

India with its vast population and unique geo-physical characteristics is one of the world's most "Disaster-Prone" countries. Natural hazards such as cyclones, earthquakes, drought, floods or landslides occur in different parts of India in varying intensity. The East and the South-East part of India are frequently affected by cyclones. In the interior of the plateau or in the Himalayas earthquakes, and in the Ganga-Brahmaputra plain floods are more common. Rajasthan and Rayalaseema often experience severe drought, as do other areas in South India. This means that we are all 'vulnerable' in different degrees to these hazards. People living in an area may be vulnerable to more than one hazard. For instance, people residing in coastal area may face floods and cyclones frequently, while being located in an earthquake zone. Such an area is called a Multi Hazard Zone.

The damage caused due to a hazard increases when people are not adequately prepared to face the "disaster". For instance, a flood is a hazard when it occurs, and if people are not prepared to face it, it may wash away persons, homes, cattle and valuables. Then the flood becomes a disaster.

**Types of Disasters**

Disasters can be categorised into various types based on the speed and origin/cause.

1. Based on speed, a disaster can be termed as slow or rapid.

i) **Slow onset disaster:** A disaster that prevails for many days, months or even years like drought, environmental degradation, pest infection, famine are some examples of a slow onset disaster.

ii) **Rapid onset disaster:** A disaster that is triggered by an instance causes shock. The impact of this disaster may be short lived or long-term. Earthquake, cyclone, flash floods, volcanic eruptions are some examples of rapid onset disasters.

2. Based on the cause, disaster can be natural or human induced.

i) **Natural disaster:** A natural disaster is an event that is caused by nature and leads to human, material, economic and environmental losses. The types of natural disasters:

- a. Earthquakes
- b. Cyclones
- c. Floods
- d. Droughts
- e. Tsunamis
- f. Land slides
- g. Volcanoes etc.

In Class VII you studied about cyclones and floods and their mitigation. In the Class VIII Science text book you will know about the earthquakes and their impact.

ii) **Human induced disasters:** A serious disruption of normal life triggered

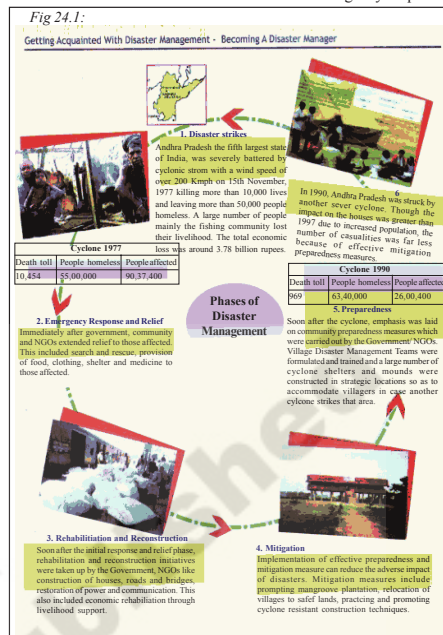
by human-induced hazard causing human, material, economic and environmental losses, which exceed the ability of those affected to cope. Some examples are the 1984 Bhopal Gas tragedy, the 1997 Uphaar Cinema fire in Delhi, Rajdhani Express train derailment in 2002, Kumbakonam school fire tragedy in 2003, Jaipur serial blasts in 2008 etc.

**What is disaster management?**

Disaster management covers the range of activities designed to maintain control over disasters/ emergency situations and to provide a framework for helping people to avoid, reduce the effects of, or recover from impact of a disaster. These activities may be related to preparedness, mitigation, emergency response, relief and recovery

(reconstruction and rehabilitation) and may be conducted before, during or after a disaster.

The Teachers and students are an integral part of the community and have an important role to play in being prepared for disasters. Students are effective carrier of messages to educate their parents and the community. Teachers have an important responsibility to guide the students in this regard.



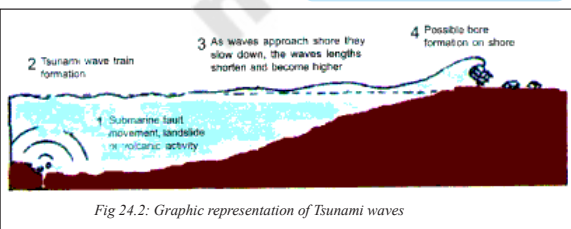
**TSUNAMI**

- Do you know what tsunamis are? How they are formed? How they can be predicted and how you can save yourself if you are residing in any of the coastal districts of the state?

