

Food grains

Rice

- More than 3000 varieties of riceare found and cultivated in tropical areas
- India is the second largest producer after China and it produces 22% of the total world production
- It is cultivated in kharif season
- West Bengal, Punjab, Andhra Pradesh, Tamilnadu are the producers
- In West Bengal farmers grow three crops of of rice called 'aus' 'aman' and 'boro'
- In Punjab and Haryana it was introduced due to Green Revolution
- The yield of this crop is very low in the areas of Madhya Pradesh Chhattisgarh and Orissa

- In Punjab and Haryana yield is high due to improved varieties of seeds, high usage of fertilizers and pesticides and successful pest control

Wheat

- Second most important cereal crop after rice
- Cultivation is done during winter and it is a Rabi crop
- 85% of the total area is concentrated in north and Central regions
- Uttar Pradesh, Punjab, Haryana, Rajasthan and Madhya Pradesh are five leading producers
- The yield level is very high in Punjab and Haryana due to green revolution

Jowar

- Maharashtra is the leading producer followed by Karnataka, Madhya Pradesh and Andhra Pradesh
- Maharashtra alone produces more than 50% of the total production
- It is a kharif crop and is cultivated in Rabi season in southern states

Bajra

- It is cultivated in hot and dry climatic conditions in north eastern and western parts of the country
- The leading producers are Maharashtra, Gujarat, Uttar Pradesh, Rajasthan and Haryana
- Being a rain-fed crop yield level is very low in Rajasthan
- Yield has increased during recent years in Haryana and Gujarat due to introduction of drought resistant varieties and expansion of irrigation

Maize

- It is food as well as fodder crop
- Grown under semi-arid climate conditions
- It grows well even in inferior soil
- It is not concentrated in any specific seasons
- Leading producers are Madhya Pradesh, Andhra Pradesh Karnataka, Rajasthan and Uttar Pradesh

Pulses

- Vegetarian food and it has rich sources of proteins
- These are legume crops which increase the natural fertility of soils through nitrogen fixation
- It is largely concentrated in dry lands of Deccan and Central plateau and North Western part of the country
- Being rainfed crops of dry lands yield fluctuvates year to year

Gram

- Gram it is cultivated in subtropical areas
- Just one or two light showers are sufficient to grow this crop successfully
- Madhya Pradesh, Uttar Pradesh, Maharashtra, Andhra Pradesh and Rajasthan are the main producers

Tur (Arhar)

- It is a second important pulse crop
- It is also known as Red gram or pigeon pea
- It is cultivated in rainfed areas of Central and Southern states of the country
- Maharashtra alone contributes about one third of the total production
- Other leading producers are Uttar Pradesh, Karnataka, Gujarat and Madhya Pradesh

Oil Seeds

Groundnut, Rapeseed, Mustard, Soyabean and Sunflower are the main oilseed crops

Groundnut

- India produces about 17% the total of crop production in the world
- It is largely rainfed kharif crops
- But in southern India it is cultivated during rabi season as well
- Gujarat, Tamil Nadu, Andhra Pradesh, Karnataka and Maharashtra are the leading producers
- The yield of groundnut is comparatively high in Tamilnadu

Rapeseed and Mustard

- They are tropical crops cultivated during Rabi season in North Western and Central parts of India
- The yield fluctuates year to year
- But with expansion of irrigation and improvement in seed technology yield is improved and stabilized to certain extent
- Rajasthan contributes 1/3 production and other producers are Uttar Pradesh, Haryana, West Bengal and Madhya Pradesh

Other Oilseeds

- Soyabean and sun flower are important oil seeds
- Soyabean is mostly grown in Madhya Pradesh and Maharashtra
- Sunflower cultivation is concentrated in Karnataka, Andhra Pradesh and adjoining areas of Maharashtra

Fibre crops

Cotton

- Tropical crop
- Grows in kharif season
- Long staple cotton is called 'narma'
- It is cultivated in North Western part of India
- Requires clear sky during flowering stages
- India ranks 4th in the world in production after China USA and Pakistan
- Occupies about 4.7% of the total cropped area Maharashtra, Gujarat, Andhra Pradesh, Madhya Pradesh and Haryana are the leading producers

Jute

- India is a second number in production
- It occupies. 5% of the total cropped area
- Requires 80% of relative humidity and plenty of water
- Cultivated as cash crop in West Bengal
- West Bengal, Bihar, Assam are the leading producers

Other crops

Sugarcane

- It is a tropical crop
- Largely concentrated in Uttar Pradesh (indo-gangetic)Plains
- In southern India it is cultivated in Maharashtra and Gujarat
- India is the second largest producer after Brazil
- 2.4% of the cropped area is under sugarcane cultivation India produces 23% of sugarcane in the world
- Uttar Pradesh, Maharashtra, Karnataka, Tamil Nadu and Andhra Pradesh are the leading producers

Tea

- It is grown over undulating topography
- Cultivated well in drained soil
- Humid and sub humid climate is required
- Plantation started first in 1840 in Brahmaputra valley
- It is also cultivated on the lower slopes of Nilgiri and cardamom Hills in Western Ghats
- India is a leading producer accounts for about 28% of total production in the world
- At present India ranks third among tea exporting countries after Sri Lanka and China
- Assam is the leading producer after West Bengal and Tamilnadu

Coffee

- It is the tropical plantation crop
- Its seeds are roasted, ground and used for preparing a beverage
- There are three varieties 'Arabic' 'Robusta' and 'Liberica'
- In India only superior quality coffee is grown
- India produces only 4.3% coffee in the world
- Ranks 6th place after Brazil, Vietnam, Columbia Indonesia, and Mexico
- It is cultivated on the Highlands of Western Ghats in Karnataka, Kerala, and tamilnadu
- Karnataka is the leading producer

Agricultural Development in India

Strategy Of Development

The following strategies were followed after independence to increase food grains

- Switching over from Cash crop to food crop
- Intensification of cropping over already cultivated land
- Increasing cultivated area by bringing cultivable and under plough
- Introduction of intensive agricultural district programme and intensive agricultural area programme
- Using new seed varieties of wheat and rice
- Adopting new method of irrigation
- Green revolution was introduced

Growth Of Agricultural Output and Technology

- Production and yield of rice and wheat has increased for many times
- Production of sugarcane oil seeds and cotton has also increased
- Expansion of irrigation, use of high yielding variety of seeds chemical fertilizers, pesticides and farm machinary
- Modern agricultural Technology has diffused very fast in various areas of the country
- Consumption of chemical fertilizers has increased by 15 times
- Net irrigated area is also increased

Problems of Indian agriculture

- Dependence on unpredictable monsoon
- Low productivity
- Constraints of financial resources and indeptness
- Lack of land reforms
- Small farm size and fragmentation of land holdings
- Lack of commercialization
- Vast underemployment in rural areas
- Degradation of cultivable lands

CHAPTER 4-WATER RESOURCES

- Water is a cycle resource with abundant supplies on the globe
- About 71% of the Earth's surface is covered with water
- But only 3% freshwater constitutes in the total water
- Indeed a small proportional fresh water is effectively available for human use
- The availability of water varies over space and time
- Presently the tensions and disputes on sharing and control of this resource are becoming the contested issues among communities, regions, and States
- Hence the development and planning is very much required to the water resources

Water Resources in India

- India accounts about 2.45% of the total land of the world
- India has 4 percent of the world water resources and about 16% of the world population
- The total water available from precipitation in a year is about 4000 cubic km
- The availability from surface water and repleshnable groundwater is only 1869 cubic km
- Out of this, only 1122 cubic km(60%) can be put to beneficial uses

Surface Water Resources

  - Rivers
  - Lakes
  - Ponds
  - Tanks
- The mean annual flow in all the river basins in India is estimated to be 1869 cubic km
- Due to topographical, hydrological and other constrains only about 690 cubic km of the available surface water can be utilised
- Water flows in a river depends on size of is catchment area of river basin and rainfall
- Example - the Ganga, the Brahmaputra and the Indus have huge catchment areas and have relatively a high precipitation

- At the same time catchment areas of the Krishna, the Cauvery the Godavari do not have such a big catchment area and they are seasonal in flow

Groundwater Resources

- The total repressible groundwater resources in the country are about 432 cubic km
- The level of groundwater utilisation is relatively high in the river basins lying-in north-western regions and parts of south India
- The groundwater utilisation is very high in the states of Punjab Haryana, Rajasthan, Tamil Nadu,
- States like Chhattisgarh, Orissa, Kerala utilise only a small proportion of ground water
- States like Gujarat, Uttar Pradesh, Bihar, Tripura, Maharashtra utilise their groundwater resources at moderate

Lagoons and back waters

- They are used for fishing and irrigating some varieties of paddy crop coconut etc…
- State like Kerala Orissa and West Bengal have vast surface water resources in lagoons and lakes

Water demand and utilisation

- India is an agrarian society
- 2/3 of its population have been depend on agriculture
- Hence irrigation is required
- After independence five-year plans were implemented and targeted on multipurpose river valley projects like Bhagra Nangal, Hirakud, Damodhar Valley, Nagarjun Sagar, Indira Gandhi Canal Project etc…
- As far as water utilisation is concerned 92% of groundwater and 89% of surface water used for agriculture
- The industrial sector accounts to 2% of the surface water utilisation and 5% of the groundwater
- The domestic sector utilisation is higher (9%) in surface water as compared to groundwater
- The share of agricultural sector in total water utilisation is much higher than the other sectors

Demand of water for irrigation

- Seasonal rainfall
- Uncertainty in rainfall
- Uneven distribution of rainfall
- Growing more and more food crops
- Dry climate is found in some regions
- Growing cash crops
- Practicing multiple cropping pattern
- High yield variety of crops need regular water supply

Emerging water problems

- The available water resources are also getting polluted with industrial, agricultural and domestic effluents
- It leads for the limiting the availability of usable water resources

Deterioration of water quality

- Water gets polluted by foreign matters such as micro-organisms, Chemicals, Industrial and other wastes
- Quality of water is affecting the aquatic systems
- The Ganga and Brahmaputra are the highly most polluted rivers in the country

Water Conservation and Management

- Watershed development
- Rainwater harvesting
- Water recycling and reuse
- Conjunctive use of water for sustaining water supply in long run

Recycle And Reuse of Water

- It is a attractive option for industries for cooling and firefighting to reduce their water cost
- In urban areas water after bathing and washing utensils can be used for gardening
- Water used for washing vehicle can also be used for gardening
- This would conserve the better quality of water for drinking purposes

Watershed Management

- It basically refers to efficient management and conservation of surface and groundwater resources
- It involves the prevention of runoff and storage and recharge of groundwater through various methods like percolation tanks recharge well etc…
- The central and state government have initiated many watershed development and management programmes in the country
- Some of them are being implemented by non-governmental organisations also
- Example - ***Hariyali Watershed Development Project*** sponsored by the central government
- It is to conserve water for drinking irrigation fisheries and afforestation in rural areas
- ***Neeru - Meeru program*** in Andhra Pradesh is also one of the best example for watershed management
- ***Arvary pani sansad*** (in Alwar- Rajasthan) is another example
- Besides various water harvesting structures such as percolation tanks, dug out ponds, check dams are taken up by the local participation
- Tamil Nadu has made water harvesting structure in the houses compulsory

Rainwater Harvesting

- It is a method to capture and storage water for various uses
- It is also used to recharge groundwater aquifers
- It is low cost and eco - friendly technique for preserving every drop of water by passing the rain water to bore wells

Advantages Of Rainwater Harvesting

- Increases water availability
- Checks the declining groundwater table
- Improves the quality of groundwater
- Prevents soil erosion and flooding and arrest salt water intrusion in coastal areas

Methods Of Rainwater Harvesting

- Harvesting through watershed management
- Harvesting through lakes
- Harvesting through service lakes
- Harvesting through recharge well
- Traditional rainwater harvesting in rural areas by using surface storage bodies like lakes Ponds irrigation tanks
- In Rajasthan rainwater harvesting structures locally known as **Kund Or Tanka** (a covered underground tank) constructed near or in the house or village to store harvested rainwater
- Apart from this desalinisation of water particularly in coastal areas and brackish water in arid and semi-arid areas, interlinking rivers from the surface area to the deficit areas are the important remedies for solving water problem in India

Highlights Of India's National Water Policy -2002

- Irrigation and multipurpose projects should invariably include drinking water component wherever there is no alternative source of drinking water
- Providing drinking water to all human beings and animals should be the first priority
- Measures should be taken to limit and regulate the exploitation of groundwater
- Both surface and groundwater should be regularly monitored for quality
- A phased progamme should be undertaken for improving water quality
- The efficiency of utilisation in all the diverse uses of water should be improved
- Awareness of water as a scarce resource should be fostered
- Conservation consciousness should be promoted through education, regulation, incentives and disincentives.

Chapter-5-MINERAL AND ENERGY RESOURCES

What is meant by mineral?

Mineral is a natural substance of organic or inorganic origin with definite chemical and physical properties

Types of mineral resources

Metallic minerals

Non metallic minerals

Metallic minerals

Ferrous (Example- iron, manganese,)

Non ferrous (Example- copper, bauxite etc…)

Non metallic mineral

Fuel mineral (Example- Coal, Petroleum natural gas)

Other non metallic minerals (Example- mica, limestone graphite etc…)

Characteristics of minerals

- ❖ Unevenly distributed over the surface
- ❖ Good quality minerals less in quantity
- ❖ Bad quality minerals are more in quantity
- ❖ They are exhaustible
- ❖ Minerals take long time for their formation
- ❖ It cannot be formed over a short period of time

Why conservation of mineral resources is necessary?

- ❖ They are exhaustible in nature
- ❖ Once the resource are consumed it cannot be renewed at short span of time

- Countries industrial development and progress entirely depends on the mineral resources

Agencies involved for exploring minerals

- Geological Survey of India (GSI)
- Oil and Natural Gas Commission (ONGS)
- Mineral Exploration Corporation Limited (MECL)
- National Mineral Development Corporation (NMDC)
- India Bureau of Mines (IBM)
- Bharat Gold Mines (BGM)
- National Aluminium Company Limited (NALCO)

Mineral Belts of India

- The North eastern plateau region
- The southwestern plateau region
- The North Western region
- Himalayan belt
- Assam Valley

Distribution of minerals in India

The North Eastern plateau region

- This belt covers Chota Nagpur, Orissa plateau, West Bengal and parts of Chhattisgarh

The southwestern plateau region

- This belt extents over Karnataka, Goa and Tamilnadu uplands and Kerala

The North Western region

- This belt extents along Aravalli in Rajasthan and parts of Gujarat and Minerals are associated with the Dharwar system of rocks

Ferrous Minerals

Iron ore

- our country has abundant resources of iron ore
- ours is the largest iron ore reserve in Asia
- Haematite and Magnetite are the two important main types
- High quality iron ore creates great demand in world market
- Fortunately , the iron ore is found near coalfields and mines in the North-eastern plateau region
- The most important producers are Orissa, Jharkhand Chhattisgarh, Karnataka, Goa, Andhra Pradesh and Tamilnadu
- Orissa - Found in the hill ranges of Sundargarh, Mayurbhanj and Jhar
- Jharkhand - Noamundy and Gua in Singham districts
- This belt further extends to Durg, Dandiwada and Bailadila
- Dalli and Rajghara are important mines in the country
- Karnataka - Occurs in Sandur - Hospet areas of Bellary district, Bababudan hills and kudremukh in Chikmagalur district and parts of Shimoga, Chitradurga in Tumkur district
- Maharashtra – Chandrapur, Bhandara and Ratnagiri districts
- Andhra Pradesh - Karim Nagar, Warangal, Kurnool, Kadapa and Anantapur
- Tamilnadu -Salem and Nilgiris districts

Manganese

- It is an important raw material for smelting iron ore
- Orissa is a leading producer
- Major mines in Orissa – Banai, kendujhar, Sundargarh Karnataka is another producer- Dharwar, Bellary, Belgaum North Canara, Chikmagalur, Shimoga, Chitradurga and Tumkur are the major mining areas
- Maharashtra is another important producer of manganese Nagpur, Bhandara and Ratnagiri district

- Madhya Pradesh exdends in a belt in Balaghat-chhindwara – nimar-mandla and jhabua districts
- Andra pradesh,goa,and jharghand are minor producers

Nonferrous Minerals

Bauxite

- Bauxite is the ore which is used in manufacturing aluminium
- Bauxite is found in tertiary deposits and is associated with laterite rocks
- Orissa is the largest producer
- Tamil Nadu, Karnataka and Goa are the minor producers

Copper

- copper is an indispensable metal in the electrical industry for making wires, electric motors, Transformers and generators
- Main producers are Madhya Pradesh and Jhunjhunu in Rajasthan

Non - Metallic Minerals

Mica

- Used in the electrical and electronic industries
- It can be split into very thin sheet which are tough and flexible
- Main producers are Jharkhand, Andhra Pradesh and Madhya Pradesh

Energy Resources

- Mineral fuel is essential for generating power
- Mineral fuel like Coal, Petroleum and natural gas nuclear energy minerals are the conventional energy sources of energy
- Required for agriculture industry, transport and other sectors of the economy

Coal

- Used in the generation of thermal power and smelting of iron ore
- Occurs in rock sequences mainly of two geological ages namely Gondwana and tertiary deposits
- Jharia is the largest coalfield followed by Raniganj

Petroleum

- Crude petroleum consists of hydrocarbons of liquid and gases States varying in chemical composition colour and specific gravity
- It occurs in sedimentary rocks of the tertiary period The Digboi in Assam was the only oil producing region
- But the scenery has changed after 1956
- The major oil fields of Gujarat - Ankleshwar, Kalol Mehsana Nawagam Kosamba and Lunej
- There are two types of Refineries in India
- Field based -example Digboi
- Market based - example Barauni in Bihar

Natural Gas

- The gas Authority of India limited was set up in1984 as a public sector undertaking to transport and to market natural gas
- Located exclusively in the eastern Coastal areas(Tamil Nadu Orissa, Andra pradesh) Tripura, Rajasthan and off-shore Wells in Gujarat and Maharashtra

Non- Conventional Energy Resources

- Fossil fuel sources such as Coal Petroleum natural gas and nuclear energy will be exhausted
- The non-conventional sources will provide more sustained eco friendly

Nuclear Energy Resources

- Important minerals used for the generation of nuclear energy are uranium and Thorium

- Found in Udaipur, Alwar and Jhunjhanu districts of Rajasthan, Durg districts of Chhattisgarh Bhandara districts in Maharashtra
- Thorium is mainly obtained from monazite and limonite in the beach Sands along the West Coast of Kerala and Tamilnadu
- World's richest monocyte deposits occur in Palakkad and Kollam district of Kerala, near Visakhapatnam in Andhra Pradesh and Mahanadi river delta in Orissa
- Atomic energy commission was established in 1948

The important nuclear power projects

- Tarapur in Mumbai
- Rawatbhata- near Kota Rajasthan
- Kalpakkam -near Chennai Tamil Nadu
- Narora- Uttar Pradesh
- Kaiga -Karnataka and
- Kakarapara - Gujarat

Solar Energy

- Sun rays tapped in photovoltaic cell can be converted into energy
- Easy to construct, eco friendly
- It is 7% more effective than coal or oil-based plans 10% more effective than nuclear plants
- Used in heaters, crop dryers cookers etc…
- Gujarat and Rajasthan have more potential to develop

India has fast potential to develop solar energy in future.Justify?

