

MODULE - 2

India: Natural Environment, Resources and Development



Notes



13

TRANSPORT AND COMMUNICATION

Rakesh and his wife lived in a small village. One evening there was heavy rain and thunder storm. His wife had severe stomachache. The village nurse advised him to take her to the nearest hospital. Since there was no communication facility available, it was not possible for Rakesh to contact any doctor, hospital or ambulance. Rakesh requested his friend to take them to the nearest hospital. Unfortunately their tractor couldn't go beyond a few hundred metres as the road was broken and submerged in rain water. What should Rakesh do? What would have been the solution to the problem? This incident highlights the importance of transport and communication in our life. In this lesson, we plan to bring before you the various modes of transport and communication and their importance for the development of a nation.



OBJECTIVES

After completing this lesson, you will be able to:

- establish that modes of transport and communication help in connecting people and facilitate the socio-economic growth of a region;
- classify roads on different parameters and appreciate the role and importance of road transport in our daily life and national development;
- examine the factors affecting the distribution and density of railway network in India and recognise the technical advancement that has taken place in this sphere;
- explain the importance of various means of water transport;
- recognize the growing importance of air transport and its ever growing economic significance; and
- realise the role of communication in connecting people and reducing distance



Notes

13.1 TRANSPORT AND COMMUNICATION – LIFELINES OF A COUNTRY

Transport and means of communication are integral part of our life today. Can we imagine our life without them? Just imagine if one day you come to know that all the modern means of transport and communication have been stopped due to unavailability of fuel. Also imagine the problems you are going to face!



ACTIVITY 13.1

List your problems:

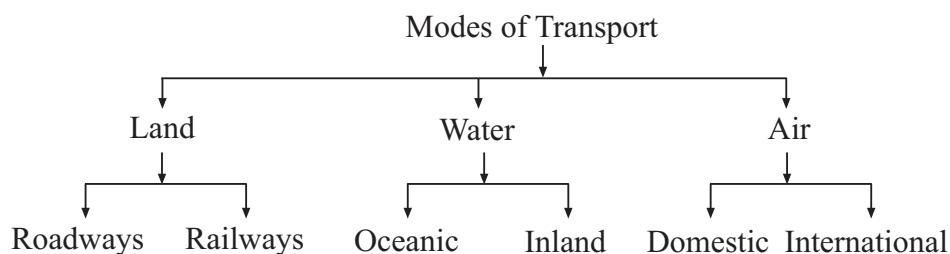
-
-
-
-
-

13.1.1 The Role of Transport and Communication

Transport facilitates trade and commerce by carrying goods from the areas of production to that of consumption. Goods from the areas that have surplus are shifted to those areas which are deficient in those items. Movement of people from one place to another place in search of job, education and emergency through transport facility. Communication keeps us informed about the world's events and trends. It brings in positive changes in the life of the people and thereby enhancing their economic conditions.

13.2 THE MODES OF TRANSPORT

The modes of transport on which the countries depend for connecting people, growth and development are as under:



MODULE - 2

India: Natural Environment, Resources and Development



Notes

Transport and Communication

13.2.1 Land Transport can be broadly divided into two types:

1. Roadways

2. Railways

1. Roadways

Look at the pictures in Fig. 13.1. Can you imagine the changes in the manner we have moved from ancient to modern time from these pictures? Suppose, you have to go to your friend's house just 500 metres away from your house, or a visitor or a relative living 200 km away from your house. A villager has to catch a bus to come from a village to a city. Of course, the roads will be used. Now, you must



Figure 13.1 Modes of Transport



Notes

have understood that roads are most commonly used means of transport. Roads play an important role in connecting people and also in ensuring socio-economic growth of a country as under:

- Roads provide door to door service by means of a rickshaw, car, bicycle, bus, scooter or a truck.
- The construction, repair and maintenance cost is less than other means of transport.
- It is the cheapest and the most convenient mode of transportation for a few people and relatively smaller amount of goods over shorter distances.
- It is through roads that we reach railway stations, airports and seaports.
- Perishable goods like milk, fruits and vegetables are quickly carried from nearby villages to the cities or metropolis or to other destinations.
- Roads connect rural areas to the urban areas and can be constructed in all types of terrains like hills, deserts, mountain and plateaus.

Classification of Roads

Do you find same kind of roads everywhere? Obviously not, some roads may be *kuchcha*, and others *pakka*, then narrow while others broad. Roads are classified on the basis of:

- (i) Materials used for construction.
- (ii) Constructing and maintaining authority.

(i) Material used for construction

Roads can be classified on the basis of materials used for construction as metalled and un-metalled roads. Metalled roads are usually made by bricks, concrete, cement and charcoal. Un-metalled roads are made of sand, mud and straw.



ACTIVITY 13.2

Identify the materials used for the construction of the roads.

Metalled Roads (Pucca Roads)	Un-metalled Roads (Kuchha Roads)

MODULE - 2

India: Natural Environment, Resources and Development



Notes

Transport and Communication

(ii) Constructing and maintaining authority

Have you ever wondered as to who constructed these roads and where did they get the money from? They are constructed by using public money paid as taxes by people. Various government authorities are responsible for balanced development of roads and better management.

- The development of *village roads* are undertaken by the scheme known as **Pradhan Mantri Gram Sadak Yojna** launched by the Central government.



