Earthquakes in Haiti

Why in news?

A powerful earthquake (magnitude 7.2) killed hundreds and injured thousands more in Haiti (which faces frequent earthquakes).

Where is Haiti?

- An island country located in the Caribbean Sea,on the island of Hispaniola in the Greater Antilles archipelago.
- Bordered in land by the Dominican Republic in east.
- Maritime borders with the Bahamas, Colombia, Cuba, and Jamaica.

What causes frequent quakes in Haiti?

- Haits's**unique geology** makes it **seismically active** and prone to devastating earthquakes.
- Located near the intersection of two tectonic plates–the North American plate and the Caribbean plate.
- Multiple fault lines between those plates cut through or near the island of Hispaniola.
- Not all of those fault lines behave the same way; here, plates transition from smashing together to sliding past one another.

  Plates move - Friction builds up - Resultant strain - Fault moves suddenly - Earthquake occurs

- The recent earthquake likely occurred along the **Enriquillo-Plantain Garden fault zone:**

i. cuts across Haiti's southwestern Tiburon Peninsula
ii. the source of many earlier big earthquakes in Haiti

- **Other reasons**
- High population density of 11 million people.
- Typical concrete and cinder block buildings designed to withstand hurricanes but are vulnerable to collapse when the ground shakes.

- Given the factors, it is much a natural hazard that overlaps with a vulnerable design and system, and not really a natural disaster.

What are the challenges?

- **Financial challenges** in constructing more earthquake-resistant buildings:

  i. Haiti is the poorest nation in the Western Hemisphere.
  ii. It is still recovering from the 2010 earthquake and Hurricane Matthew in 2016.

- **Lack of political will**, centralized effort and funding to build earthquake-resistant structures, despite the availability of technical knowledge, trained architects and city planners.
- Political instability following recent assassination of Haiti's President JovenelMoïse.
- NGOs focus on their own compartmentalized projects; no coordination.
- **More quakes may be ahead** as 2010 earthquake was said to mark the beginning of a new cycle of large earthquakes on the Enriquillo fault system after 240 years of seismic dormancy.

Source: The Indian Express, NPR

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