- India, being a tropical country has enough scope for production and utilisation of solar energy
- It is about 20 megawatt per square kilometre per annum

- Solar energy has become popular in the country and can be used for cooking pumping heating of water and Street lightning
- The North Western desert areas have more chances for the development of solar power houses

Wind Energy

- It is absolutely pollution free and inexhaustible source of energy
- The mechanism of energy conversion from blowing wind is simple
- The kinetic energy of wind,through turbines is converted into electrical energy
- The permanent wind system such as trade winds, westerlies and seasonal winds like monsoon have been used as a source of energy
- Besides these local winds, land and sea breeze can also be used to produce electricity
- In Rajasthan, Gujarat, Maharashtra, and Karnataka favourable conditions for wind energy exist
- Wind power plant at Luma in Gujarat in Kachchh is the largest in Asia
- Located also in Tuticorin in Tamilnadu

Tidal And Wave Energy

- Ocean currents are the store house of infinite energy
- Large tidal waves are known to occur along the West Coast of India

Thermal Energy

- When the magma comes out from the interior of earth to the surface tremendous heat is released

- ❖ The heat energy can successfully be tappedd and converted to electrical energy
- ❖ Located in Manikaran in Himachal Pradesh

Bio-energy

- ❖ Energy derived from agricultural residues, Municipal Industrial and other waste
- ❖ Bio energy is potential source of energy conversion
- ❖ It can be converted into electrical energy heat energy or gas for cooking
- ❖ One such project converting Municipal waste into energy is Okhla in Delhi

Conservation Of Energy Resources

Conservation Of Mineral Resources

- ❖ Adapting efficient mining technology to check the wastage of mineral resources
- ❖ Introducing the alternative energy sources like solar power, wind wave, thermal energy
- ❖ Use of scrap metal will enable recycling the metals like a copper, lead and Zinc
- ❖ Finding substitute minerals which are available in abundance-example use of aluminium instead of copper
- ❖ Export of the mineral resources to the foreign exchange should be minimized.

CHAPTER-6
PLANNING AND SUSTAINABLE DEVELOPMENT IN INDIAN CONTEXT

What do you mean by planning?

- ❖ The term planning means taking decisions to implement them in order to attain economic development

Two approaches of planning

- Sectoral planning
- Regional planning

- ❖ Sectoral planning means formulation and implementation of set of programs at development of the various sectors of the Indian economy
- ❖ It aims at particular sectors like agriculture, irrigation manufacturing, power, construction, transport and communication, social infrastructure development and services
- ❖ Regional planning means more concentration on the balanced development of the whole region with a view to reduce the economic disparities between the various regions of country

Target Area Planning

- ❖ It is the process to take special care of those areas which have remained economically backward
- ❖ The economic development requires technology as well as investment besides the resources
  - Command Area Development Programme
  - Drought Prone Area Development Programme
  - Desert Development Programme
  - Hill Area Development Programme
  - The Small Farmers Development Agency (SFDA)
  - Marginal Farmers Development Agency (MFDA)

Hill Area Development Programme

- It was initiated during fifth five-year plan covering 15 districts comprising all the hilly districts of Uttar Pradesh north Kakkar Hills of Assam, Darjeeling districts of West Bengal and Nilgiri districts of Tamilnadu
- The basic criteria to identify these areas having height above 600 metres and not covered under any tribal sub plan programs
- These programs are aiming at development of horticulture, plantation, agriculture, animal husbandry, poultry, Forestry and small scale and village industries

Drought Prone Area Programme

- This program was initiated during the fourth five-year plan with the objectives of providing employment to the people in drought prone areas and creating productive assets
- It emphasized on irrigation projects, land development programmes, afforestation, grass land development and vegetation and creation of basic rural infrastructure such as electricity, roads, market, credit and services
- The other strategies are to develop integrated water shed development approach at the micro level
- Planning Commission of India (1967) identified 67 districts from semi-arid and arid tracts of Rajasthan, Gujarat Western Madhya Pradesh, Marathwada region of Maharashtra, Rayalseema and Telangana plateaus of Andhra Pradesh, Karnataka plateau and Highlands and interior parts of Tamilnadu

Case Study-Integrated Tribal Development Project in Bharmaur Region

- Bharmaur tribal area comprises Bharmaur and Holy tehsils of Chamba district of Himachal Pradesh

- It is inhabited by “Gaddi” tribal community and they practice transhumance and speak “Gaddiali” dialect
- The tribal region has harsh climatic conditions, low resource base and fragile environment
- It is one of the most backward areas of Himachal Pradesh
- Gaddi economy is largely based on agriculture and allied activities like sheep and goat rearing
- Under the five year plan the tribal sub plan was introduced in 1974
- The tribal area development plan was aimed at improving the quality of life of the gaddi and narrowing the gap in the level of development between this region and other areas of Himachal Pradesh
- Top most priority was given on development of transport and Communications, agriculture and allied activities and social and community services
- Also, there is a significant contribution of the scheme for the development of infrastructure in schools, healthcare facilities, Potable water, roads, communications and electricity
- After implementing the tribal development program there is a tremendous increase in literacy rate, improvement in sex ratio and decline in child marriage
- The female literacy rate is increased from 1.88% in 1971 to 42.83% in 2001
- The difference between males and females in literacy has also been reduced
- Cultivation of pulses and other cash crops has increased the life style of the tribals

Sustainable development

What is sustainable development?

- A development that meets the needs of the present without compromising the ability of future generations to meet their own needs is known as sustainable development
- In the late 1960 the Western world people began to aware of environmental issues
- It showed how the people were concerned about the undesirable effects of industrial development on the environment
- In 1970 people began to think of development as micro economic development
- Development should improve the well-being and living standard of the people health, education, equality of opportunity and political and civil rights had to be ensured
- By 1980s the concept of development meant for widespread improvement in social and material well-being of all in a society
- The ideas expressed in "**The Population Bomp**" by Ehrlich and "**The Limits To Growth"** by Meadows contributed to raise the level of fear among the environmentalist as well as general public
- If we take care of ecological, social and economic aspects of development today, then only we can conserve resources for future generation
- Then only we can declare that ours is sustainable development

Case Study- Indira Gandhi Canal Command Area

- Indira Gandhi Canal previously it was known as the Rajasthan canal
- The canal project was launched on 31st March 1958
- The canal originates at Harike barrage where the sutlej and beas river meet in Punjab and runs parallel to Pakistan border at an average distance of 40 km in Thar desert of Rajasthan

- The total length of the system is 9,060 km catering to the irrigation needs of total culturable command area of 19.63 lakh hectares
- About 70% was envisaged to be irrigated by flow system and the rest by lift system
- The construction work was carried out through two stages
- The command area of stage I lies in Ganganagar, Hanumangarh and northern part of Bikaner district
- It is generally undulating topography and its culturable command area is 5.53 lakh hectares
- The command area of stage II spread over Bikaner, Jaisalmer, Barmer, Jodhpur, Nagaur and Churu districts covering culturable command area of 14.10 lakh hectares
- In the left Canal the water is lifted up to make it flow down against the slope of the land
- The canal on the right bank is flow channels
- Irrigation with water from stage I started in 1960
- But stage II started receiving water in 1980 only

Positive Effects of Indira Gandhi Canal Project

- Canal irrigation has transformed the ecology, economy and Society of this dry land
- Soil moisture for longer periods has resulted in providing a green cover
- Afforestation and pastoral development programmes has reduced wind erosion and siltation of canal system
- Agricultural economy has transferred the different crops being cultivated in this region
- The traditional crops of gram, bajra, and jowar have been replaced by wheat, cotton, groundnut and rice

Negative Effect of Indira Gandhi Canal Project

- Excess use of water has produced water logging and soil salinity

Measures for Sustainable Development

- Water management policy should be strictly implemented
- The people should be encouraged to grow plantation crops like citrus fruits
- Programmes like lining of water courses land development and levelling and warabandi system (Equal distribution of canal water) should be effectively implemented to reduce loss of water
- Areas affected by water logging and soil salinity should be reclaimed
- Eco-development through afforestation and pasture development should be implemented in stage II
- Adequate financial and institutional support for land cultivation should be provided to the land allottees
- Agricultural and allied activities should be developed along with other sectors of economy
- There should be functional linkage between basic villages, agro service centres and market centres.

CHAPTER- 7-TRANSPORT AND COMMUNICATION

Means of transport

Land

- Road
- Railway
- Pipeline

Water

- Inland and
- Oceanic route

Air

- National
- International

Land Transport

- with the economic and technological development metalled roads and railways were developed to move large volume of goods and people from one place to another

Road Transport

- The first serious attempt was made in 1943 when Nagpur plan was drawn
- This plan could not be implemented due to lack of coordination among the princely states and British India
- 20-year road plan (1961) was introduced to improve the condition of roads in India after independence

Classification of roads

- National Highways
- State Highways
- Major district roads
- Rural roads

National Highways

- These are constructed and maintained by central government
- These roads are mean for inter-state transport and movement of defence men and materials in strategic areas
- They connect the state capitals, major cities, important ports, railway junctions etc…
- Total length is increased from 19,700 km in 1951 to 65,769 km in 2005
- It constitutes only 2% of the total road length
- But carry 40% of the road traffic

The National Highway Authority of India (NHAI)

- It was operationalised in 1995 as an autonomous body under the ministry of surface transport
- It has the responsibility for the development, maintenance and operation of national highways

National Highways Development Projects

Golden Quadrilateral

- It has 5846 km length with 4/6 lanes with high density traffic corridor
- It connects big metro cities like Delhi, Mumbai, Chennai Kolkata
- With this construction the time and cost distance are considerably minimised among the megacities

North South Corridor

- Connects Srinagar in Jammu and Kashmir with Kanyakumari in Tamilnadu
- There is one loop line connects Salem to Cochin
- Total length is 4076 km

East West Corridor

- It connects Silchar in Assam with Porbandar in Gujarat
- Total length is 3640 km

Grand Trunk Road

- Sher Shah Suri built the Shahi (Royal Road) to strengthen and consolidate his Empire from the Indus valley to the Sonar Valley in Bengal
- This road was renamed as Grand Trunk Road during the British period
- It connected Kolkata and Peshawar
- At present it extends from Amritsar to Kolkata
- Bifurcated into two segments
- National Highway(NH)-1 from Amritsar to Delhi
- National Highway(NH)-2 from Delhi to Kolkata

State Highways

- These are constructed and maintained by State governments
- They connect the state capitals with the district headquarters and other important towns
- These roads are connected to the national highways
- It constitutes 4% of the total road length in the country

District Roads

- They connect the district headquarters and other important towns in the district
- They account for 14% of the total length of the country

Rural Roads

- 80% of the total road length is rural roads

Other Roads

Border roads

- Established in 1960
- Constructed roads along the northern and North Eastern boundary of the country exclusively for defence strategies
- It has constructed roads in higher altitude mountain terrain joining Chandigarh with Manali (Himachal Pradesh) and Leh (Ladakh)
- Undertakes snow clearance in high altitude areas

The International Highways

- It is to promote the harmonious relationship with the neighbouring countries by providing effective links with India

The distribution of roads in India

What is meant by density of roads?

It refers the total length of road/one sqkm

- It is not evenly distributed
- Density of roads varies from state to state
- In Jammu and Kashmir it is only 10.48 km
- In Kerala it is 387.24 km
- National average is 75.42 km
- Density of road is high in the Northern states and major Southern states
- it is due to the nature of terrain
- In Himalayan region, North- Eastern region, Madhya Pradesh and Rajasthan road density is very low
- It is due to extreme climate and undulated topography
- Nature of terrain and level of economic development are the two main factors of density of roads
- Construction of road is very easy and cheaper in plain areas

- But it is costly in hilly and plateau areas and also quality of roads is better in plains as compared to higher altitude areas, rainy and forest areas

Rail Transport

- India has the biggest network of railway in Asia
- It facilitates the movement of both fright and passengers
- The first railway line was constructed between Bombay and Thane in 1853 covering a distance of 34 km
- The length of Indian railway network is 63,221 km
- It has been divided into 16 zones for effective railway management system

On the basis width of the tract it is categorised into three groups

- Broad Gauge
- Meter Gauge
- Narrow Gauge

Broad Gauge

- The distance between tracks is 1.676 metre
- Total length is 46807 km
- It accounts for 74.14% of the total length of a rail roads

Metre Gauge

- The distance between two tracks is 1 m
- It runs over 13,290 km and covering 21.02% of the total road length the distance

Narrow Gauge

- Distance between the tracks is 0.762 metre
- It contributes only 4.94% to the total length and it accounts for 3,124 km
- It is generally confined in hilly areas

Steps taken to develop Indian railways

- Meter and narrow gauges were converted to broad gauge
- Steam engines have been replaced by diesel and electric engines
- It has increased the speed as well as the haulage capacity
- It also makes pollution free
- Metro rail revolutionlised the urban transport system like Kolkata , Delhi and chennai
- During Britishers period important towns, raw material producing areas, plantation gardens and commercial crops areas, hill station and cantonment towns were well connected by railways
- It was developed exclusively to exploit the resources
- After independence railway routes have been extended to other areas
- Most significant development has been the development of Konkan Railway along the West Coast providing a direct link between Mumbai and Mangalore
- It was constructed in 1998 With the total length of 760 km
- It connects Roha in Maharashtra to Mangalore in Karnataka
- It crosses 146 rivers, streams, nearly 2000 bridges and 91 tunnels
- Asia's largest tunnel which is nearly 6.5 km long lies on this route

Water transport

- It is an important mode of transport for both passengers and cargo traffic
- Cheapest means of transport and most suitable for carrying heavy and bulky material
- It is a fuel efficient and eco-friendly mode of transport

Two Types

- Inland waterways
- Oceanic waterways

Inland Waterways

- It was the chief mode of transport before the invent of railways
- Faces tough competition from road and railway transport
- Diversion of river water for irrigation purposes made them non navigable in their courses
- India has 14,500 metres of navigable waterways and it contributes onely 1% to the countries transportation
- It is carried out through rivers, canals,backwaters, creeks etc…
- For the development and maintenance the inland waterways authority was set up in 1986
- It has declared three inland waterways as national waterways

❖ National waterway 1 (strecthes between Allahabad to Haldia)
❖ National waterway 2 (strecthes between Sadiya to Dhubri)
❖ National waterway 3 (strecthes between Kottapuram from Kollam)

- The backwaters of Kerala has a special significance in inland waterway
- They attract large number of tourist
- The famous Nehru Trophy boat race vallamkali is also held in the backwaters

Oceanic Routes

- India has 7517 kilometre coastal length including islands there are 12 Major ports and 185 minor ports
- 95% of India's foreign trade by volume and 70% of by Value moves through Ocean routes
- Apart from international trade these are also used for the purpose of transportation between the islands and the rest of the country

Air Transport

- Fastest means of transport
- Reduce the distance by minimising the travel time
- It is suitable for hilly Terrain and the inaccessible areas started in 1911 for about 10 km between Allahabad and naini
- But the real development took place after the Independence
- Airport Authority of India manages 126 airports including 11 International 86 domestic and 29 civil Enclave at Defence air fields
- Transport is managed by Air India and Indian Airlines
- Now many private companies have also started passenger services

Air India

- It provides international air services for both passengers and cargo
- In 2005 it carried 12.2 million passengers and 4.8 lakh metric tons of cargo
- About 52% of the total traffic was handled only at Mumbai and Delhi Airport
- Apart from these, Pawan Hans helicopter service is operated in hilly areas and widely used by tourist people in North Eastern parts

What do you mean by open Sky policy?

