

Earthquake Disaster in Afghanistan

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Afghanistan is a mountainous country characterized by the Hindukush active tectonics uplifted by the India-Eurasia collision. Afghanistan is part of the Eurasian plate the most seismically hazardous region. Earthquake in Afghanistan is driven by the relative northward movements of the Arabian plate past western Afghanistan and of the Indian plate past eastern Afghanistan as both plates subduct under Eurasia. The Hindukush tectonic activities created several deep geological faults strong earthquake movement happened along them. Earthquake movements mostly occur around the northeastern part of the country because of the northward subduction of the Indian plate. Central and western Afghanistan is the least seismically active. Earthquakes cause the highest number of fatalities in the country, on June 22, 2022, a 6.1 magnitude earthquake struck the southeastern region of Afghanistan. The earthquake caused huge damage and casualties; over 1000 people died and 1500 were injured.

In this study, the geological structure and the tectonic earthquake in Afghanistan are explained. Afghanistan's seismic region and active deep geological faults are illustrated using ArcGIS Pro. A historical review of the earthquake disaster and earthquake-vulnerable zones is conducted and conclude with a recommendation for earthquake risk reduction.

Keywords: Afghanistan , Earthquake, Seismic Vulnerable Zones , Tectonic activity, Earthquake risk reduction