

Abstract: The cost of nuclear power generation critically depends on the damages caused by plant failure. We estimate the residential land damage caused by the failure of the Fukushima Daiichi nuclear power plant, as it forms a substantial part of the total damage, by observing the change in transaction prices before and after the accident with the degree of radioactive contamination. The estimates, which are based on hedonic price equations with the degree of radioactive contamination measured by airborne surveys, indicate that the contamination significantly decreased the price of residential land. The estimated total residential depreciation ranges from 1.8 to 2.6 trillion yen, approximately equivalent to 18-26 billion US dollars, or about 0.4-0.5% of Japan's GDP.