- Open Sky policy allows foreign Airlines, associations of exporters to bring any frights to India

Oil and gas pipelines

- Most convenient and efficient mode of transport in transporting liquid and gases over long distance
- Even solids also can be transported by pipelines after converting them into slurry

- Oil India Limited (OIL) is engaged in the exploration of production and transportation of crude oil and natural gas
- Asia's first Cross Country pipeline covering a distance of 1157 km was constructed by OIL from oil field in Assam to Barauni refinery in Bihar
- It was further extended up to Kanpur in 1966
- Other important pipelines are
- Ankleshwar-Koyali
- Mumbai high-Koyali
- Hazira-Vijaipur-Jagdishpur(HVJ)-Longest pipe line
- Recently 1,256 km long pipe line connecting Salaya (Gujarat) with Mathura (UP) has been constructed
- It supplies crude oil from Gujarat to Punjab (Jalandhar) via Mathura

Communication Networks

Means of communication

1. Personal Communication
2. Mass Communication

Personal Communication

Letter, telephone, Telegram, fax, email, Internet, etc

Mass Communication

Radio, television, cinema, satellite, newspaper, magazines, and books, public meetings, seminars, and conferences

Radio

- Broadcasting was started in India in 1923 by Radio Club of Bombay
- It was changed to All India Radio in 1936 and to Akashvani in 1957

- All India Radio broadcast about a variety of programs related to Information, education and entertainment
- Special news bulletins are also broadcasted at specific occasions like sessions of Parliament and state legislatures

Television

- Initially the TV services were limited only to the national capital where it began in 1959
- After 1972 several other centres became operational
- In 1976 TV was delinked from All India Radio (AIR) and got a separate identity as Doordarshan (DD) after INSAT IA (National Television DD1) became operational

Satellite Communication

- Satellite images can be used for the weather forecast, monitoring natural calamities, surveillance of border areas etc
- It can be grouped into two types
- Indian Remote Sensing satellite system(IRS)
- Indian National Satellite System (INSAT)
- INSAT was established in 1983 and it is a multipurpose satellite system for telecommunication, meteorological observation and for various other data and programs
- The IRS satellite system became operational with the launching IRS 1 in March 1988
- India has also developed her own launching vehicle PSLV (Polar Satellite Launch Vehicle)
- These too collect data transmit them to the ground station for various uses
- The National Remote Sensing Agency (NRSA) at Hyderabad provides facilities for data processing and they are very much useful for resources management

CHAPTER-8-INTERNATIONAL TRADE

- The pattern of India's foreign trade has been changed in the past few decades
- In 1950-51 our foreign trade was worth Rupees 12,140 million
- This figure rose to Rupees 83,71,330 million in 2004-05
- This sharp rise was the result of the fast development in manufacturing sectors, the liberal policies of the government and diversification of markets
- There has been an increase in the total volume of import and export
- The import is continued to be higher than the export and we experienced trade deficit in the recent past
- Deficit increase is due to the crude petroleum price rise
- Because our major import is crude petroleum
- The share of agriculture and allied products has declined whereas the share of Petroleum, crude products and other commodities has been increased
- But Minerals and manufactured goods remained almost same till 2003-2004
- The increase of Petroleum products share is due to rise in petroleum prices and increase in refining process capacity of our country
- The traditional items of export like coffee, spices, pulses had less demand in international market
- But there is a steady increase in demand for fresh fruits, Marine Products and sugar

Composition of India's foreign trade-changing pattern

- After independence especially from 1950 we had acute shortage in food supply
- Hence food grains were imported from other countries till 1970

- After 1970, due to Green Revolution importing food grains was stopped
- But in 1973, the energy crisis caused much to import petroleum from other countries
- So, the petroleum prices hiked immediately
- In the place of food grains, we were forced to import Petroleum and fertilizers, machinary, special Steel, edible oil and Chemicals
- Petroleum was used on two heads as a fuel and as a raw material for various industries
- The capital goods such as non-electrical machinery, machine tools and transport equipment were also imported

Direction of trade

- Measures like liberalisation, reduction in import duties de-licensing and change to product patterns from process patents are already showing favorable change in the trade
- The USA is the India's largest trading partner
- Next comes the UK followed by Belgium, Germany, Japan, Switzerland, Hong Kong, UAE, China, Singapore and Malaysia
- Sea and air routes carry the cargo for most of our foreign trade
- To our neighbouring countries like Nepal, Bhutan ,Bangladesh and Pakistan trade is carried through land routes

Sea Ports as Gateways of International Trade

<u>The role of sea port in foreign trade of India</u>

- The sea port act as collection centres of commodities from the hinterland for further shipment to foreign destinations
- Ports are receiving points of foreign goods and consignments coming to India for distributing them into the interior parts of the country

Favourable conditions to develop international trade

- India is surrounded by sea on three sides and it has a long coastline
- Water transport provide cheap transport for trade
- India has several well-developed sea ports along coast west and east coasts
- She has 12 major and 185 minor ports
- The Major ports are operated by Central Government and minor ports are regulated by State governments
- Till 1947, the British had their own axis in developing the major ports in India and they continued to carrying away our resources to England
- After partition, two very important ports Karachi and Chittagong went to Pakistan and Bangladesh respectively
- To compensate this, India developed two new ports Kandla in the west and Diamond Harbour near Kolkata in the East

Major Ports of India

Kandla Port

- It is situated at the head of the Gulf of Kutch
- It caters to the needs of Western and North Western part of the country
- It receives large quantities of petroleum and allied products and fertilizers

Mumbai Port

- It is the largest natural port in India
- Situated close to the general routes from Middle East countries, North Africa, America and Europe
- Mumbai carries on Overseas trade with all Major ports in the world
- The port is 20 km long and 10 km wide

- India's largest oil terminal is in Mumbai
- It is also known as the Gateway of India

Jawaharlal Nehru Port

- It was developed at nhava sheva as a satellite port to reduce the pressure on Mumbai port
- It is the largest container port in the country

Marmagoa Port

- It is a natural Harbour in Goa
- It was remodelled in 1961 to handle iron ore exports to Japan
- Karnataka, Goa, southern Maharashtra form its hinderland

New Mangalore Port

- It is situated in Karnataka
- The port is handling iron ore and fertilizers, petroleum products, edible oils, coffee, tea, wood pulp, granite Karnataka forms its main hinterland

Kochi Port

- It is known as the Queen of Arabian Sea
- Situated at the head of it is a large sheltered back water
- It is a deep natural harbour
- Being located close to Columbu-Suez route it exports tea, coffee, cashew, nuts, rubber, pepper cardamom and cotton goods
- It imports petroleum, fertilizers, machinery and coal
- It serves the states of Kerala, Karnataka and Tamilnadu

Kolkata Port

- It is located in Hooghly River 128 km away from the Bay of Bengal and was developed by the Britishers

- Today it has lost much of its importance as many exports from Kolkata had been diverted to other port like Visakhapatnam,Paradwip and Haldia
- Silt accumulation in Hooghly river causes stumbling blocks in this link to the sea
- West Bengal, Sikkim, Uttar Pradesh, Bihar and Jharkhand constitute its hinter land
- Nepal and Bhutan get port facilities from Kolkata

Haldia Port

- Constructed mainly to reduce pressure at Kolkata port
- Handles cargo like iron ore, Coal, Petroleum, jute, cotton and allied products

Paradwip Port

- Situated about 100 km away from Cuttack
- Is the deepest Harbour which can handle very large ships
- It has been developed with the intention of handling large scale export iron ore
- Chhattisgarh and Jharkhand constitute parts of its hinterland

Visakhapatnam Port

- This port is in Andhra Pradesh and is a landlocked Harbour
- It lies Midway between Kolkata and Chennai
- Its hinterland includes Andhra Pradesh, Madhya Pradesh and Orissa
- The largest ship yard in the country is situated in Visakhapatnam
- The cargo exported from here includes iron ore, manganese, oil seeds, mica and tobacco
- The main imports are rice, petroleum and machinary

Chennai Port

- It is one of the oldest artificial Harbour built in 1859
- It is not much suitable for large ships. because of the shallow water near the coast
- Tamil Nadu and Pondicherry are its hinterland

Ennore Port

- A newly developed port in Tamil Nadu and it is constructed 25 kilometre north of Chennai
- It relieves the pressure at Chennai port

Tuticorin Port

- It is also developed to relieve the pressure of Chennai port
- Handles variety of cargo including coal, salt, food grains, edible oils, sugar, Chemicals and petroleum products

Air Transport

- It has the advantages of taking the least time for carriage and handling high value of perishable goods over long distance
- It is very costly and unsuitable for carrying heavy and bulky commodities
- At present we have 12 international airports and 112 domestic airports in the country

International Airports are

▪ Ahmedabad ▪ Amritsar ▪ Bangalore ▪ Chennai ▪ Delhi ▪ Goa	▪ Guwahati ▪ Hyderabad ▪ kochchi ▪ Kolkata ▪ Mumbai ▪ Thiruvananthapuram

CHAPTER-09 -GEOGRAPHICAL PERSPECTIVE ON SELECTED ISSUES AND PROBLEMS

POLLUTION

It is the unwanted matter and energy in the environment which harms to the man

Types of pollution:

- Air pollution
- Water pollution
- Land Pollution
- Noise Pollution

POLLUTION	CAUSES	POLLUTANTS	EFFECTS	SOLUTION
AIR POLLUTION	Combustion of coal diesel, industrial processes solid waste disposal sewage disposal	Oxides of Sulphur, nitrogen, carbon monoxide, ammonia, lead, aldehydes asbestos &Beryllium	Causes various diseases, respiratory, nervous and circulatory systems cause smog in cities, acid rain, in return cause damage to the buildings	Plantation, use of filters in industries, use of non-conventional energy resources use of public transport
WATER POLLUTION	Sewage disposal, urban runoff, toxic effluents, runoff from Ag. lands	Odor, suspended solids, ammonia, urea, chloride, grease, insecticide, heavy metals	Water borne diseases diarrhea, intestinal worms, hepatitis, ¼ diseases are caused by water pollution	Controlled use of fertilizers, pesticides, treat the waste before release to the streams from industries

LAND POLLUTION	Improper human activities disposal of untreated waste	Human and animal excreta, virus and bacteria garbage, vectors therein, radioactive subsistence	Exhaustion of land land pollution, heavy metals are transferred to the Ag. Products Cause water pollution	Educate the farmers about the importance of land utility and consequences of pollution
NOISE POLLUTION	Air crafts, automobiles trains, industrial processing advertising	High level of noise	cause neural and heart disease	Locate industries away from living areas

SOURCES OF POLLUTION IN THE GANGA AND YAMUNA RIVERS

RIVER &STATE	POLLUTED STRECHES	NATURE OF POLLUTION	POLLUTANTS
GANNGA-UP, BI, WB	1. Down stream of Kanpur 2. Down stream of Varanasi 3. Farrakka barrage	Industries in Kanpur Domestic and urban waste Carcasses of man	Kanpur, Allahabad, Varanasi, Patna , Kolkata
YAMUNA – DELHI, UP	1. Delhi to confluence with Chambal 2. Mathura and Agra	Diverse of water to HR,UP Agriculture. Runoff, industrial waste	Urban waste from Delhi

CASE STUDY- DHARVI THE ASIA‟S LARGEST SLUM FEATURES

- There is only one road about 90 feet
- Narrow streets, one toilet for every 1440 people
- Two/three stored buildings with rusty iron gates
- Single room for 12 people
- Tree less sunlight uncollected garbage
- Stagnant pools, fowl water,
- Zari work, pottery, wood carving, scheduled caste people
- Poor Muslims, treatment of hides and tanning

URBAN WASTE DISPOSAL

- Overcrowding,
- Congestion,
- Inadequate facilities,
- Poor sanitary conditions,
- Significant quantity of solid waste Pieces of metals, polythene bags,
- Broken glass ware
- Plastic containers ashes garbage and CDs make solid waste

SOURCES OF URBAN WASTE

- House hold establishments: thrown in public lands, private contractors sites
- Industrial establishments: thrown in low lying public grounds

EFFECTS OF SOLID WASTE

- Health hazard due to obnoxious smell, flies and rodents
- Disease like typhoid, diphtheria diarrhea malaria cholera
- they are spitted through rain water
- industrial waste dumping in the rivers cause water pollution ex. Ganga , Yamuna

CASE STUDY- DAURALA

1. Meerut based NGO developed a model for ecological restoration
2. The ground water was contaminated with industrial waste
3. Ngo collected the data about the health conditions of the locality

STEPS TAKEN

- Overhead tank capacity was increased
- Ponds were cleaned
- Silt was removed
- Rain water harvesting structures were made
- 5.1000 trees have been planted

PROBLEMS OF SLUM AREAS

- Least choice
- Dilapidated houses
- Poor hygienic conditions
- Poor ventilation
- Lack of drinking water, light, toilet facilities
- Over crowded, narrow streets, low paid workers
- Prone to diseases, alcoholism, vandalism, apathy, social exclusion

LAND DEGRADATION

CAUSES

- Pressure on agriculture
- Increase in population density
- Faulty methods of agriculture
- Excessive use of fertilizers, pesticides
- Indiscriminate cutting of trees,
- Heavy rains,
- Floods

CLASSIFICATION OF WASTE LAND BY NRSA

CAUSED BY NATURAL AGENTS

Gullies, ravenous land, deserted, coastal sands, barren rocky areas, steep sloping land, glacial areas

CAUSED BY NATURAL ASWELL AS HUMAN FACTORS

Waterlogged and marshy areas, land affected by salinity and alkalinity, land with or without scrub

CAUSED BY HUMAN ACTIONS

Degraded shifting cultivated areas, degraded land under plantation crops, degraded forests, degraded pastures, mining and industrial waste lands

CASE STUDY- ECOLOGICAL BALANCE REASONS

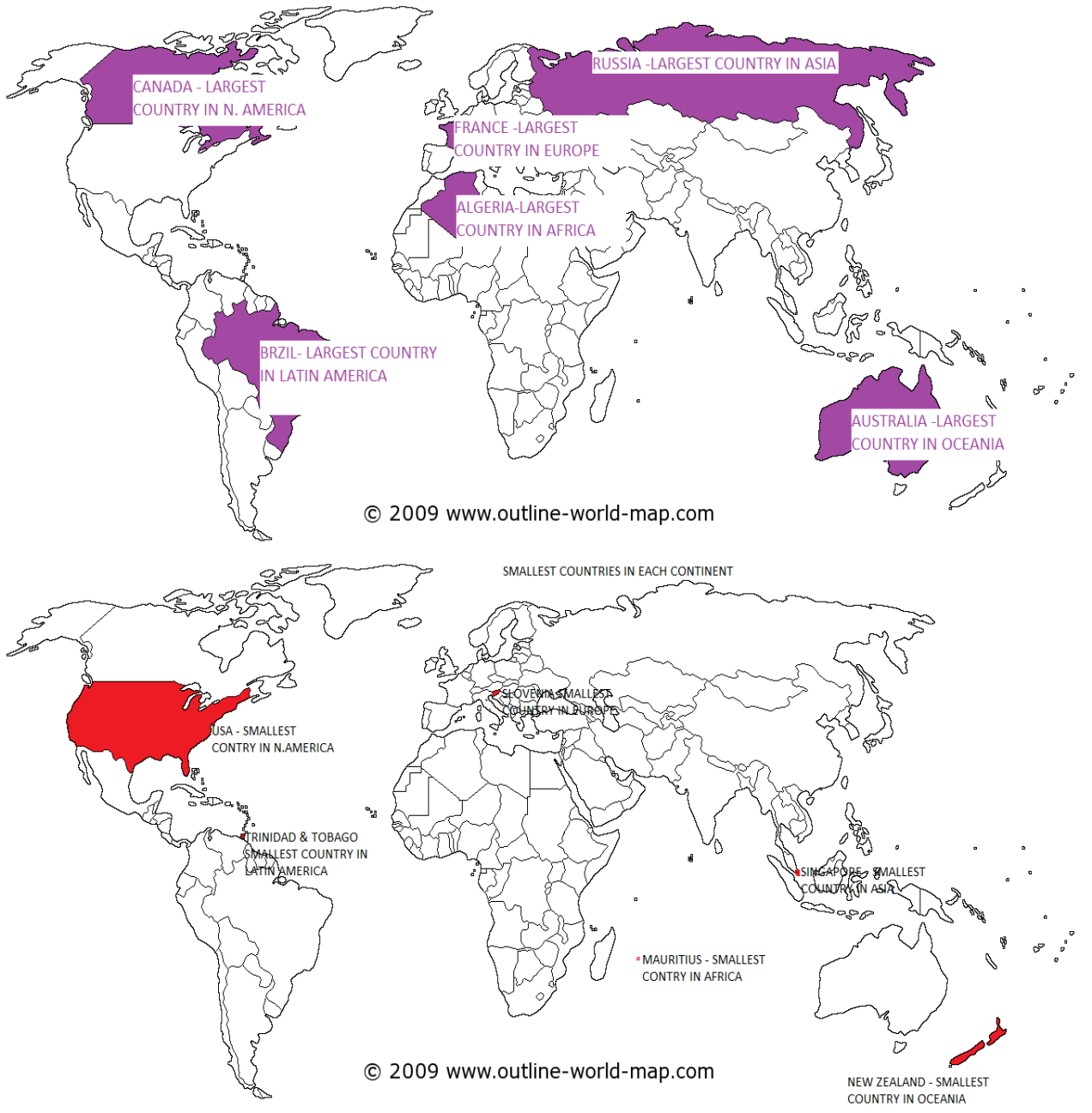
- Westernmost climatic zone in MP.
- One of the five backward districts of the country
- High concentration of Bhills
- suffer from poverty
- Most degraded land

OBJECTIVES

- Start watershed development programme
- Link of water, land, vegetation
- Natural resource management
- Increase common property resources
- Each family should plant one tree at least
- Planted fodder grass
- Social fencing
- Stop open grazing land
- Stopping the common property resources by govt.

