



A Contribute to Fast Track Earthquake-Risk Estimations: for Some Urban Areas in Turkey

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In this study, it was carried out to contribute earthquake disaster mitigation studies for some cities in Turkey. When we look the triggered risks by natural events in Turkey, the studies on earthquake related risks must be in the most important place. For this reason, risk evaluations based on earthquake and city information. 23 Cities in Turkey were selected to estimate their relative earthquake risk levels. Risk factors for cities are evaluated as the house numbers, national incomes of cities and population and ground motion levels. Combining ground motion levels and other risk factors, a relative risk evaluation was carried out each city. To estimate the ground motion level, the earthquake data bigger than 4.5 magnitudes and locations in 100 km radius around the cities are used for 1900-2006 period of years, recorded in Kandilli Observatory and Earthquake Research Institute. Probabilistic seismic hazard analysis for each city was carried out by using Poisson probabilistic approaches. Ground motion level was estimated as probability in a given level of acceleration with %10 exceedence rate in 50 years of time period for each city. Risk level of the cities was evaluated by using house number, national incomes of cities and population and ground motion levels. Maximum risk level obtained from the cities was taken reference value for relative risk assessment, and other risk values were estimated according to the maximum risk level. In the result of study, when it was classified selected cities according to their relative risks, the first five risky cities are respectively Istanbul, Izmir, Ankara, Bursa, Kocaeli.