The term "Tsunami" has been coined from Japanese words 'tsu' meaning harbour and 'name' meaning waves. Tsunamis are huge waves generated by earthquakes, volcanic eruptions, or under water

landslides which devastate coastal communities. Tsunamis caused by nearby earthquakes may reach the coast within minutes. When the waves enter shallow water, they may rise to several feet or, in rare cases, tens of feet, striking the coast with devastating force. The tsunami danger period can continue for many hours after a major earthquake.

- Collect more information and pictures on tsunami. Discuss on it and display on the notice board.



**Did you know?**

- A. A tsunami consists of a series of waves and the first wave may not be the largest. The danger from subsequent tsunami waves can last for several hours after the arrival of the first wave.
- B. Tsunami can move at 50 km per hour on coastal plain, faster than a person can run.
- C. Tsunamis can occur at any time of day or night.

**What to do BEFORE Tsunami?**

- ▶ Find out if your home, school, work place, or other frequently visited locations are in tsunami hazard prone areas.
- ▶ Plan evacuation routes from your home, school, work place or any other place you could be where tsunamis present a risk.
- ▶ Practice your evacuation routes.
- ▶ Have disaster supplies on hand.
- ▶ Discuss tsunamis with your family.

**Detecting Tsunamis**

With the use of satellite technology it is possible to provide nearly immediate warning of potentially tsunami-migenic earthquakes. Warning time depends upon the distance of the epicenter from the coast line. The warning includes predicted times at selected coastal communities where the tsunami could travel in a few hours.

Coastal tidal gauges can stop tsunamis close to the shore, but they are useless in deep oceans. Tsunami detectors, linked to land by submarine cables, are deployed 50 odd kms out at sea. 'Tsunameters' transmit warnings of buoys on the sea surface, which relay it to satellites.

**What to do DURING a Tsunami?**

- ▶ If you are at home and hear a tsunami warning, you should make sure your entire family is aware of the warning. Your family should evacuate the house if you live in a tsunami prone area. Evacuate to a safe elevated area and move in an orderly, calm manner to the evacuation site.
- ▶ Take your Disaster Supplies Kit. Having supplies will make you more comfortable during the evacuation.
- ▶ If you evacuate, take your animals with you.
- ▶ If you are at the beach or near the ocean and you feel the earth shake, move immediately to higher

ground, do not wait for tsunami warning. Stay away from rivers and streams that lead to the oceans.

- ▶ High multi-storey, reinforced concrete buildings (like hotels etc.) are located in many low-lying coastal areas. The upper floors of these buildings can provide a safe place.
- ▶ Offshore reefs and shallow areas may help break the forces of tsunami waves, but large and dangerous waves can still be a threat to coastal residents in these areas. Staying away from low-lying coastal areas is the safest advice when there is a tsunami warning.
- ▶ Update yourself on emergency information or warning announced on radio and television from time to time.

**What to do AFTER Tsunami?**

- ▶ Continue using a radio or television for updated emergency information. The tsunami may have damaged roads, bridges, or other places that may be unsafe.
- ▶ Check yourself for injuries and get first aid if necessary before helping injured or trapped persons. If someone needs to be rescued, call professionals with the right equipment to help. Many people might get killed or injured while trying to rescue others in flooded areas.

- ▶ Help people who require special assistance - infants, elderly people, those without transportation, large families who may need additional help in an emergency situation, people with disabilities.
- ▶ Avoid disaster areas. Your presence might hamper rescue and other emergency operations and put you at further risk from the residual effects of floods, such as contaminated water, crumbled roads, landslides, mudflows and other hazards.
- ▶ Use the telephone only for emergency calls. Telephone lines are frequently overwhelmed in disaster situations. They need to be cleared for emergency calls to get through.
- ▶ Stay out of a building if water remains around it. Tsunami water, like floodwater, can undermine foundations, causing buildings to sink, floors to crack, or walls to collapse.