CLASSIFICATION OF WASTELAND BY PROCESS

- Barren and uncultivated wasteland 2.18%
- Natural degraded common waste land 2.4%
- Natural man-made common waste land 7.51%
- Manmade degraded common waste land 5.88%
- Total degraded land 15.8%


CANADA - LARGEST
COUNTRY IN N. AMERICA
RUSSIA -LARGEST COUNTRY IN ASIA
FRANCE -LARGEST
COUNTRY IN EUROPE
ALGERIA-LARGEST
COUNTRY IN AFRICA
BRZIL- LARGEST COUNTRY
IN LATIN AMERICA
AUSTRALIA -LARGEST
COUNTRY IN OCEANIA
© 2009 www.outline-world-map.com
SMALLEST COUNTRIES IN EACH CONTINENT
SLOVENIA SMALLEST
COUNTRY IN EUROPE
USA - SMALLEST
CONTRY IN N.AMERICA
TRINIDAD & TOBAGO
SMALLEST COUNTRY IN
LATIN AMERICA
SINGAPORE - SMALLEST
COUNTRY IN ASIA
MAURITIUS - SMALLEST
CONTRY IN AFRICA
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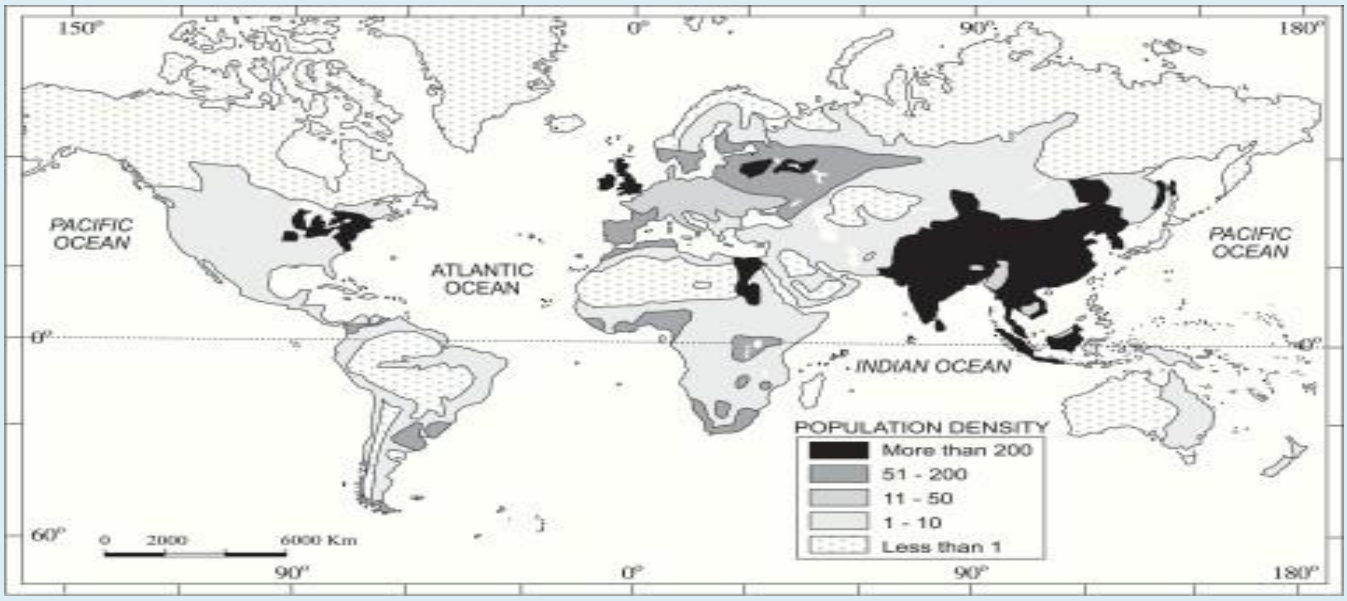
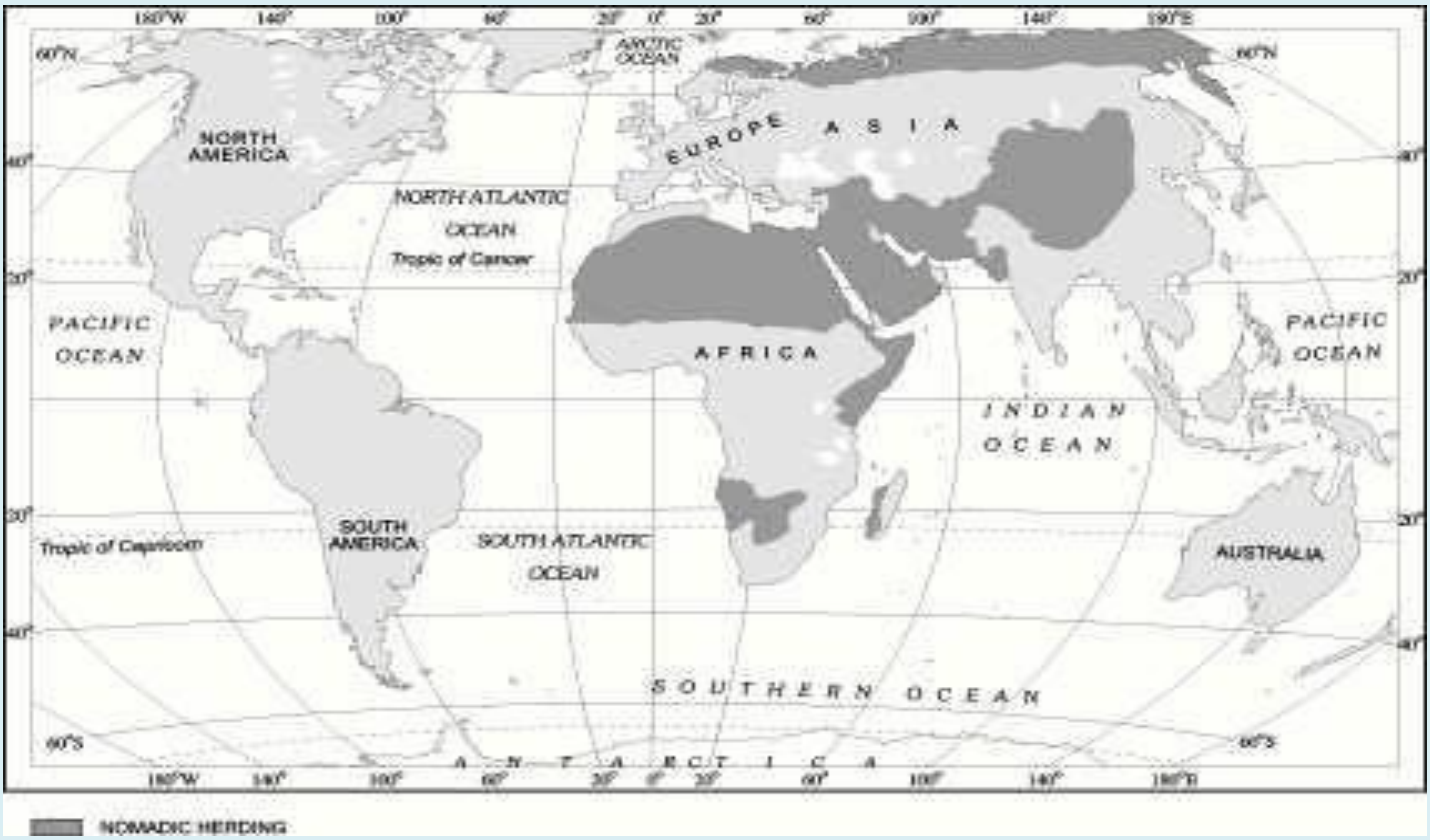
NEW ZEALAND - SMALLEST
COUNTRY IN OCEANIA