Figure 13.2 India: Golden Quadrilateral



Notes

These provide links from village to village and village to main road in the rural areas. About 80% of the total road length in India is categorized as rural roads.

- **Zila Parishad** has been made responsible for constructing roads that connect district headquarters with other cities and towns of the district. These **District Roads** account for 14% of the total road length in India.
- **State Public Works Department (SPWD)** constructs and maintains roads that link state highways, state capitals with district headquarters. They constitute 4% of the total road length in the country.

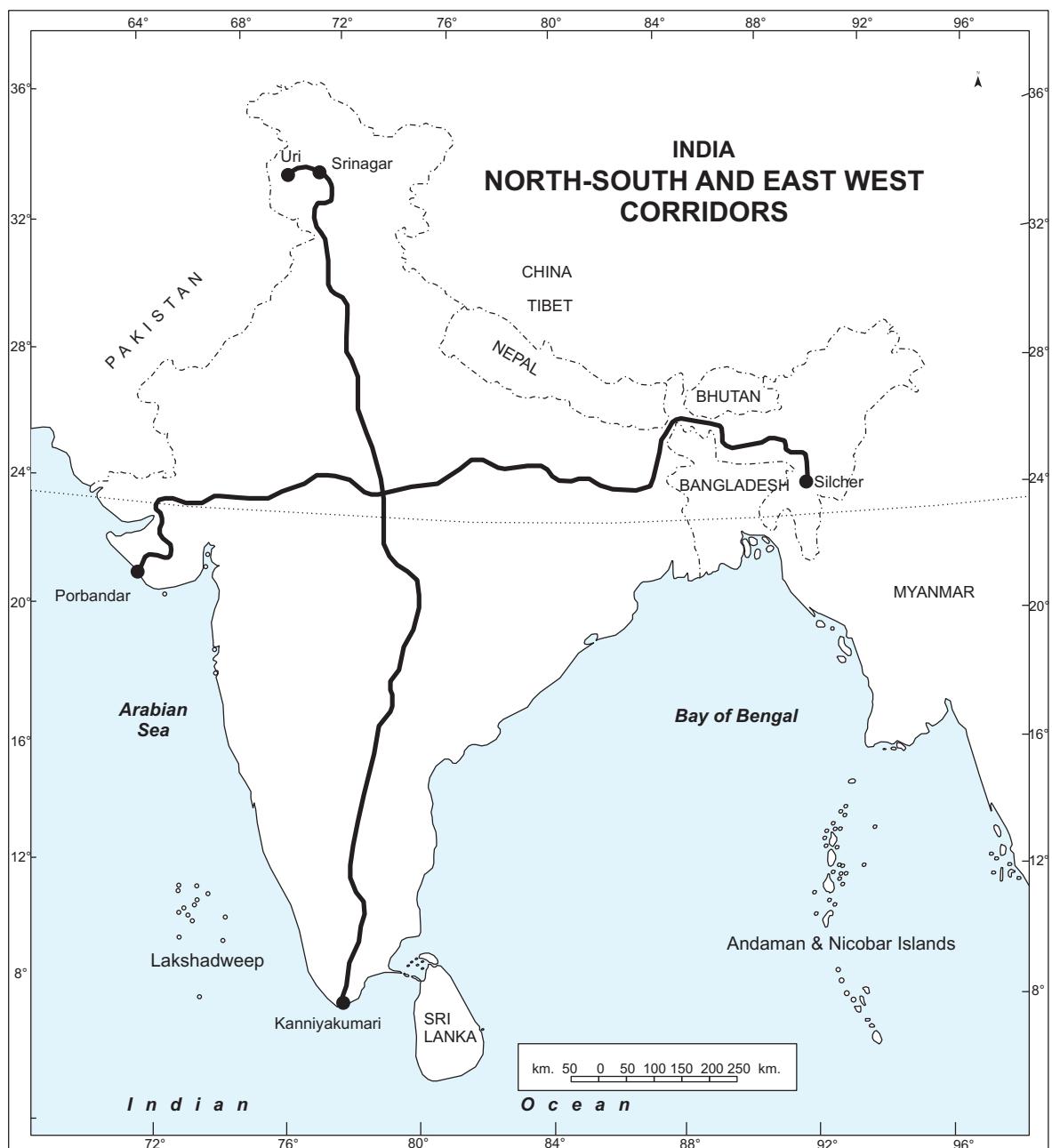


Figure 13.3 North-South and East-West corridors

MODULE - 2

India: Natural Environment, Resources and Development



Notes

Transport and Communication

- **National Highway Authority of India** constructs and maintains the *National Highways [NH]*, important roads linking different parts of the country and connecting state capitals to the main cities of India. They constitute only 2% of the total road length but carry 40% of the road traffic. The government has launched a major road development project linking north, south, east and west India. This will reduce time and fuel. Then it will also help to maintain fast flow of traffic between mega cities of India. It is implemented by **National Highway Authority of India**. The major **super highways** are:
 - (a) **Golden Quadrilateral** connects Delhi, Mumbai, Chennai and Kolkata which forms a geometrical figure of Quadrangle.
 - (b) **North-South Corridor** links Srinagar to Kanyakumari.
 - (c) **East-West Corridor** connecting Silchar in the east to Porbandar in the west.
- **Border Roads** are constructed along the bordering areas of the country for easy accessibility of goods and other requirements of defence personnel during the time of war and emergency and for the benefit of people living in those areas. They are constructed and maintained by **Border Road Organization (BRO)**.



