Social Science
Class V
Chapter – 14
When the Earth Shook.
Notes on The Bhuj Earthquake

The earthquake struck near the town of Bhuj on the morning of India's annual Republic Day (celebrated on 26th January every year since creation of the Republic of India in 1950), and it was felt throughout northwestern India and parts of Pakistan. The moment magnitude of the quake was 7.7 (6.9 on the Richter scale).

The death toll in the Kutch region was 12,300. **Bhuj**, which was situated only 20 km away from the epicentre, was devastated. Over one million structures were damaged or destroyed, including many historic buildings and tourist attractions. The quake destroyed around 40% of homes, eight schools, two hospitals and 4 km of road in Bhuj. In **Ahmedabad**, Gujarat's commercial capital with a population of approximately 7 million (according to data in 2018), as many as 50 multi-storey buildings collapsed and several hundred people were killed.

EARTHQUAKE ZONES OF INDIA

Based on the past seismic history, Bureau of Indian Standards grouped the country into four seismic zones namely Zone-II, Zone-III, Zone-IV and Zone-V. Of all these four zones, Zone-V is the most seismic active region whereas Zone-II is the least.

The modified Mercalli intensity scale

developed from Giuseppe Mercalli's Mercalli intensity scale of 1902, is a seismic intensity (effects on surface) scale used for measuring the damages produced by an earthquake.

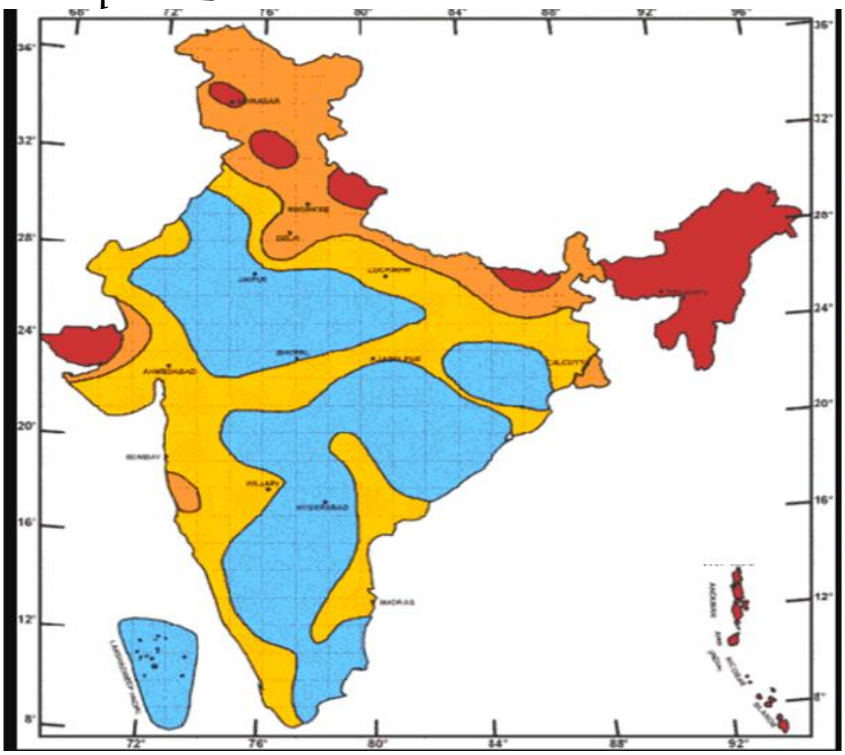
The Richter scale

also called the Richter magnitude scale or Richter's magnitude scale – is a measure of the force (strength of seismic waves) of earthquakes, developed by Charles F. Richter and presented in his landmark 1935 paper, where he called it the "**magnitude scale**".

The **Richter Scale** is an absolute **scale**; wherever an earthquake is recorded, it will measure the same on the **Richter Scale**. The Modified **Mercalli**

scales measures how people feel and react to the shaking of an earthquake. ... It is sufficient to **distinguish between** small, moderate, or large earthquakes.

Earthquake Zones of India



Seismic Zone	Intensity on M.M Modified Mercall intensity Scale
Zone–II (Low–Intensity Zone)	6 (or less)
Zone–III (Moderate Intensity Zone)	7
Zone–IV (Severe Intensity Zone)	8
Zone–V (Very Severe Intensity Zone)	9 (and above)

The Earthquake Zone and location of Gujarat

- Gujarat is located in the "Himalayan Collision Zone"-where Indo-Australian tectonic plate slides under Eurasian plate-causing active fault lines beneath.
- The proportion of area in Gujarat that falls into these zones is as follows:
  - Very High Risk: › Zone V (19 percent)
  - High: Zone IV (13 percent)
  - Moderate: Zone III (66 percent)
  - Low Damage: <= Zone II (1 percent)
- So, most parts of Gujarat lie in the danger zone.
- Kutch District located in Very High-Risk Seismic Zone – V. Parts of Jamnagar, Rajkot, Patan and Banaskantha in High Risk Zone – IV.
- Most other parts of the State lie in Moderate Zone - III and a very small part in Low Damage Zone – II.
- Earthquake risk is very high in Gujarat and the State has suffered major earthquakes in - 1819, 1845, 1847, 1848, 1864, 1903, 1938, 1956 & 2001 (9 times in past 200 years). The 2001 Kachchh earthquake was the third largest and second most destructive earthquake in India over the last two centuries.