POPULATION DENSITY

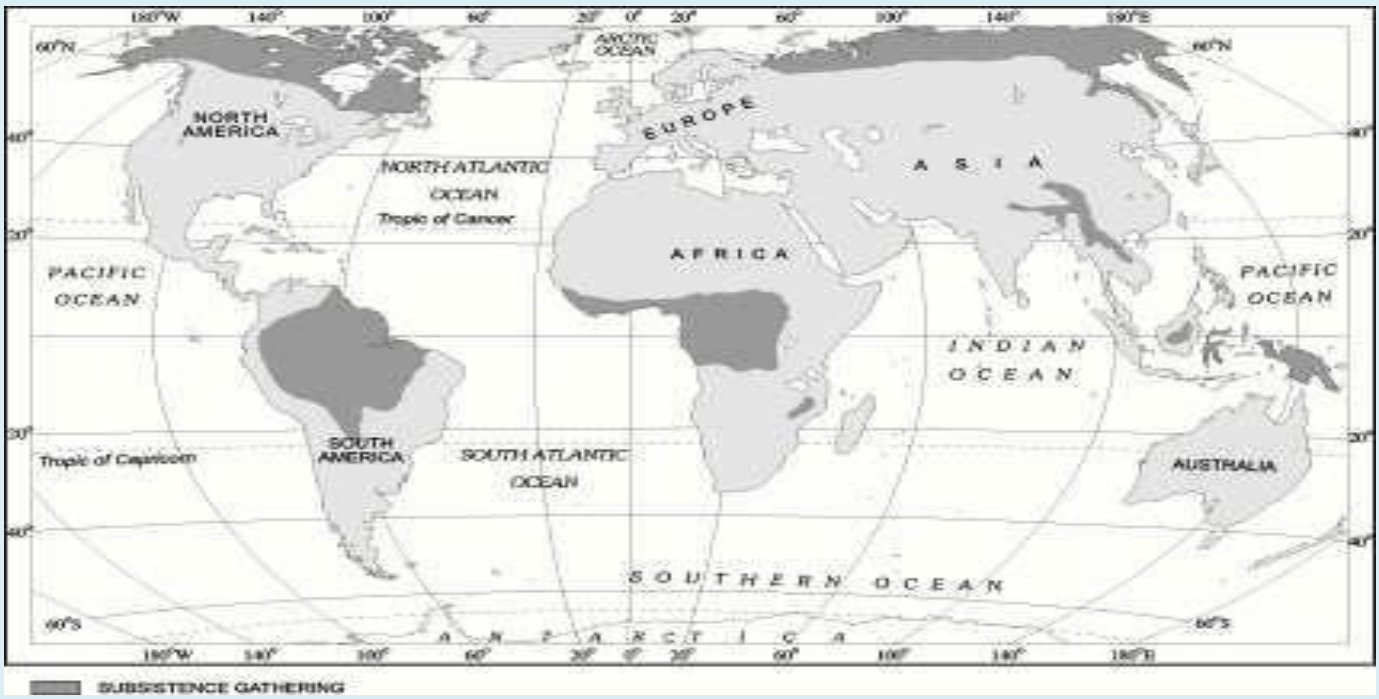


LOWEST AND HIGHEST GROWTH RATE OF POPULATION

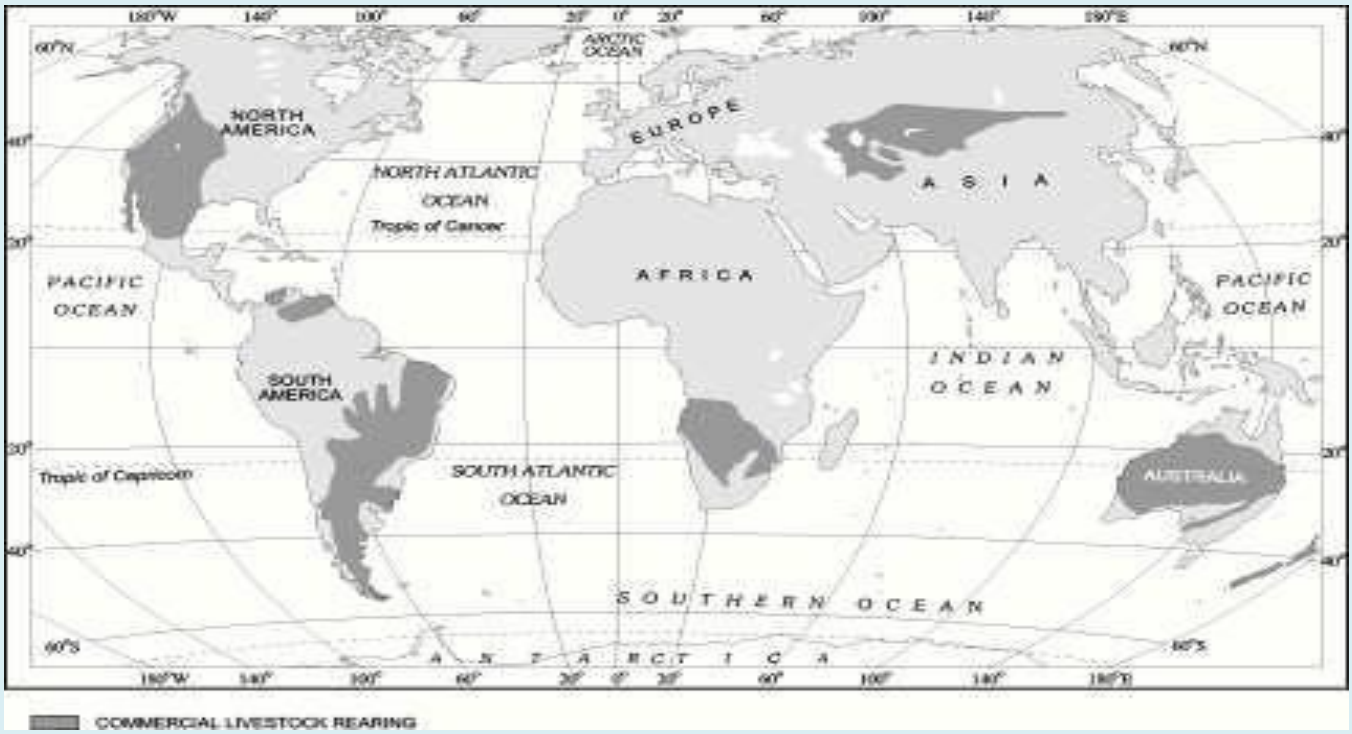
AREAS OF NOMADIC HERDING



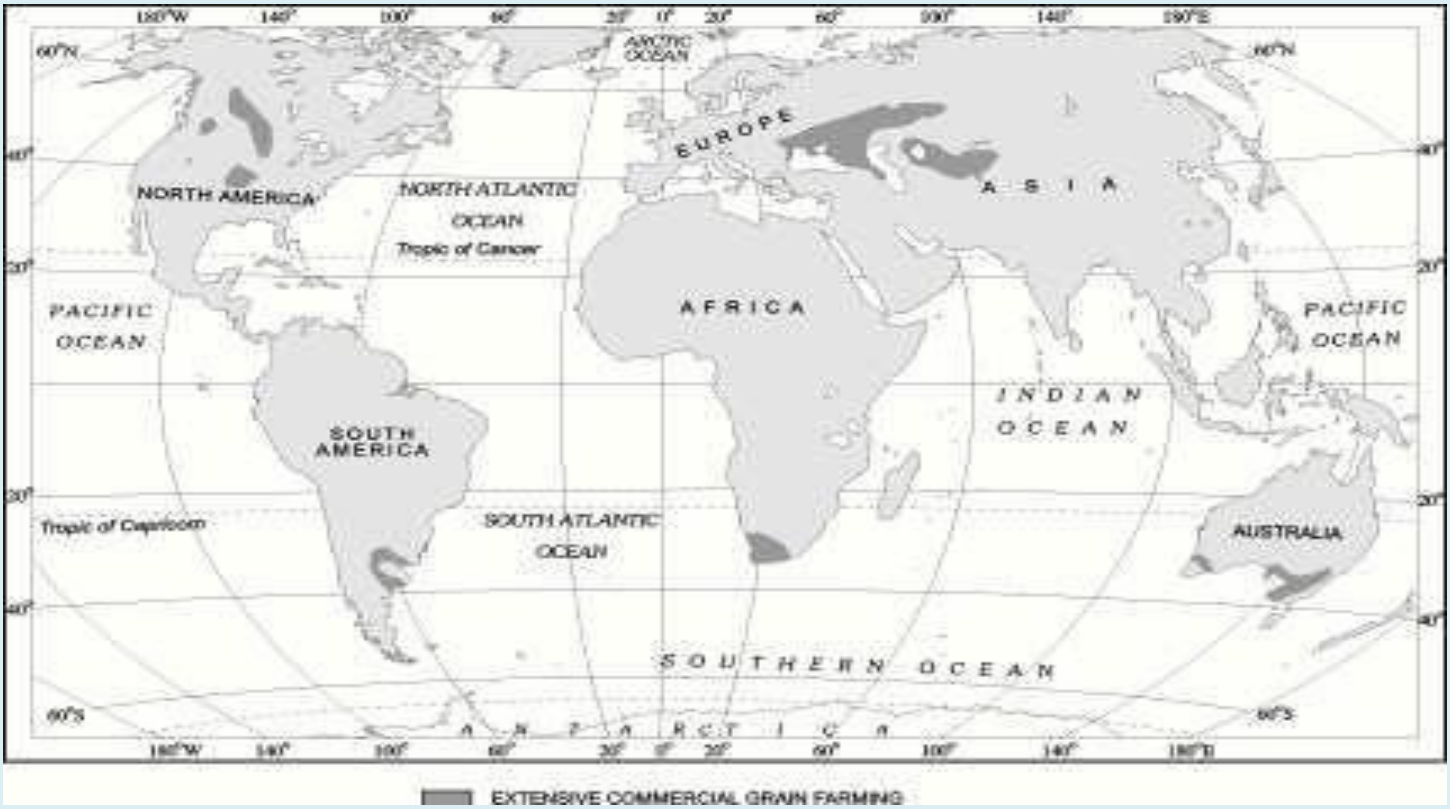
AREAS OF SUBSISTENCE GATHERING



COMMERCIAL LIVESTOCK REARING AREAS



EXTENSIVE COMMERCIAL GRAIN FARMING AREAS



MIXED FARMING

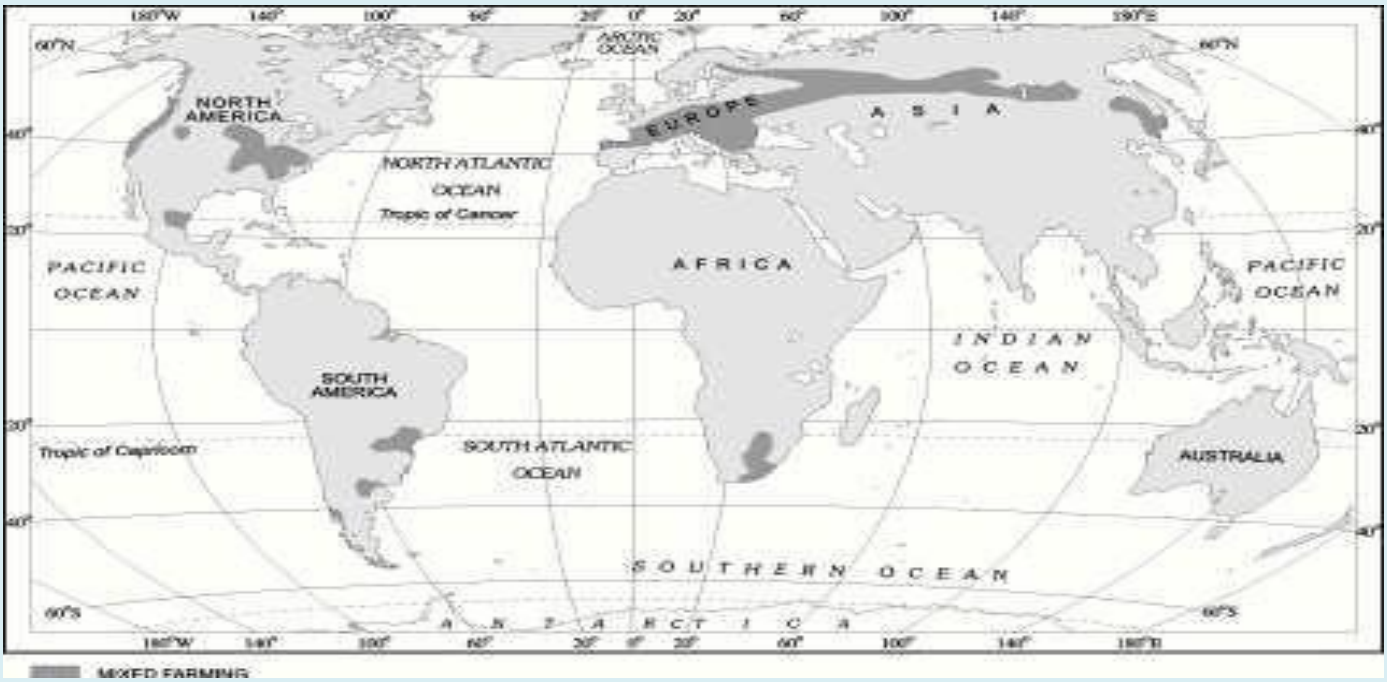
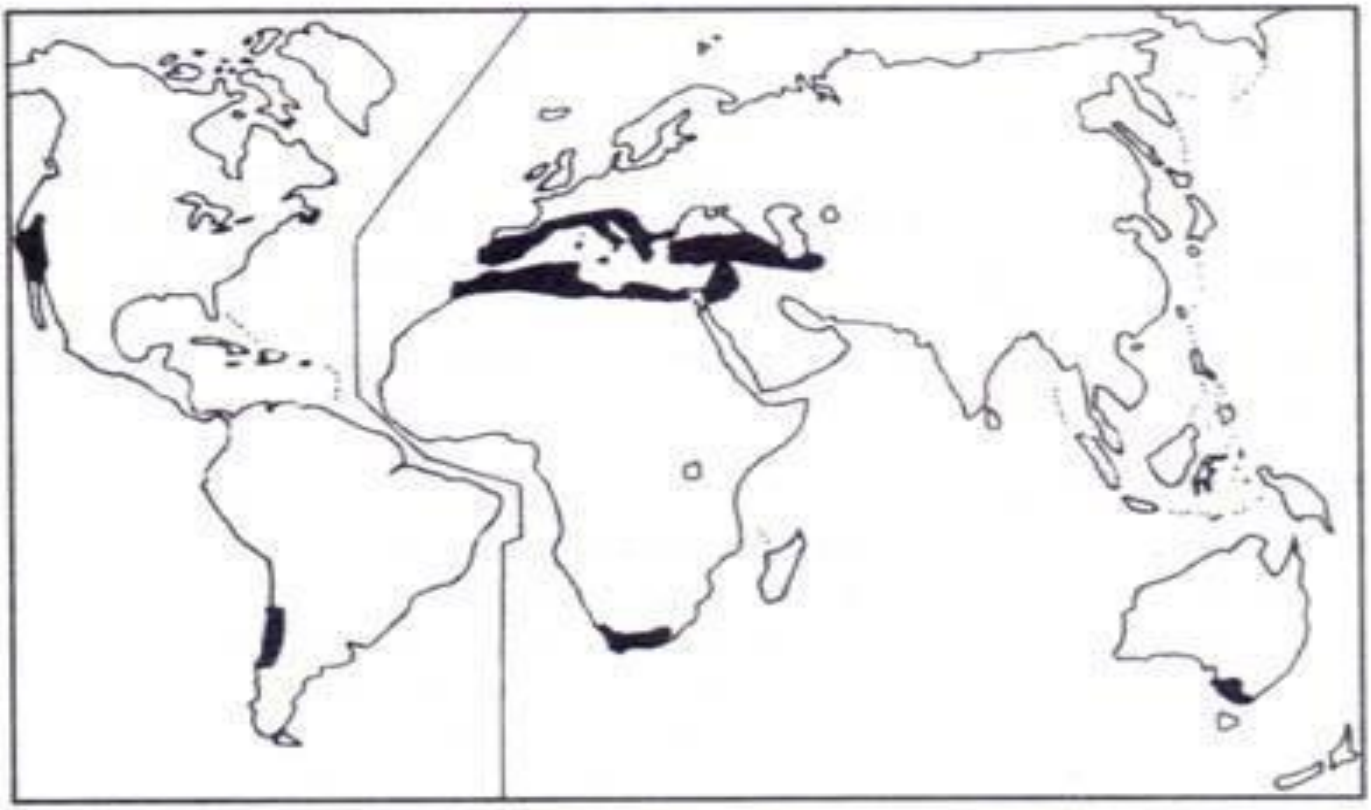