Fig 24.3: Tsunami battered boats

- ▶ When re-entering building or homes, be very careful! Tsunami-driven floodwater may have damaged buildings where you least expect it. Carefully watch every step you take.
- ▶ Wear long pants, a long-sleeved shirt and sturdy shoes. The most common injury following a disaster is cut feet.
- ▶ Use battery-powered lanterns or flashlights when examining buildings. Battery powered lighting is the safest and easiest to use and it does not present a fire hazard for the user, occupants or building. Do not use candles.
- ▶ Examine walls, floors, doors, staircases and windows to make sure that the building is not in danger of collapsing.
- ▶ Inspect foundations for cracks or other damages. Cracks and damage, to a foundation can render a building uninhabitable.

▶ Look for fire hazards. There may be broken or leaking gas lines, flooded electrical circuits, or submerged furnaces or electrical appliances. Flammable or explosive materials may have come from upstream. Fire is the most frequent hazard following floods.

▶ Watch out for wild animals, especially poisonous

snakes that may have come into buildings with the water. Use a stick to poke through debris. Tsunami floodwater flushes snakes and animals out of their homes.

- ▶ Watch for loose plaster, drywall, and ceilings that could fall.
- ▶ Open the windows and doors to help dry the building.
- ▶ Shovel out mud before it solidifies.

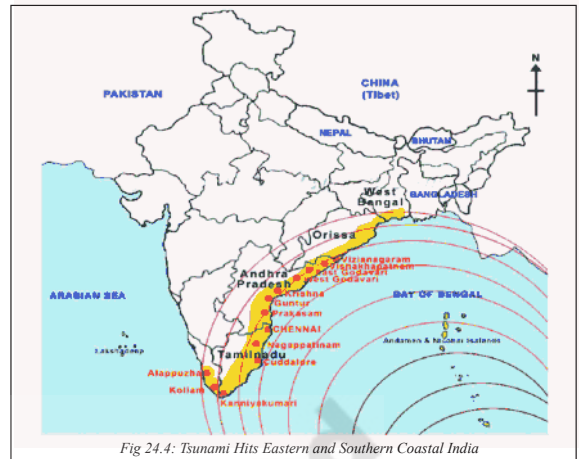


Fig 24.4: Tsunami Hits Eastern and Southern Coastal India

### DROUGHT

Drought is basically a disaster situation caused by lack of rainfall. The deficiency in rainfall is defined as meteorological drought. While in a year there may be normal rainfall, there might be a wide gap separating two consecutive spells of rain resulting in crop failure which is termed as agricultural drought. Thus the quantum as well as the distribution of rainfall are important.

Excess or deficient rainfall is determined by the percent variation from the average rainfall (of 70-100 years) as follows:

Excess	+20 percent or more of the average rainfall
Normal	+19 percent to -19 percent of the average rainfall

Deficient -20 percent to -59 percent of the average rainfall  
 Scanty -60 percent or less of the average rainfall

Certain regions due to their geographical location are more likely to receive less rainfall. These are called 'drought prone areas'. For example, in Rayalaseema and Telengana regions the probability of drought occurrence is twice in every five years.

#### Impact of Drought

There is a sequential impact of drought:

- ▶ Scarcity of drinking water; fall in water-table.
- ▶ Decline in crop acreage.
- ▶ Fall in employment in the agricultural sector due to slowing down of agricultural activity.
- ▶ Fall in purchasing power of those engaged in agriculture.
- ▶ Scarcity of food grains.
- ▶ Scarcity of fodder.
- ▶ Loss of cattle life.
- ▶ Malnutrition, especially among children.
- ▶ Ill health and spread of diseases like diarrhoea, dysentery or cholera and ophthalmia caused by starvation.
- ▶ Distress sale and mortgage of land, jewellery and personal property.
- ▶ Migration of people in search of employment.

#### How to cope with Drought?

Unlike sudden disasters drought being a slow onset disaster, gives us ample time for preparedness, response and mitigation. Monitoring and early warning enables timely action by decision makers at all

levels. In areas that are normally affected by drought Government, Non-Governmental Organizations (NGOs), local officials and other key players have taken the initiative to bring in awareness on water conservation strategies etc.