Do you know

The oldest and the longest road in India was built across Gangetic plain from the north-west to the east on orders of Pashtun emperor, Sher Shah Suri in 16th century which was renamed as **Grand Trunk Road**. It is presently divided into NH-1 (Amritsar to Delhi) and NH-2 (Delhi to Kolkata). Today India has about 330 lakh kms of road network whereas in 1947 it was only 4 lakh kms.



ACTIVITY 13.3

Look at the maps (Fig. 13.2 and 13.3) and find out which super highway is nearest to your home and which organization maintains it.

2. Railways

“This has become an easy way to place their demands and there is no strict punishment” said Anu’s father while reading the newspaper. Anu asked, “what had happened”. Father replied, “Nothing new, a group of protestors have blocked the



railway tracks. They stopped the trains and have burnt two bogies on Agra Delhi route". Anu asked her father "why he was upset". Father said, "Don't you know that millions of rupees, efforts of thousands of people and many years are spent in building railway tracks and manufacturing railway coaches. This is for our convenience and quick movement of passengers and freights. Such an act causes inconvenience to the passengers, loss of millions of rupees, and affects business." Anu has realized the importance of railways as stated below:

- This is the cheapest transport by which thousands of people can travel together from one corner of the country to another for the purpose of education, business, siteseeing, pilgrimage or visiting friends or relatives.
- People of all income groups can travel by train as it has different types of coaches like General, Sleeper and AC chair car.
- One can have comfortable night journey as it has berths and washrooms in sleeper coaches.
- It carries country's largest amount of bulky goods like coal, cement, food grains, fertilizer, petroleum, automobiles etc. from mines to industries and from industries to the areas of consumption.

That is why we should all help in maintaining this important resource of country. Railways facilitate the movement of both freight and passengers and contribute to the growth of our economy.



Do you know

Indian Railways started in 1853 from Bombay to Thane covering a distance of 34 km.

At present, Indian Railway network is the largest in Asia and the fourth largest in the world with the length of more than 64000 kms.

It is the largest government undertaking employing 1.6 million people and a separate budget is presented for it.

It has been divided into 16 zones for better administration and management of work.

When Anu and her father were talking about the importance of railways, one of her friends Jiya came to her house. She was studying in Delhi University but her native state was Sikkim. Jiya understood the logic, but question in her mind was why Sikkim

MODULE - 2

India: Natural Environment, Resources and Development



Notes

Transport and Communication

never be well connected with the other parts of the country. She stood for a while and said, “Uncle, why are there few railway lines in my state whereas other states have good network of railways?” He explained the factors which are responsible for the development of railways:

- The construction of railways is very difficult and costly in mountainous region whereas it can be easily done in areas of flat land. Therefore, India has dense railway network in the Gangetic plain where as desert, hills, marshy regions, flood prone areas, dense forest, areas with rapids and rivers have not been developed much.
- The states of Uttar Pradesh, Bihar, West Bengal, Punjab and Haryana, are well connected by railways because these states are located in the plains. He also told that these areas are food bowl of India and most of the crops grown here are taken to other parts of the country through railways.
- Areas where mining and industries are more developed tend to have better facilities of railways for easy transportation of goods. Areas with less industrial development cannot compensate the cost of construction of railways, therefore have less railway network.
- Regions which are densely populated and have more movements are definitely well connected with railways.
- Urban areas or large cities attract more people for jobs, business, education, trade, banking have high density railway network for quick movement of people.

Anu’s father smiled and said “No Jiya, the government is aware of the importance of connecting different part of the country specially in remote areas. This is being done on priority now”. Jiya understood that any one can be connected anywhere in the world on the internet.

Technical advancement provided by Indian Railways

There is a direct rail link available from the north to the south of the country (i.e. from Jammu to Kanya Kumari) covering a distance of 3751 km in 71 hours. Facilities to travel in 1st A.C., 2nd A.C., 3rd A.C., A.C. Chair Car, 2nd Class sleeper and General class are available to cater to the needs of the people of different economic strata. Only diesel and electric locomotives are used on broad gauge providing pollution free journey. The passengers can avail the facility of booking electronic-tickets easily from home. The trucks loaded with goods are delivered directly to the consumers or factories in special rail wagons.

**ACTIVITY 13.4**

Search the headquarters of the major railway zones in the grid given below.

<i>P</i>	<i>O</i>	<i>R</i>	<i>I</i>	<i>T</i>	<i>S</i>	<i>M</i>
<i>U</i>	<i>P</i>	<i>N</i>	<i>K</i>	<i>J</i>	<i>O</i>	<i>U</i>
<i>K</i>	<i>L</i>	<i>M</i>	<i>T</i>	<i>R</i>	<i>P</i>	<i>M</i>
<i>Q</i>	<i>U</i>	<i>W</i>	<i>A</i>	<i>I</i>	<i>T</i>	<i>B</i>
<i>K</i>	<i>O</i>	<i>L</i>	<i>K</i>	<i>A</i>	<i>T</i>	<i>A</i>
<i>J</i>	<i>A</i>	<i>I</i>	<i>P</i>	<i>I</i>	<i>N</i>	<i>I</i>
<i>Z</i>	<i>V</i>	<i>D</i>	<i>U</i>	<i>X</i>	<i>Y</i>	<i>R</i>
<i>C</i>	<i>H</i>	<i>E</i>	<i>N</i>	<i>N</i>	<i>A</i>	<i>I</i>
<i>T</i>	<i>K</i>	<i>L</i>	<i>J</i>	<i>Q</i>	<i>R</i>	<i>J</i>
<i>I</i>	<i>T</i>	<i>H</i>	<i>Q</i>	<i>X</i>	<i>Z</i>	<i>U</i>
<i>N</i>	<i>P</i>	<i>I</i>	<i>T</i>	<i>O</i>	<i>J</i>	<i>K</i>