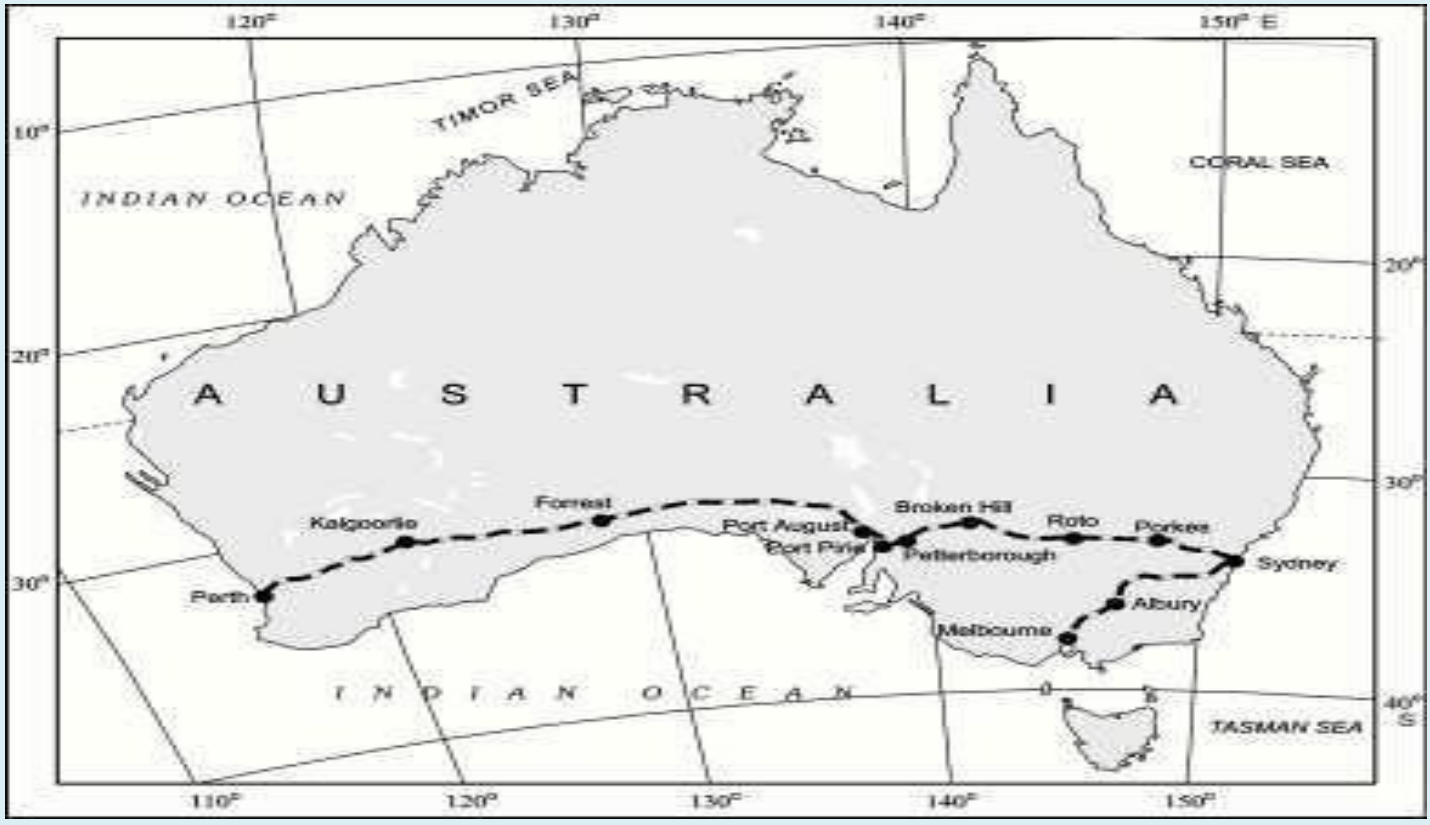
Figure 4.5

Areas of Mediterranean agriculture in the world

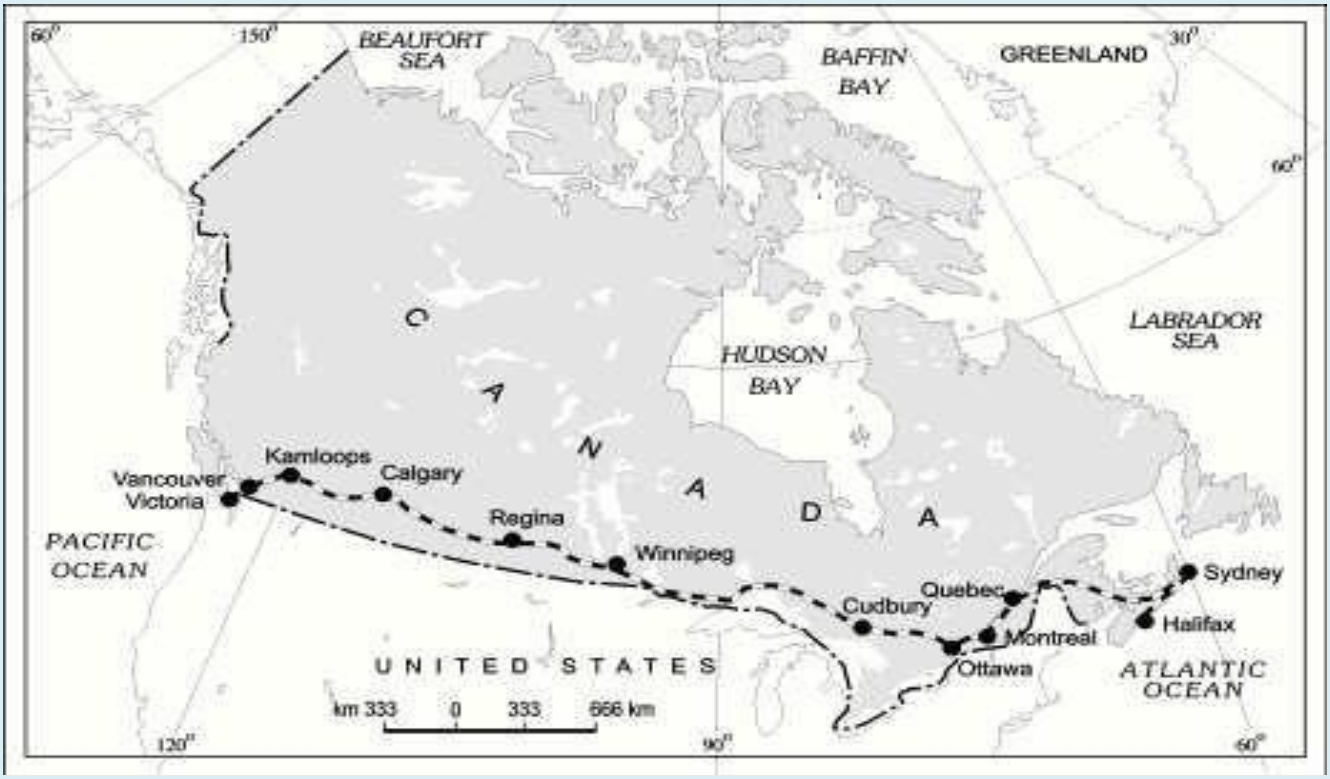


INDUSTRIAL REGIONS

Australian Trans–Continental Railway

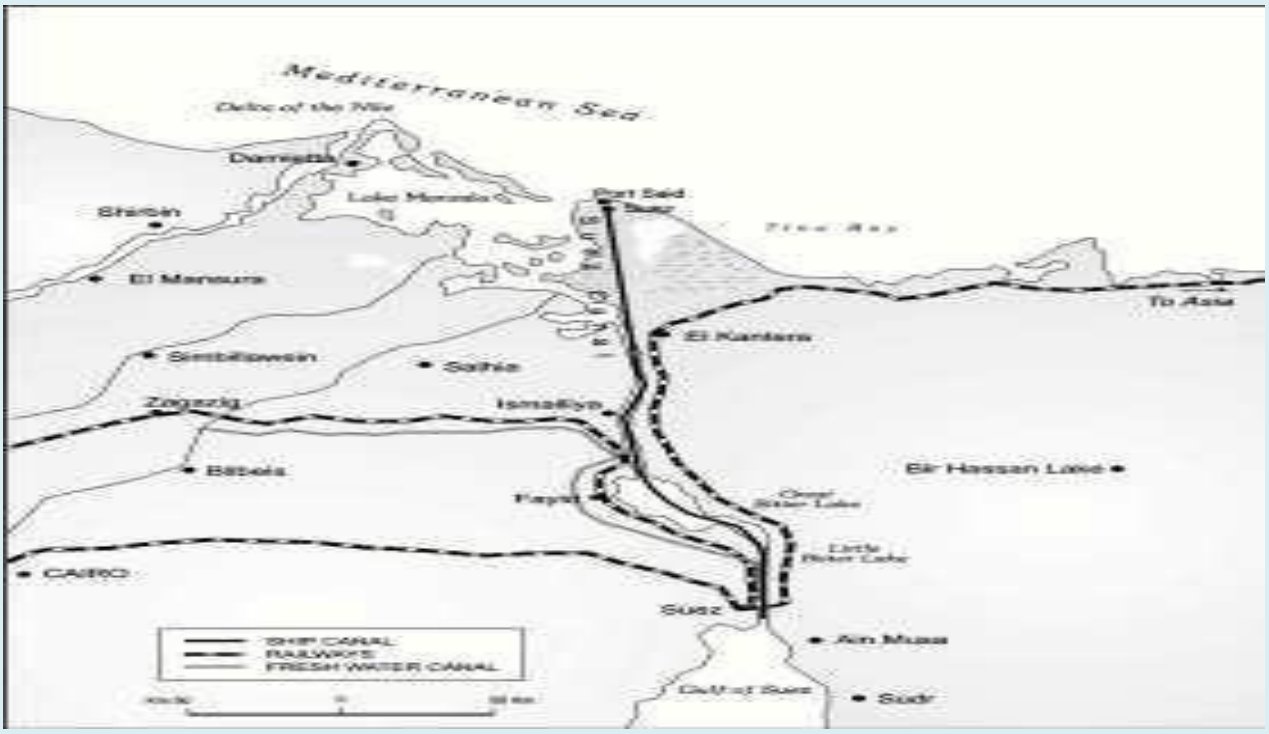


Trans–Canadian Railway

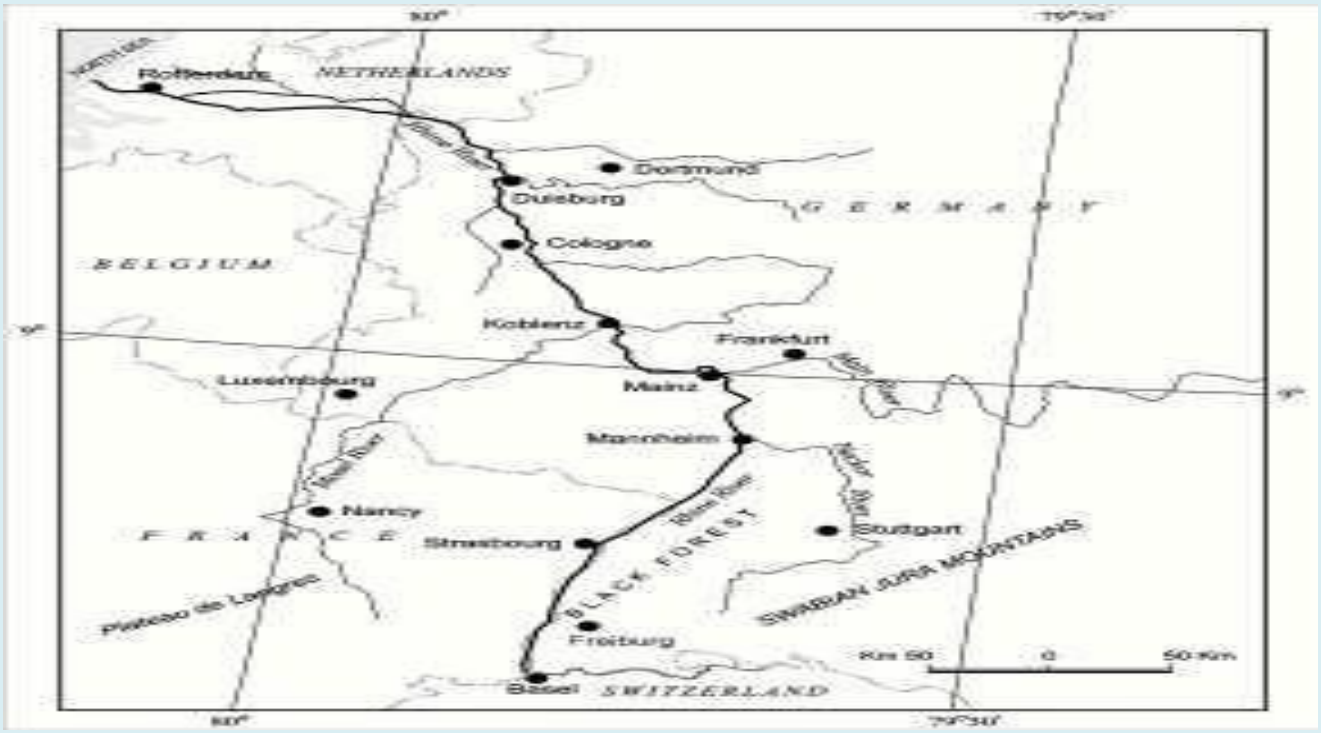


TRANS–SIBERIAN RAILWAY

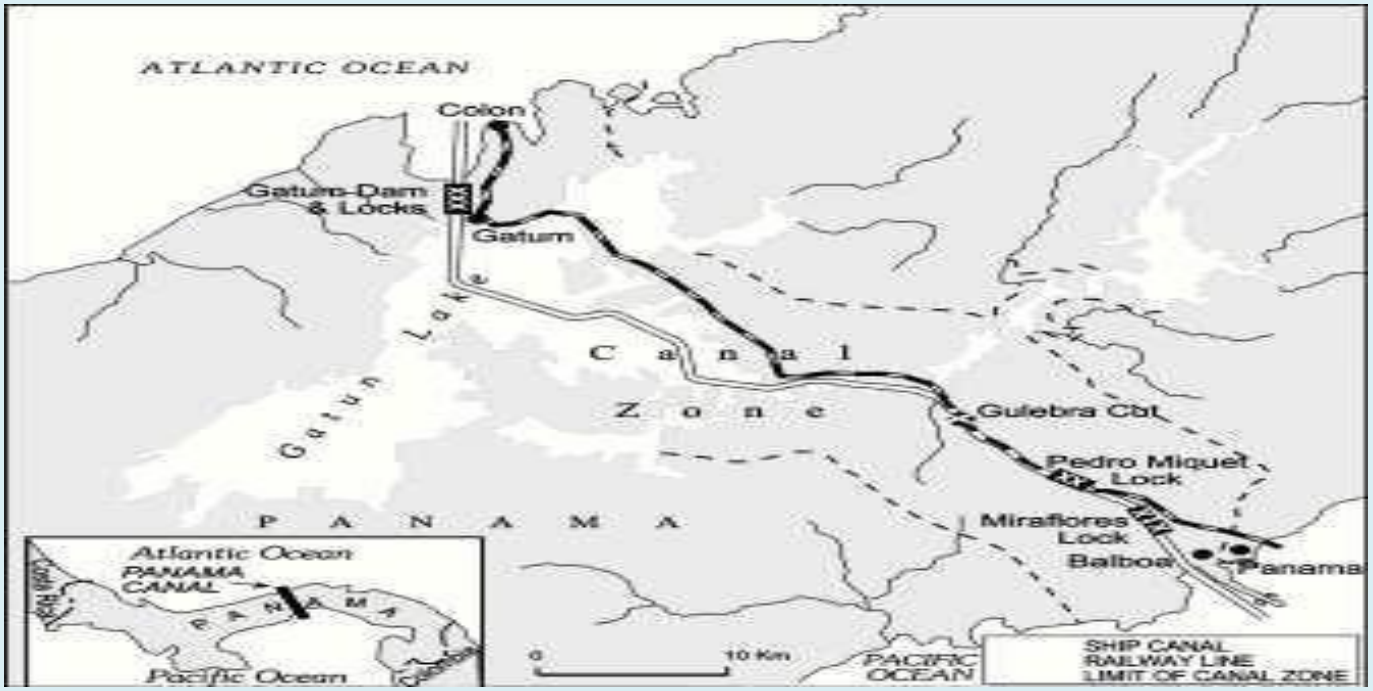
SUEZ CANAL



RHINE WATERWAY

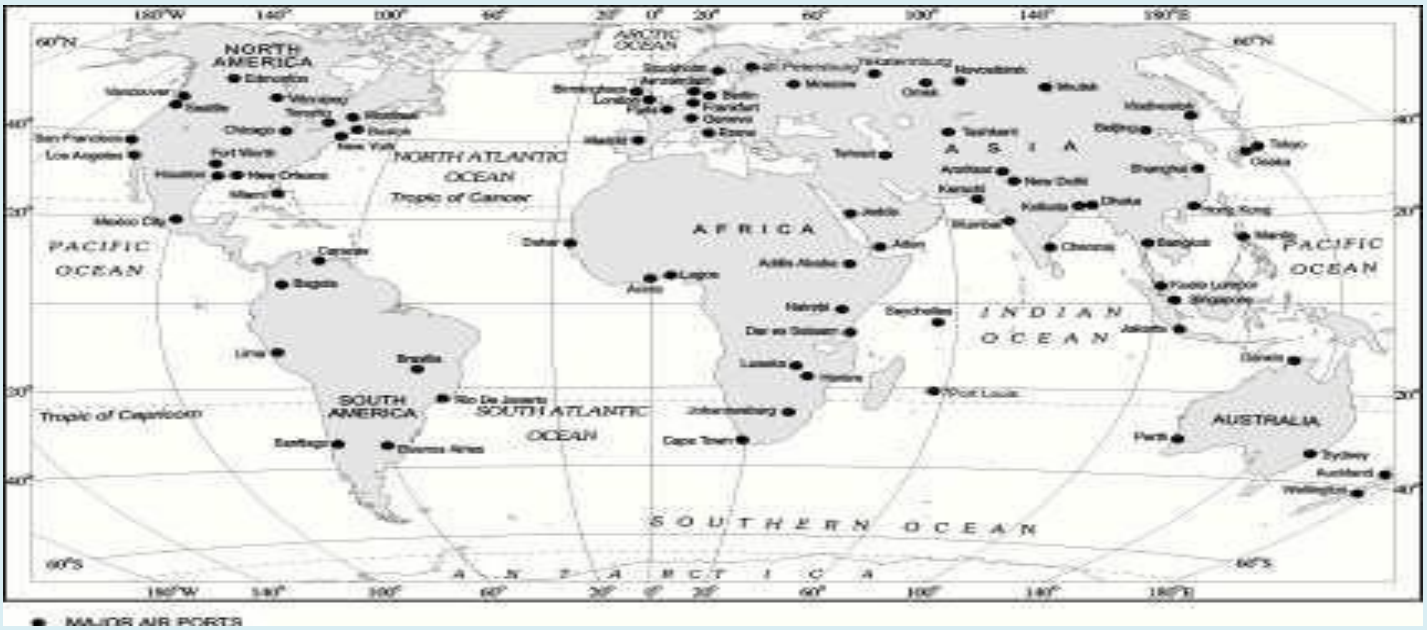


THE PANAMA CANAL

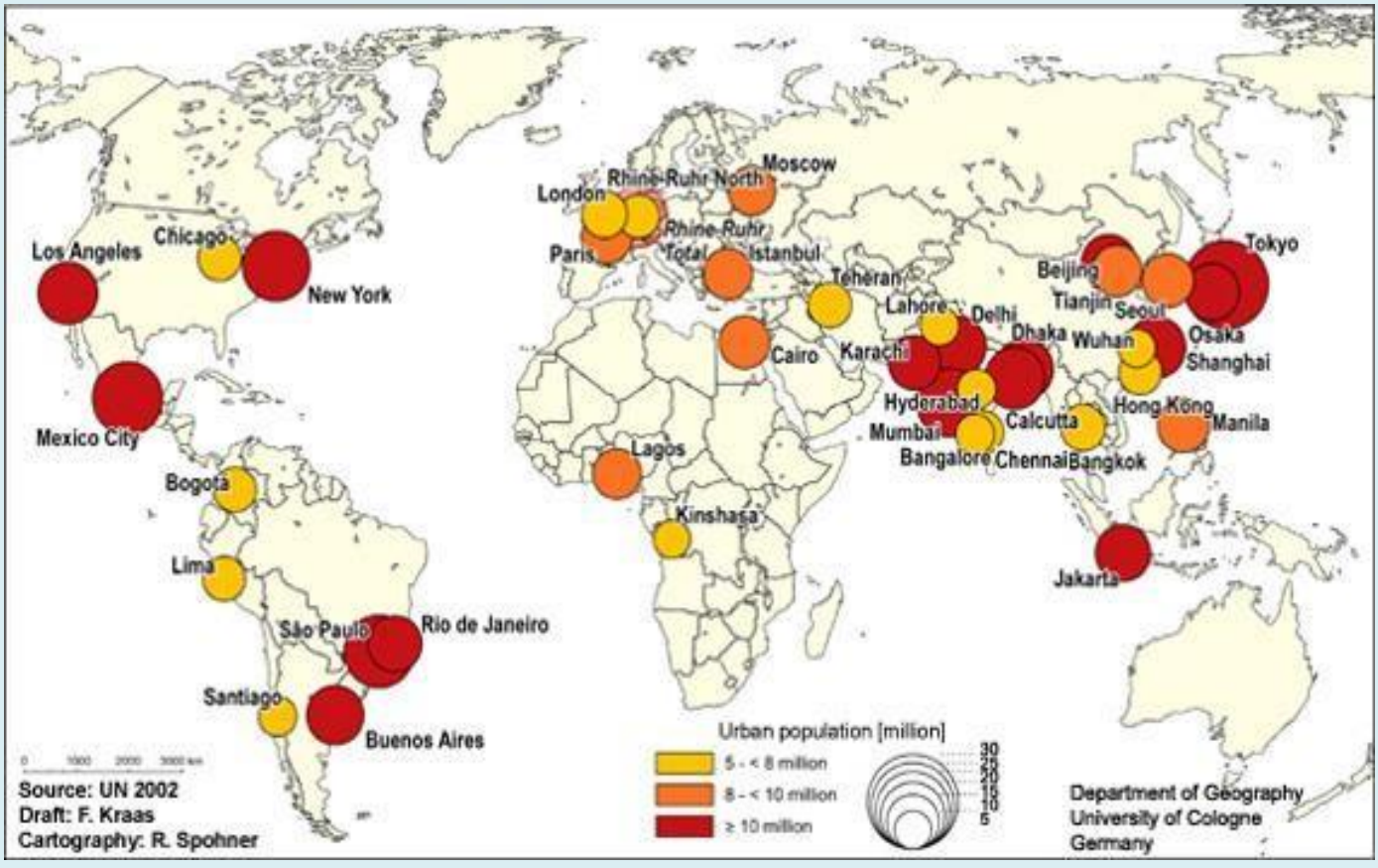


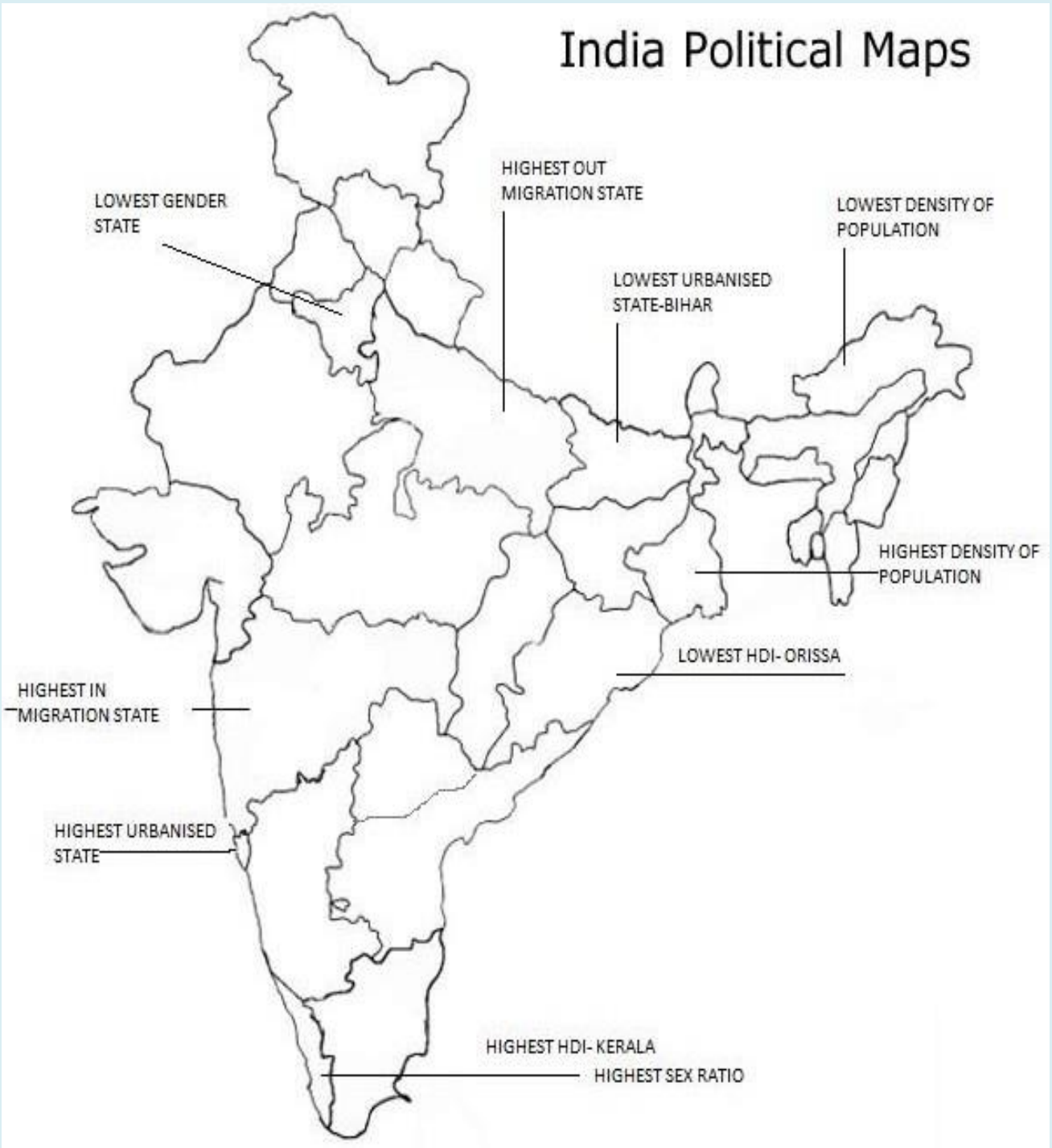
MAJOR INLAND WATERWAYS OF THE WORLD

MAJOR SEA PORTS

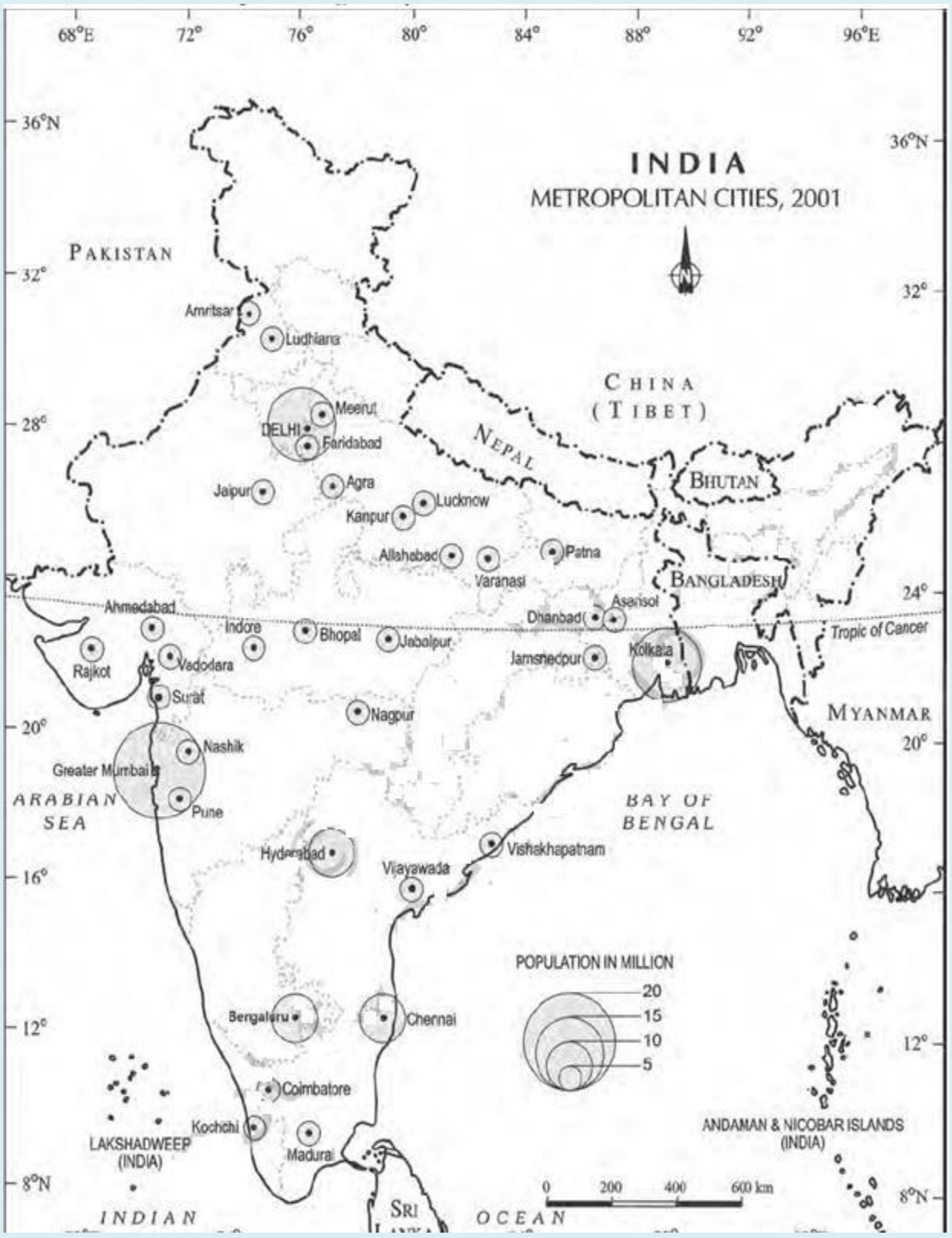