#### Rainwater harvesting

In urban areas all rainwater as it falls over roofs of houses should be harvested. The easiest thing is to divert it into soak pits for recharging of groundwater. The rainwater may also be stored in sumps/ tanks which are built for this purpose. In certain places, with simple filtering, rain water can be the best source of drinking water.

#### Watershed Development

The government is implementing Integrated Watershed Management Programme (IWMP) in drought prone areas to reduce the impact of droughts. The main objective is to strengthen the community and enable them to plan for proper utilisation of natural resources. Land use based on its capability helps in optimum use of land and water and can prevent misuse. The main activities include harvesting rain water in the fields, afforestation, promotion of crops/ trees that require less water and alternative livelihoods.

#### Are you a water saver or spender?

Find whether you are a water saver or spender with the help of the following questionnaire. Check how much water you can save and whether you are a water hero or villain!

Activity	User 1 (Litres)	User 2 (Litres)	Your Use (Litres)
Brushing Teeth	Running tap water (19)	Wet brush, Turn water off, rinse (2)	
Cleaning vegetables	Running tap water (11)	Fill pan to clean vegetables (2)	
Dish washing	Running tap water (114)	Wash & rinse in dishpan or sink (19)	
Flushing	Depends on tank size (20)	Displacement bottles in the tank (15)	
Shaving	Running tap water (18)	Shaving mug (0.5)	
Showering	Water running (95)	Wet down, soap down (15)	
Washing car/ bike/ cycle	Running hose (400/50/20)	Bucket (40/20/10)	
Washing clothes (with machine)	Full cycle, top water level (227)	Short cycle, minimal water level (102)	
Washing Floor	Running hose for 5 min (200)	Buckets (40)	
Washing Hands and face	Running tap water (8)	Plug and fill basin (4)	
Total	-	-	

Total the water you use and check your ranking:

- Eco Hero: <200 lt.,
- Water saver: 201 – 400 lt.,
- Water spender: 400 – 600 lt.,
- Water villain: >601 lt.

#### Key words

1. Multi Hazard Zone
2. Human Induced Hazard
3. Famine
4. Pest Infection
5. Environmental Degradation

#### Improve your learning

1. Describe any disaster that occurred in your area or that you watched on T.V.? What measures could have been taken to reduce its impact.
2. How was that disaster managed?
3. Do you suggest any precautions to the people?
4. Have you ever observed any disaster in your locality? Explain.
5. How can the disaster be prevented/managed?
6. Discuss elder's experience with regard to the disasters and the management and write a note.

## ACADEMIC STANDARDS

Time should be spent in making sure that children comprehend the passages given in text. In between questions are useful in this context. These questions are of different types that would include the aspects reasoning, cause and effect, justification, mind mapping / concept mapping, observation, analysis, thinking and imagination, reflection, interpreting etc. The key concepts have been discussed subconceptwise in every chapter with examples and also given in the form of keywords.

- 1) **Conceptual understanding:** Promoting learning of basic concepts through inquiry, discussion, reflection giving examples through case studies interpreting, observation etc.
- 2) **Reading the text (given), understanding and interpretation :** Occasionally there are case studies about farmers, labourers in factory, or images that are used in text which do not directly convey the concept. Time should be given for children to grasp the main ideas, interpret images etc.
- 3) **Information skills:** Textbooks alone cannot cover all different aspects of social studies methodology. For example children living in an urban area can collect information regarding their elected representatives or children living in the rural area can collect information about the way irrigation / tank facilities are made available in their area. These information may not exactly match with that of the textbooks and will have to be clarified. Representing the information that they have collected through projects are also an important ability. For example if they collect information about a tank – they may decide to draw an illustration or map etc along with written material. Or represent the information collected through images or posters. Information skill includes, collection of informatic tabulation / records and analysis.
- 4) **Reflection on contemporary issues and questioning:** Students need to be encouraged to compare their living conditions along with that of different regions or people from different times. There may not be a single answer to these situations of comparison. Giving reasons for certain happening process and justification of informatic and interpretative.
- 5) **Mapping skills:** There are different types of maps and pictures used in the textbook. Developing ability related to maps as abstract representation of places are important. There are different stages of developing this ability, from creating a map of their classroom to understanding height, distance as represented in a map. There are illustrations, posters and photographs used in the textbook, these images often relate to the text and are not merely for visual effect. Sometimes there are activities like write a caption or read the images that are about architecture etc.
- 6) **Appreciation and Sensitivity:** Our country has vast diversity in terms of language, culture, caste, religion, gender etc. Social studies does take into consideration these different aspects and encourages students to be sensitive to these differences.

