

Seismic Analysis of Vertical Expansion Hybrid Structure by Response Spectrum Method Concern with Disaster Management and Solving the Problems of Urbanization

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Abstract : The present ground reality scenario of suffering of humanity shows the evidence of failure to take wrong decisions to shape the civilization with Irresponsibilities in the history. A strong positive will of right responsibilities make the right civilization structure which affects itself and the whole world. Present suffering of humanity shows and reflect the failure of past decisions taken to shape the true culture with right social structure of society, due to unplanned system of Indian civilization and its rapid disaster of population make the failure to face all kind of problems which make the society sufferer. Our India is still suffering from disaster like earthquake, floods, droughts, tsunamis etc. and we face the uncountable disaster of deaths from the beginning of humanity at the present time. In this research paper our focus is to make a Disaster Resistance Structure having the solution of dense populated urban cities area by high vertical expansion HYBRID STRUCTURE. Our efforts are to analyse the Reinforced Concrete Hybrid Structure at different seismic zones, these concrete frames were analyzed using the response spectrum method to calculate and compare the different seismic displacement and drift. Seismic analysis by this method generally is based on dynamic analysis of building. Analysis results shows that the Reinforced Concrete Building at seismic Zone V having maximum peak story shear, base shear, drift and node displacement as compare to the analytical results of Reinforced Concrete Building at seismic Zone III and Zone IV. This analysis results indicating to focus on structural drawings strictly at construction site to make a HYBRID STRUCTURE. The study case is deal with the 10 story height of a vertical expansion Hybrid frame structure at different zones i.e. zone III, zone IV and zone V having the column 0.45x0.36mt and beam 0.6x0.36mt. with total height of 30mt, to make the structure more stable bracing techniques shall be applied like mage bracing and V shape bracing. If this kind of efforts or structure drawings are followed by the builders and contractors then we save the lives during earthquake disaster at Bhuj (Gujarat State, India) on 26th January, 2001 which resulted in more than 19,000 deaths. This kind of Disaster Resistance Structure having the capabilities to solve the problems of densely populated area of cities by the utilization of area in vertical expansion hybrid structure. We request to Government of India to make new plans and implementing it to save the lives from future disasters instead of unnecessary wants of development plans like Bullet Trains.

Keywords : history, irresponsibilities, unplanned social structure, humanity, hybrid structure, response spectrum analysis, DRIFT, and NODE displacement

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