MEGA CITIES OF THE WORLD

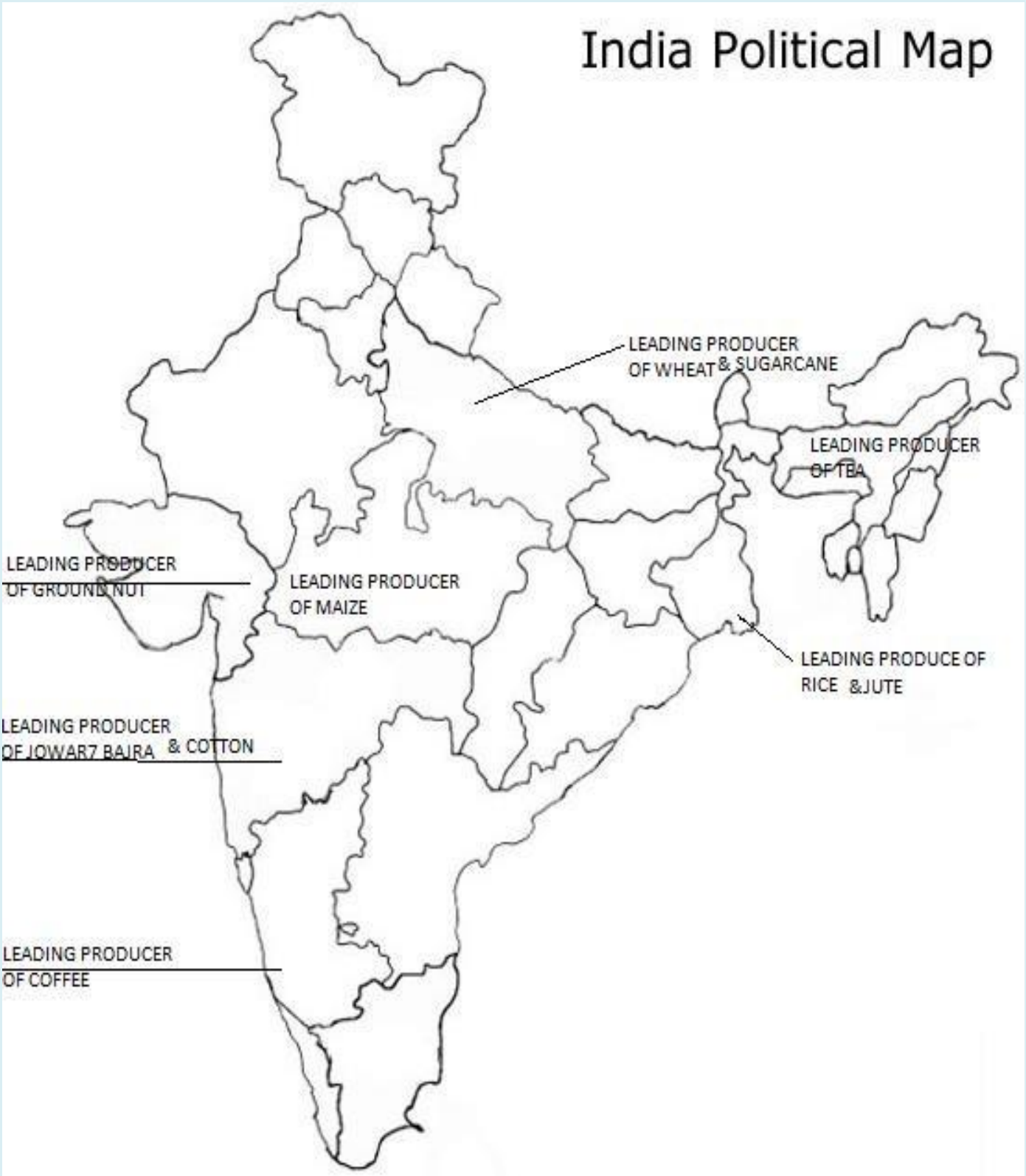



India Political Maps
LOWEST GENDER STATE
HIGHEST OUT MIGRATION STATE
LOWEST DENSITY OF POPULATION
LOWEST URBANISED STATE-BIHAR
HIGHEST DENSITY OF POPULATION
LOWEST HDI- ORISSA
HIGHEST IN MIGRATION STATE
HIGHEST URBANISED STATE
HIGHEST HDI- KERALA
HIGHEST SEX RATIO

METROPOLITAN CITIES OF INDIA



LEADING STATES PRODUCING DIFFERENT CROPS



MINERALS- IRON ORE & MANGANESE

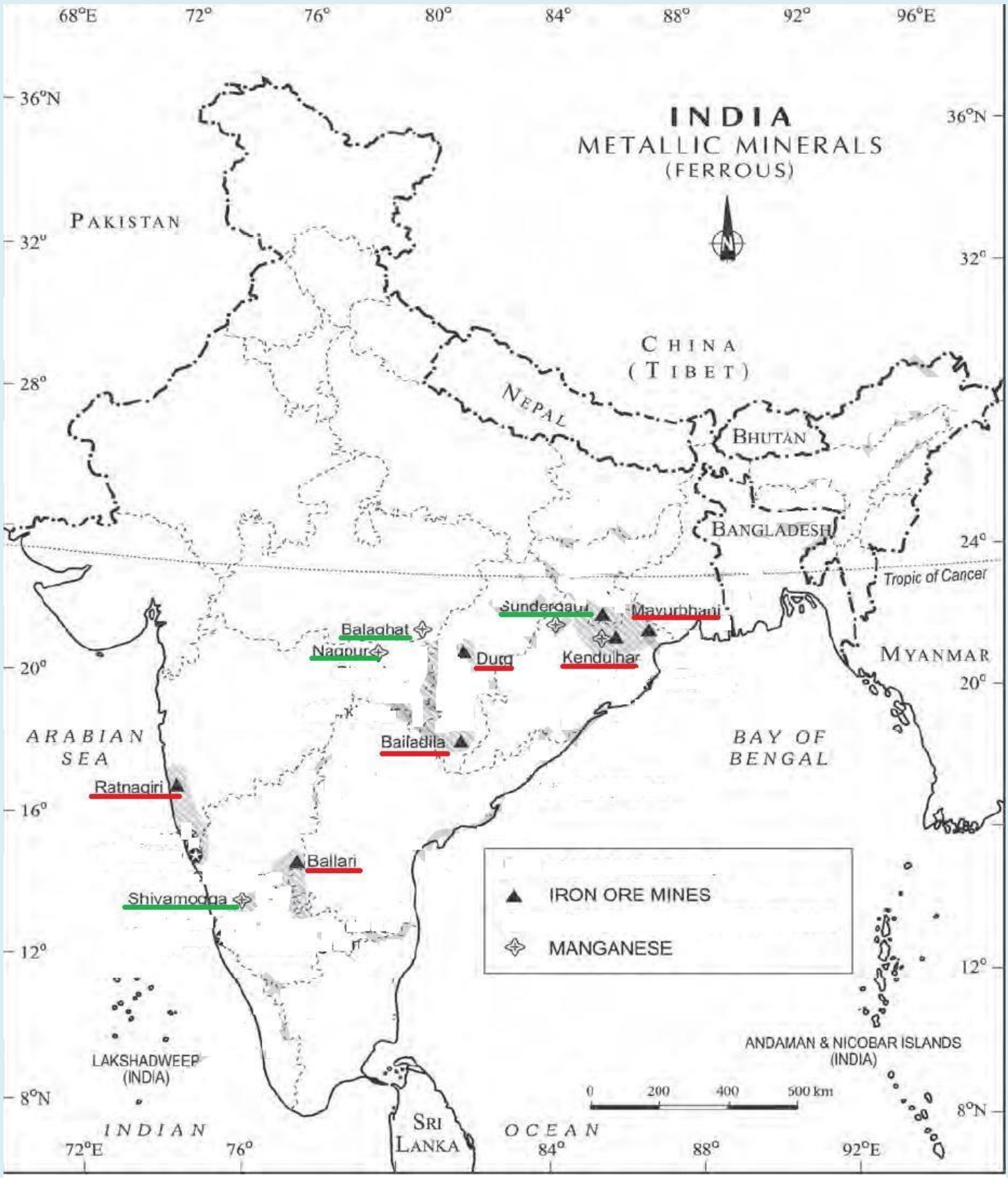


Fig. 7.2 : India – Metallic Minerals (Ferrous)

COPPER AND BAUXITE MINING AREAS

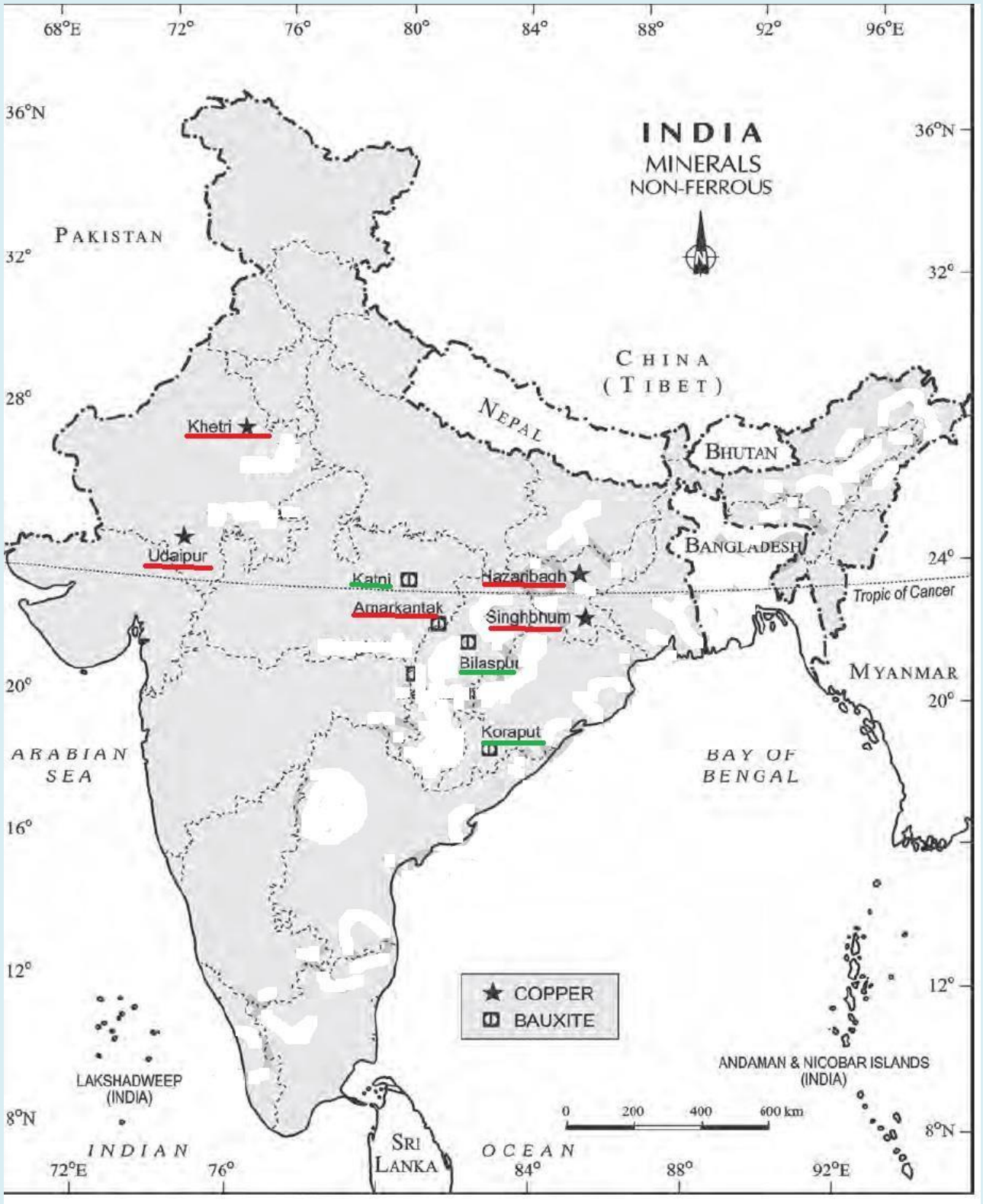


Fig. 7.3 : India – Minerals (Non-Ferrous)

