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SEISMIC VULNERABILITY ASSESSMENT OF PUBLIC RC FRAMED BUILDING

Er. Gokarna Thapa*; Prof. Dr. Govind Prasad Lamichhane**

*Graduate School of Engineering,
Mid-West University,
Birendra Nagar, Surkhet, NEPAL
Email id: thapa.gokarna8923@gmail.com

**School of Engineering,
Pokhara University,
Kaski, NEPAL
Email id: govindkhec@gmail.com

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ABSTRACT

The existing structures built in seismically vulnerable regions at different times need to be assessed in view of the changing codal provisions. The various buildings owned by Government of Nepal and located in different parts of the country are the subjects of seismic assessment. Of the many buildings, one of them selected for a detailed assessment in the study at Kathmandu the capital of Nepal which is situated in prone zone of seismic vulnerability. The building is categorized as frame structures, built in different time with different modes of design and supervision. The building is analyzed with a 3D model using ETAB 2018 software for all the possible actions including possible earthquakes. The capacities of different components of the buildings are compared with the response by shifting of components of the buildings and by variation of size of members so as to overcome seismic vulnerability. From the result of the study and observation of structural parameters of the building, it is noted that some of the members are subjected to stresses higher than their capacities making the building vulnerable. For analysis even building consisting shear wall and basement are not analyzed yet releasing partial fixity at bottom of footing which leads error for comparison of vulnerability of such buildings ; this article enhance to recover the errors in analysis.

KEYWORDS: *Seismic Vulnerability Index, Seismic Capacity, Seismic Performance.*

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