Notes

**INTEXT QUESTIONS 13.1**

1. Complete the following statements;
 - (a) East-West corridor links and as
 - (b) Super Highway connecting four metro-cities is known as as it forms
2. (a) Explain briefly the main factor affecting density of railways. Identify the following two groups of states where there is high and low density of railways and give reasons for your answer.
 - (b) Identify two advantages and two disadvantages in each roadways and railways transport.
3. “A few states of India lack a good railway network”. Justify the statement in 30 words.

MODULE - 2

India: Natural Environment, Resources and Development



Notes

Transport and Communication



ACTIVITY 13.5

Show the railway reservation form given below to your family. Try to fill it up discussing the meaning and the importance of the columns given below:

- (a) Medical Practitioner
- (b) Senior Citizen
- (c) Choice of berth
- (d) Meals available in some trains

RAILWAY RESERVATION / CANCELLATION REQUISITION FORM

If you are a Medical Practitioner Please tick () in Box Dr. _____ (You could be of help in an emergency)					
If you want Sr. Citizen concession, please write Yes/No in box _____ (if yes, please carry a proof of age during the journey to avoid inconvenience of penal charging under extant Railway Rules)					
Do you want to be upgraded without any extra charge? Write _____ Yes/No in the box. (If this option is not exercised, full fare paying passengers may be upgraded automatically)					
Train No & Name:	Date of Journey:				
Class:	No. of Berth / Seat:				
Station From:	Station To:				
Boarding At:	Reservation Upto:				
S.No.	Name in Block Letters (not more than 15 chars)	Sex (M/F)	Age	Concession / Travel Authority No.	Choice if any
					Lower / Upper Berth
					Veg / Non-veg Meal for Rajdhani / Shatabdi Express only
CHILDREN BELOW 5 YEARS (FOR WHOM TICKET IS NOT TO BE ISSUED)					
S.No.	Name in Block Letters	Sex	Age		

ONWARD / RETURN JOURNEY DETAILS

Train No & Name _____ Date _____
Class _____ Station From _____ To _____
Name of Applicant _____
Full Address _____

Signature of the Applicant

FOR OFFICE USE ONLY

S.No. of Requisition _____ PNR No. _____
Berth/Seat No. _____ Amount Collected _____

Signature of Reservation Clerk

- Note: 1. Maximum permissible passengers are 6 per requisition.
2. One person can give one requisition form at a time.
3. Please check your ticket and balance amount before leaving the window.
4. Forms not properly filled or in illegible forms shall not be entertained.
5. Choice is subject to availability.



Notes

13.2.2 Water Transport

Have you ever wondered why people in ancient times settled down near the rivers? How was trading possible between far off lands? Yes, it was through rivers and seas. From olden days till now waterways had been an important means of transportation. It is because:

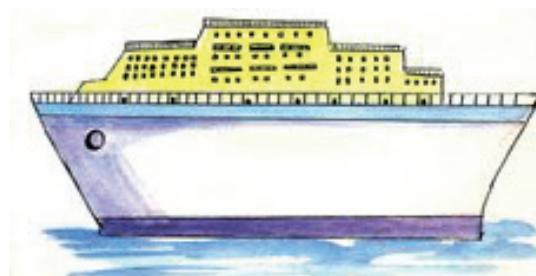


Figure 13.4 Mode of Water Transport

- It is the cheapest means as compared to other means of transport because it involves no expenditure on construction other than maintenance.
- It is very useful for transporting heavy and bulky goods. A ship can carry lakhs of tonnes of goods at a time.
- It is a better mode of transportation for petroleum and its products as it involves cross-continental transfers. India lacks in petroleum deposit and most of it is imported from Middle East countries.
- It is fuel efficient and environment friendly means of transportation.

Water ways have been classified into two types – Do you know them? Find out why are they called Inland waterways and Ocean routes?

1. **Inland Waterways:** India has inland navigable waterways measuring 14,500 km which include canals, rivers, backwaters and narrow bays etc. But only 3,700 km of river length is suitable for mechanized boats in river Ganga and Brahmaputra in the north and Godavari, Krishna and Kaveri in the south. A good network of inland waterways is able to reduce the traffic on the highways. It also helps transportation of goods.

Inland Waterways Authority of India was constituted in 1986 and looks after the development, maintenance and management of inland water ways in the country. The following three waterways have already been declared as National Waterways,

NW 1 – River Ganga from Allahabad, Uttar Pradesh to Haldia, West Bengal (1620 km)

NW 2 – River Brahmaputra from Sadiya to Dhubri in Assam (891 km)

NW 3 – Kollam to Kotapuram stretch of canal in Kerala (205 km)

MODULE - 2

India: Natural Environment, Resources and Development



Notes

Transport and Communication

- 2. Oceanic Waterways:** If you look at the map of India, you will find that India is surrounded on three sides by the Arabian Sea, the Bay of Bengal and the Indian Ocean with a coastline of 7516 km. India had only 49 ships in 1946 with a capacity of 1,27,083 tonnes. After independence, the Government has taken various measures resulting in procurement of 616 ships in 2004 with a gross tonnage of 700,000 tonnes of carrying capacity.