MAJOR COAL MINES

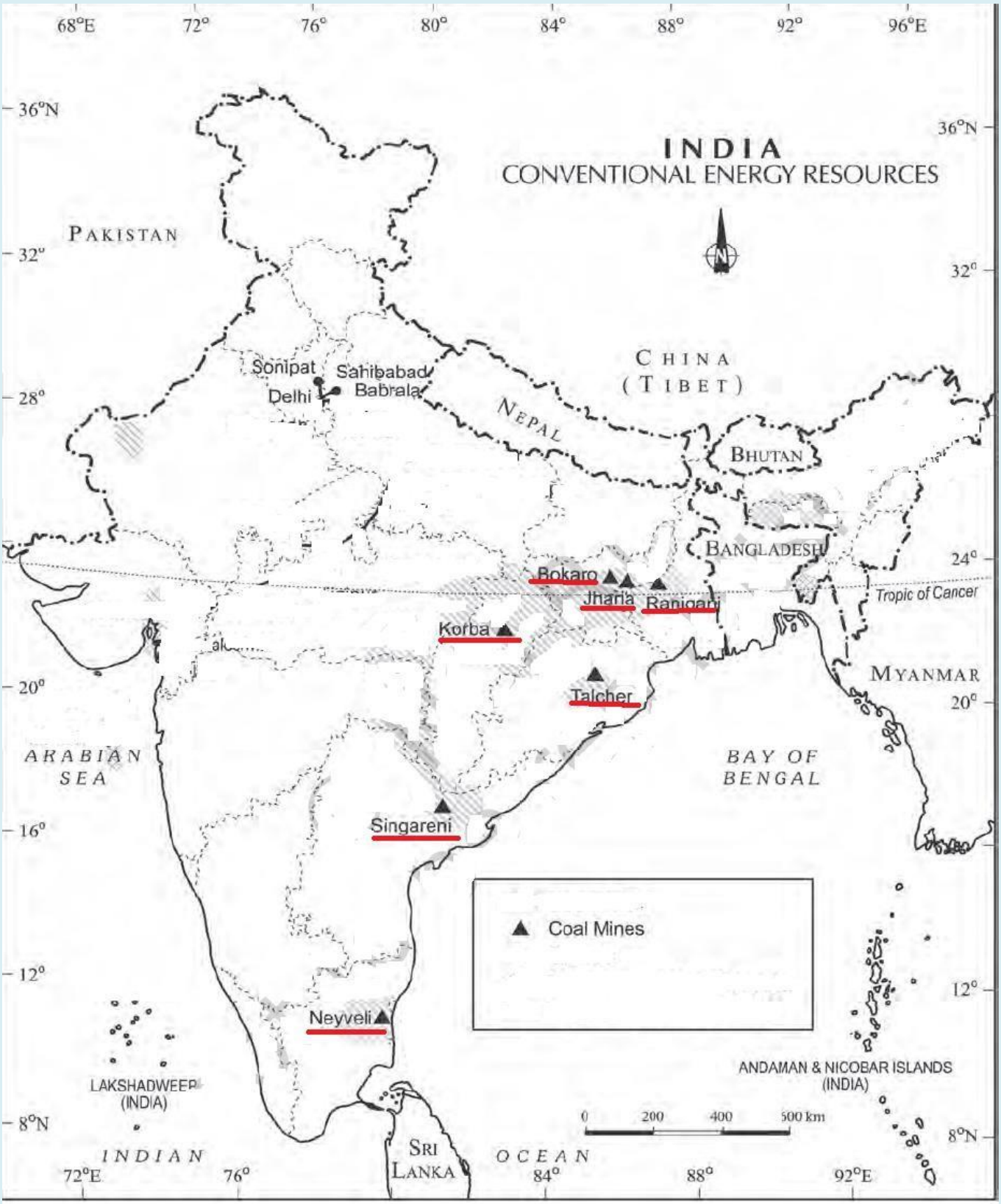


Fig. 7.5 : India – Conventional Energy Resources

OIL REFINARIES OF INDIA

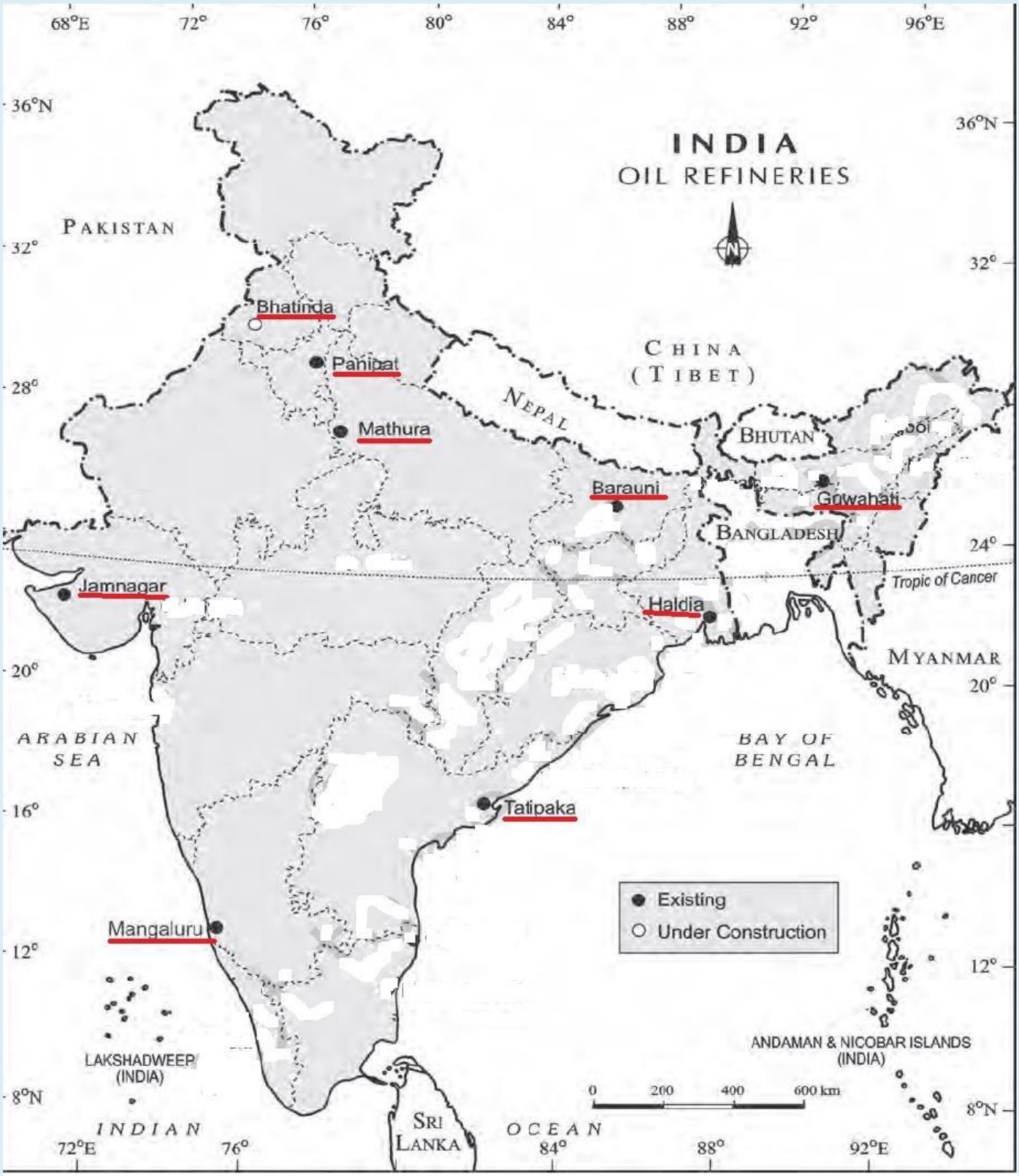
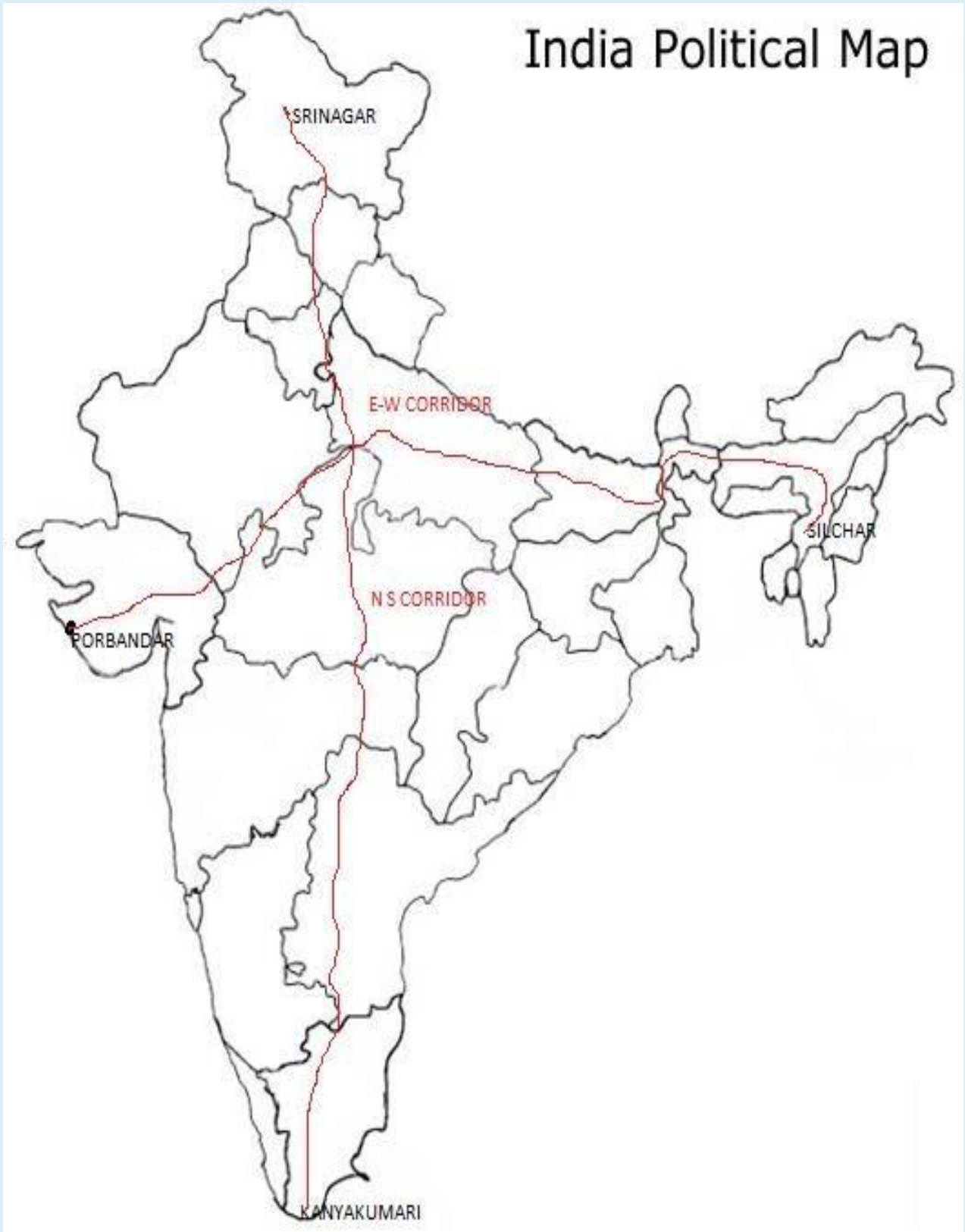
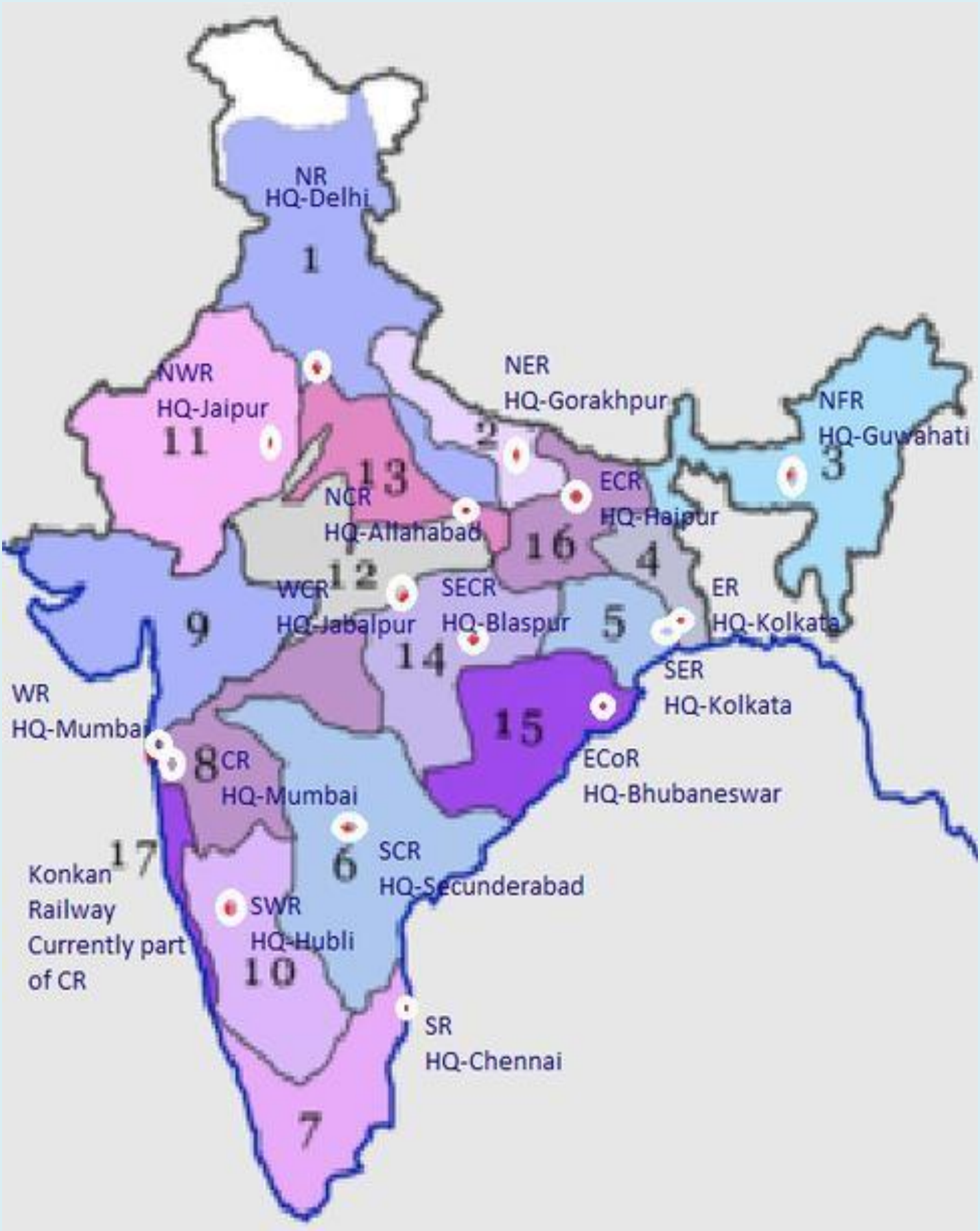


Fig. 7.6 : India – Oil Refineries

North-South and East-West Corridors



Railway Zones and Headquarters



MAJOR SEA PORTS

COURSE STRUCTURE- Class XII (2022-23)

SUBJECT: GEOGRAPHY

DURATION :3 Hours 70 Marks

Part	Units	No. of Periods	Marks
A	**Fundamentals of Human Geography**	**90**	**35 Marks**
	Unit 1: Human Geography	07	**30**
	Unit 2: People	20	
	Unit 3: Human Activities	32	
	Unit 4: Transport, Communication and Trade	26	
	Map Work	05	**5**
B	**India: People and Economy**	**90**	**35 Marks**
	Unit 6: People	15	**30**
	Unit 7: Human Settlements	10	
	Unit 8: Resources and Development	30	
	Unit 9: Transport, Communication and International Trade	15	
	Unit 10: Geographical Perspective on selected issues and problems	15	
	Map Work	05	**5**
	Total	**180**	**70 Marks**
C	**Practical Work in Geography Part II**	**40**	**30 Marks**
	Unit 1: Processing of Data and Thematic Mapping	25	**15**
	Unit 2: Spatial Information Technology	15	**10**
	Practical Record Book and Viva Voce		**5**

COURSE CONTENT

Part A:	**Fundamentals of Human Geography**	**90 Periods**
Unit 1:	**Human Geography:** Nature and Scope	**07 Periods**
Unit 2:	**People** ▪ The World Population- distribution, density andgrowth ▪ Population change - Components of populationchange, Demographic Transition ▪ Human development - concept; selectedindicators, international comparisons	**20 Periods**
Unit 3:	**Human Activities** ▪ Primary activities - concept and changing trends; gathering, pastoral, mining, subsistence agriculture, modern agriculture; people engaged in agricultural and allied activities - some examples from selected countries ▪ Secondary activities- concept; manufacturing: types - household, small scale, large scale; agro based and mineral based industries; ▪ Tertiary activities - concept; trade, transport and tourism; services; people engaged in tertiary activities ▪ Quaternary activities- concept; people engaged in quaternary activities - case study fromselected countries	**32 Periods**
Unit 4:	**Transport, Communication and Trade** ▪ Land transport - roads, railways; trans- continental railways Water transport- inlandwaterways; major ocean routes ▪ Air transport- Intercontinental air routes Oil and gas pipelines ▪ Satellite communication and cyber space- importance and usage for geographical information; use of GPS ▪ International trade- bases and changing patterns; ports as gateways of international trade; role of WTO in international trade	**26 Periods**
Map Work on identification of features based on 1-5 units on the outline Physical/Political map of World.		**05 Periods**

Part B:	India: People and Economy	90 Periods
Unit 6:	**People** ▪ Population: distribution, density and growth; composition of population - linguistic, religious; sex, rural-urban and occupational-regional variations in growth of population	15 Periods
Unit 7:	**Human Settlements** ▪ Rural settlements - types and distribution ▪ Urban settlements - types, distribution and functional classification	10 Periods
Unit 8:	**Resources and Development** ▪ Land resources- general land use; agricultural land use; geographical conditions anddistribution of major crops (Wheat, Rice, Tea, Coffee, Cotton, Jute, Sugarcane and Rubber); agricultural development and problems ▪ Water resources-availability and utilization-irrigation, domestic, industrial and other uses; scarcity of water and conservation methods-rain water harvesting and watershed management ▪ Mineral and energy resources- distribution of metallic (Iron ore, Copper, Bauxite, Manganese); non-metallic (Mica, Salt) minerals; conventional (Coal, Petroleum, Natural gas and Hydroelectricity) and non-conventional energy sources (solar, wind, biogas) and conservation ▪ Planning in India- target group area planning (case study); idea of sustainable development (case study)	30 Periods
Unit 9:	**Transport, Communication and International Trade** ▪ Transport and communication-roads, railways, waterways and airways: oil and gas pipelines; Geographical information and communication net works ▪ International trade- changing pattern of India's foreign trade; sea ports and their hinterland and airports	15 Periods

Unit 10:	**Geographical Perspective on selected issues and problems** ▪ Environmental pollution; urban-waste disposal ▪ Urbanization, rural-urban migration; problems of slums ▪ Land degradation	**15 Periods**
Map work on locating and labeling of features based on aboveunits on outline map of India.		**05 Periods**
Part C:	**Practical Work in Geography Part II**	**40 Periods**
Unit 1:	**Processing of Data and Thematic Mapping** ▪ Type and Sources of data: Primary, Secondary and other sources ▪ Tabulating and processing of data; calculationof averages, measures of central tendency ▪ Representation of data- construction of diagrams: bars, circles and flowchart; thematic maps; construction of dot; choropleth and isopleths maps	**25 Periods**
Unit 2:	**Spatial Information Technology** ▪ Introduction to GIS; hardware requirements and software modules; data formats; raster and vector data, data input, editing and topology building; data analysis; overlay and buffer.	**15 Periods**

Prescribed Books:

1. Fundamentals of Physical Geography, Class XI, Published by NCERT
2. India, Physical Environment, Class XI, Published by NCERT
3. Practical Work in Geography Part I, Class XI, Published by NCERT
4. Fundamentals of Human Geography, Class XII, Published by NCERT
5. India - People and Economy, Class XII, Published by NCERT
6. Practical Work in Geography Part II, Class XII, Published by NCERT

Note:

1. The above textbooks are also available in Hindi medium.
2. Kindly refer to the latest editions of all NCERT Textbooks.

QUESTION PAPER DESIGN

GEOGRAPHY THEORY

CLASS XII

COMPETENCIES	Total Marks and %
DEMONSTRATE	29 marks- 41%
APPLICATION	26 marks - 37%
FORMULATE	15 marks – 22%
TOTAL	70 marks – 100%

CLASS XII GEOGRAPHY SAMPLE QUESTION PAPER WITH MARKING SCHEME	
NAME OF RESOURCE	**ITEM LINK**
CLASS XII GEOGRAPHY SAMPLE QUESTION PAPER	**https://drive.google.com/file/d/13raKTkym1JSQBlRWy_u3HGiM04xB7rKJ/view?usp=sharing**
CLASS XII GEOGRAPHY MARKING SCHEME	**https://drive.google.com/file/d/1YvyY1C36UEStBJ2XrmSO7hqTgbOpCpBl/view?usp=sharing**