Geography · GS - I

Mention the global occurrence of volcanic eruptions in 2021 and their impact on regional environment.

EXAM YEAR	PAPER	SUBJECT
2021	GS - I	Geography

MARKS	WORD LIMIT
10	~150 words

Answer Hint

Pacific Ring of Fire, Cumbre Vieja, Mount Nyiragongo, Semeru, Fagradalsfjall, Mount Etna, lava flows, volcanic ash, atmospheric pollution, agricultural damage, disaster preparedness.

Model Answer

Introduction

Volcanic eruptions occur mainly along tectonic plate boundaries, particularly the Pacific Ring of Fire, and at hotspots. Several major eruptions affected communities and regional environments in 2021.

Major Occurrences and Impacts

- **Cumbre Vieja, La Palma, Spain:** The September eruption destroyed houses, roads and banana plantations. Lava buried settlements and volcanic gases affected local air quality.
- **Mount Nyiragongo, Democratic Republic of the Congo:** Its May eruption sent lava towards Goma, causing deaths, displacement and infrastructure damage.
- **Semeru, Indonesia:** The December eruption generated ash clouds and pyroclastic flows, causing fatalities and agricultural damage.
- **Fagradalsfjall, Iceland:** Lava flows created new landforms and attracted scientific and tourist interest, alongside local gas-related hazards.
- **Mount Etna, Italy:** Repeated eruptions produced ash and lava, affecting aviation, agriculture and nearby settlements.

Environmental Effects

Volcanic ash can damage vegetation, contaminate water and affect respiratory health. Sulphur dioxide worsens air quality, while lava destroys habitats. Over time, volcanic materials can contribute to fertile soils and new landscapes.

Conclusion

Volcanic eruptions create severe short-term hazards but also shape long-term landscapes. Monitoring, hazard mapping and timely evacuation can reduce regional impacts.

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