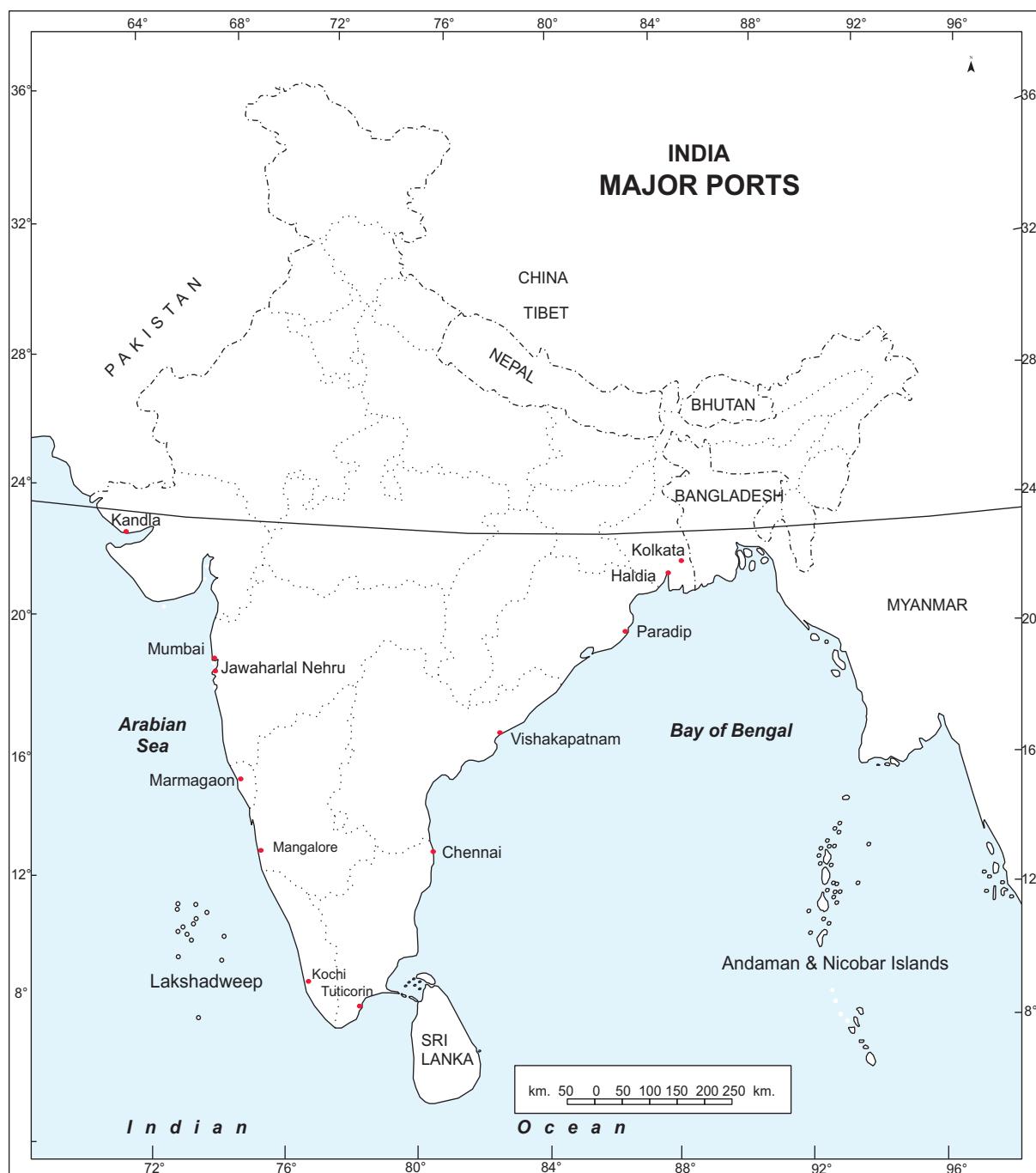


Figure 13.5 Major Ports of India



Notes

The two categories of Indian Sea Waterways are:

- (a) **Coastal shipping:** Transporting passengers and cargo between the ports located along the coast of the country is done by coastal waterways. Ships of about 100 navigation companies are engaged in coastal waterways handling about 7 lakh tonnes of cargo through 12 main ports and 189 small and medium class ports.
- (b) **International shipping:** Most of the shipping capacity of India is used in international trade. Through the ports of the east coast to Myanmar, Malaysia, Indonesia, Australia, China, Japan and from the west coast ports to the U.S.A., Europe and Asia, are used for export and import.



INTEXT QUESTIONS 13.2

1. (a) Complete the given table with the help of the map given below.

Port	State	Coast
Mumbai	Maharashtra	Western

- (b) Point out the areas where there are no ports. Give one reason for the same.

13.2.3 Air Transport

Do you wish to fly like a bird? By airways, you can reach at the destination quickly and without encounter any cring traffic. Our modern day airplane was designed by the Wright Brothers in 1903. Air transport in India began in 1911. Today it is one of the important means of transportation like roadways and railways. India has facilities of both domestic as well as international airways. Let us discuss its importance in the modern age.