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### III. Information Skills:

1. Do you think, changes have come in using the maps from ancient Greek period to the present day? Tabulate and explain the similarities and differences between these two.
2. Read the table showing particulars of Land holdings in page no. 189. Write the changes took place from 1956 to 2006.
3. Are there the people of different religions in your surroundings? Collect the particulars of their religious customs and practices. Tabulate and present them in the class.

### IV. Reflection on contemporary issues and questioning:

1. How is the implementation of Forest Laws in your area? Though the Laws are in vogue, the forests are disappearing day by day. What might be the reasons?
2. Are there any Self Help Groups in your village? Do you think the members of Self Help Group benefit really? Analyse with reasons.
3. Why are the people approaching private hospitals though the government hospitals are functioning? Write your opinion on this issue.
4. Our constitution consists of many values. All should inculcate them. But to what extent these are inculcated in the society now-a-days? What might be the reasons?

### V. Mapping skills:

1. Select any two places in the Atlas. Compare the life styles of the people of those two places.
2. Locate the Tundra region on the world map. Mark the important countries of that region with colours.
3. Locate the following on the India map.  
1) Ganjam 2) Avadh 3) Hyderabad 4) River Godavari
4. Observe the map of the Hyderabad state in the chapter. Compare this with that of our present state. Write the differences.

### VI. Appreciation and Sensitivity:

1. Write a letter to the editor of a news paper explaining about the role to be played by the newspapers at present.
2. You have learnt about the importance of preserving water. Prepare a poster on the proper usage of water mentioning the dos and don'ts to conserve the water from wastage.
3. What is the greatness of arts and artists? How should we honour them?
4. Prepare a few slogans on the values prescribed in the Preamble of the Constitution to be practised by everyone.
5. You have learnt about the role played by 'Andhra Maha Sabha' in the spread of education in our state before independence. What can be done by the students to spread the education now-a-days?

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## ACADEMIC STANDARDS - MODEL QUESTIONS

### I. Conceptual understanding:

1. What are the differences between the maps prepared by Ptolemy or Idrisi and the Britishers?
2. Delhi and Mumbai are below the height of 300m from the sea level. But, there are differences between their monthly average temperatures, why? In which month are there differences between the average temperatures in these two cities? Why? In which month will the average temperatures be the same? Explain the reasons.
3. How did the cheques make the money transaction easy? Explain in your own words.
4. What are the advantages of using Combined Harvesters? Who do you think are receiving maximum benefit by using them?
5. The Zamindars supported the Britishers during freedom movement. What would be the reasons? Write your opinion
6. Do all the people of a religion have same perceptions? If not, explain the reasons with examples.

### II. Reading the text (given), understanding and interpretation:

1. Read the paragraph 'The Sun is the principal source of energy ..... we can neither feel nor see' about Solar energy and Sun's rays of page no.s 18 and 19. Write the content in your own words.
2. Read the paragraph 'Human beings live along with a large community of plants and animals ..... it is cold or wet' Changing Seasons of page no. 33.  
Write the five important points of the above paragraph. Explain about them.
3. Read the paragraph 'New skills and New jobs' of page no. 99. Write the three important things you understood by reading this paragraph. Do you agree or differ with them? Explain why?
4. Read the box item 'Women in the Telangana struggle' in the page no. 148. What would be the reasons for the women's participation in the Telangana movement? Explain in your own words.
5. Read the box item 'Preamble of our constitution' in the page no. 156. What are the values incorporated in it? Explain about each value in your own words.
6. Read the following paragraph of page no. 165. 'Some people said, the elections are a leap in the dark..... So it won't be possible to have a democratic election.' Do you agree with this? Why? Write the reasons.