MODULE - 2

India: Natural Environment, Resources and Development



Notes

Transport and Communication



Figure 13.6 Mode of Airways

- Air transport is considering that world is becoming a global village. It is the fastest means of transport and one can reach the destination in a few hours covering the distance of hundreds of kilometers.
- It is free from surface hindrances such as inaccessible mountains, dense forests, marshy lands or flooded areas.
- It is most important due to its utility in national defence.
- It also connects countries of different continents making earth a global village.
- It is suitable for transporting fruits, vegetables or high value goods like costly drugs and sophisticated machines in desired time frame.
- It is very useful at the time of natural or any other calamities for saving people or supplying goods of their basic requirements immediately.

The only drawback is the high cost of travelling or transportation. That is why, it is still out of reach for the common man. In the last few years, the use of air transport has recorded a rapid increase.

Air transport services in India can be classified into the following categories:

13.2.4 Domestic and International Services

Domestic and International services are provided by government and private provider. **Pawan Hans Helicopter Ltd.** (government undertaking) – This Company provides air transport to the Oil and Natural gas Corporation, Indian Oil and in the North-Eastern part of the country.



INTEXT QUESTIONS 13.3

1. Which states have more than one international airport?
2. Mention two states which do not have international airports?
3. Which is the closest or nearest Domestic and International airport from your house?

13.3 COMMUNICATION AND ITS IMPORTANCE

Your sister's marriage has been fixed and you want all your relatives and friends to be present at the wedding. How would you like to inform them? Suddenly, your grandfather suffered from a heart attack and your father is in his office. How will you inform him immediately? How did you come to know about tsunami in Japan or about the incident where millions of people were protesting against the President

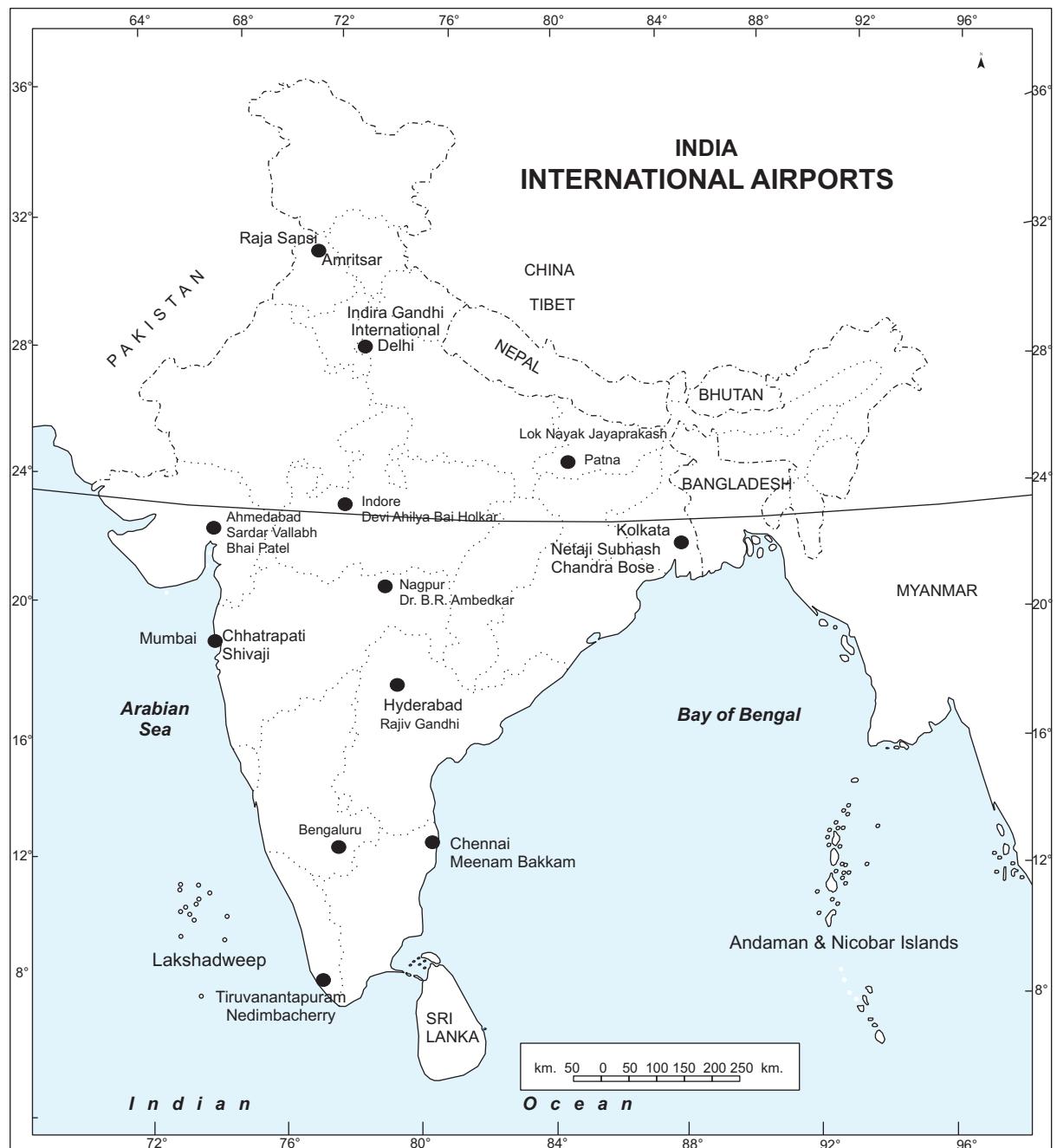

 Notes


Figure 13.7 Major International Airports of India

MODULE - 2

India: Natural Environment, Resources and Development



Notes

Transport and Communication

in Egypt? Your response to the above situations must have classified the importance of communication in everyday life, its need and various means of carrying it out. Thus, communication is a system of carrying messages to exchange thoughts, ideas and information and also to share your sorrows and pleasures with your family members or friends.

Now you must have understood that the means of communication change suiting the purpose of communication. There are various means of communication. People communicate with each other by writing letters, sending telegrams, radio, T.V., computer technology, newspapers, magazines and pamphlets; messages can be sent by telegram, facsimile machine (FAX) and E-mail (Electronic mail) for business trade and other services. E-mail has emerged as the fastest means of communication and is almost free.

It is also important to know that the choice of a particular means of communication depends on purposes.

Now, let us classify different means of communication into two groups:

1. Means of Personal Communication
2. Means of Mass Communication

1. Means of Personal Communication: We classify means of personal communication into two parts:

- (i) Postal Service
- (ii) Telephone Service

(i) Postal Service: Postal service is a very old means of communication. Though letter writing is not that popular any longer, it is still important even today. Indian Postal Network is the largest in the world. In 2001, India had 1,55,000 post offices providing different services like – letters, money orders, parcels, postal saving schemes, etc.

(ii) Telephone Service: It has emerged as one of the most important and widely used means of communication in today's world. It is quick and affordable, serving our need seamlessly.

2. Means of Mass Communication: The means by which information can be communicated to a very large number of people are called Media or Mass Communication, such as radio, television, newspaper, cinema, books, magazines, traditional folk modes and satellite communication.



- (i) **Radio:** Radio transmission in India started in 1927 from Mumbai and Kolkata to entertain, educate and apprise the people of the country with important information. Today the program of All India Radio (AIR) are available to 90% parts of the country to 98.8% of our people.
- (ii) **Television:** The national television transmission service of India started in 1959 is one of the biggest ground transmission organizations of the world. Today, 87% of population can watch it. Television program telecast by National, Regional and local Doordarshan and a large number of private channels are available for education, information and recreation.
- (iii) **Computer (Information Technology):** Today, computer has become the basis of communication and economic development as it is used everywhere from homes, offices to shops, hospitals, railways, airports, banks, educational institutions, etc.

13.3.1 Newer communication Technology

In recent years, there is revolution of new technology that has helped people in much better way such as:

- (a) **Internet:** It provides access to several kinds of information. It connects all types of computers across the world to obtain information at the click of a button.
- (b) **Video Conferencing:** People sitting at far off places can talk and express their views with the help of telecommunication and computer.
- (c) **E-Commerce:** Facility available for sale and purchase of goods through internet and fax.
- (d) **Internet Telephony:** It is a software programme which makes a computer to work like telephone. This facility has reduced the call rates drastically.
- (e) **E-Mail:** It is a method of sending letters or information through internet to anyone in the world in the blink of an eye.
- (f) **Tele-Medicine:** Using this technology, doctors can advise his patients sitting at a distance of thousands of kilometers from them.

Thus, scientific advancement and technology has revolutionized the system of communication and brought people very close to each other, to be in touch all the time and making the world a global village.

MODULE - 2

India: Natural Environment, Resources and Development



Notes

Transport and Communication



ACTIVITY 13.6

Take a pack of old playing cards. Cut pictures of various modes of communication from old newspapers or magazines. Stick one picture on each card. On the back side write one question about it. Now you have your own set of Communication Cards. Play it with your friends and family.

Hints: Which communication aid can deliver one message at the same time throughout the country? (Ans. T.V.).



INTEXT QUESTIONS 13.4

1. Categorize the following into personal communication, Mass Communication and others;
Electronic monitor, utility van, tractor, telegram, metro rail, mobile, postcard, fax, news bulletin, radio, ambulance, facebook, twitter and magazine, bulk SMS.
2. Give one word for each of the following statement:
 - (a) A system of carrying messages to exchange thoughts, ideas and information.
 - (b) The service through which letters, parcels and money-orders are sent.
 - (c) A system of writing letters through internet.
 - (d) The authority responsible for transmission of programs through radio in India.
 - (e) The most common and popular means of personal communication in India at present.



WHAT YOU HAVE LEARNT

- Need and importance of means of transport and communication
- Types of roads constructed in India



Notes



TERMINAL EXERCISES

- Role of railways in the development of a country
 - Types of waterways and their importance in a country's trade
 - Need of airways and its importance in a country like India
 - Modern means of communication and their relevance in our lives
-
1. Why are the means of transport and communication regarded as the lifelines of a country and its economy?
 2. State three merits and three demerits of roadways?
 3. What is the importance of water ways for India?
 4. Study the map of Major Ports and answer the following questions:
 - (a) Count and tell how many ports are there on the eastern coast.
 - (b) List the states that have two ports.
 - (c) Name the state in which Paradeep port is located.
 - (d) Name the port located in Goa.
 - (e) Name the southernmost port of India.
 5. What are the benefits of airways over other means of transport?
 6. State the importance of communication in your day-to-day activities?
 7. Differentiate between personal communication and mass communication.
 8. List five problems that you faced during your last journey by train. Suggest at least one remedy for each of the problems you faced.
 9. On the outline map of India, identify the states of high, moderate and low rail density and name them. Why do they have such density?

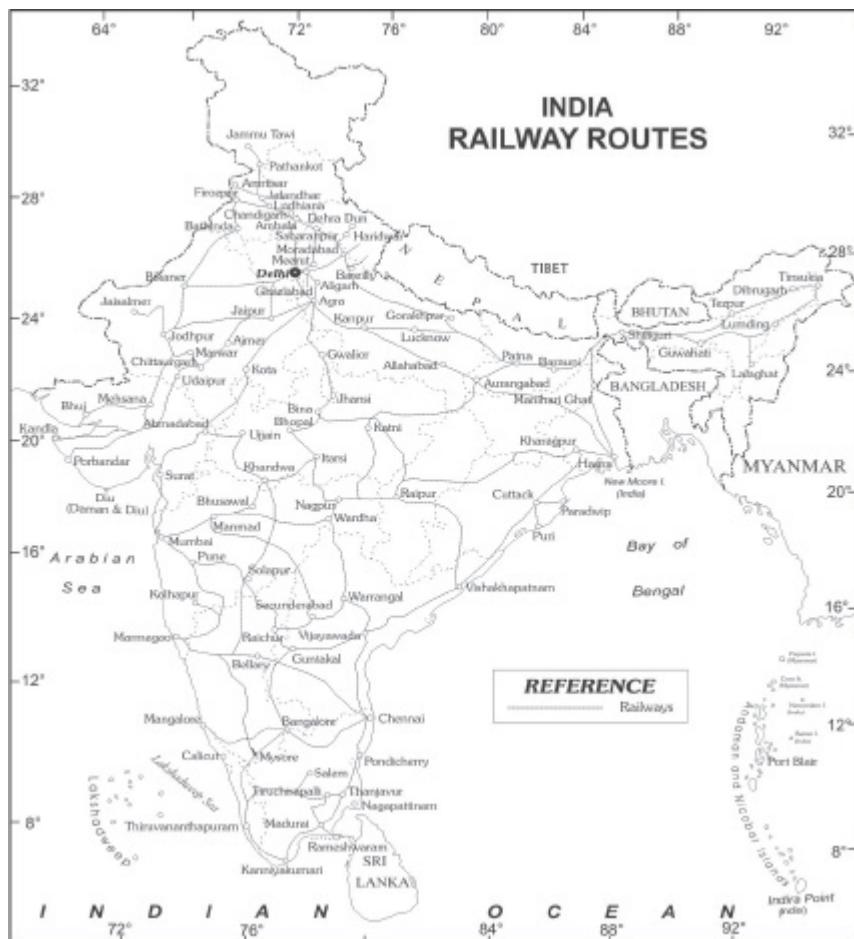
(Hints: Difficult terrain, climatic conditions, economy, etc)

MODULE - 2

India: Natural Environment, Resources and Development



Notes



India: Railway Zones

Project:

Interview at least five people in your locality who have been staying there for the last ten years, and ask them what changes have occurred over a period of time due to construction of new roads/railways.

OR

In your area, find the authority responsible for the construction of roads. You may need to go to that office to find the details of it.



ANSWERS TO INTEXT QUESTIONS

13.1

1. (a) Silchar, Porbander, they are located in the eastern and western edge of the country



Notes

- (b) Golden quadrilateral, a geometrical quadrilateral, of various types of relief features across the country
2. (a) These regions have a high railway density due to the following reasons,
 Punjab and Haryana – due to agricultural productions
 Maharashtra and Gujarat – due to industrialization
 Jharkhand and Chhattisgarh – due to mineral deposits
- (b) Both are important means of transport of the masses.
 Both are essential for the development of a region.
 Railways are generally used for long distances.
 Roadways are generally preferred over shorter distances.
 Railways can carry very large volumes.
 Roadways can carry lesser volume.
 Railways involve high construction and maintenance cost.
 Roadways involve lesser cost in construction and maintenance.
3. Because of high mountains and rugged topology. For example, Sikkim and Arunachal Pradesh.

13.2

1. (a) Table

Port	State	Coast
Kandla	Gujarat	Western
Mumbai	Maharashtra	Western
Jawaharlal Nehru	Maharashtra	Western
Marmagao	Goa	Western
New Mangalore	Karnataka	Western
Kochi	Kerala	Western
Tuticorin	Tamil Nadu	Eastern
Chennai	Tamil Nadu	Eastern
Vishakapatnam	Andhra Pradesh	Eastern
Paradip	Orissa	Eastern
Haldia	West Bengal	Eastern
Kolkata	West Bengal	Eastern

- (b) Rajasthan, Haryana, Punjab, Bihar etc. do not have any port as those states are far away from the ocean.

MODULE - 2

India: Natural Environment, Resources and Development



Notes

Transport and Communication

13.3

1. Maharashtra
2. Haryana and Rajasthan
3. As per the learners' experience

13.4

1. Means of transport: Utility van, tractor, metro rail, ambulance, trolley, bicycle.
Means of communication: Telegram, mobile, postcard, fax, facebook, twitter.
2. (a) Communication
(b) Postal service
(c) Email
(d) All India Radio (AIR)
(e) Mobile Phones