

Fatalities for completely destroyed houses ratio in the vicinity of the surface faults associated with the 1927 Kita-Tango earthquake

Taiga Kadono², *Nobuhisa Matsuta¹

1. Okayama University Graduate School of Education, 2. Okayama university Faculty of Education

There are various processes where natural phenomena become disasters. There are various processes where natural phenomena become disasters. In the event of an earthquake disaster, the ratio of completely destroyed houses to dead people tends to increase with tsunamis and fires. In the case of traditional Japanese houses, if there is no tsunami or fire, the ratio of completely destroyed houses to the dead is about 1:10. However, in the case of earthquakes in which surface rupture appeared, the ratio increases. This suggests that in the case of the earthquake in which the surface rupture appeared, the process leading to a completely destroyed house is different. We focused on the 1927 Kita-Tango earthquake. This earthquake occurred in the northern part of Kyoto Prefecture and is the inland 7.3-magnitude earthquake. The Goumura fault and the Yamada fault appeared during this earthquake. We analyzed the characteristics of faults and damage using the data compiled for each settlement at the time and the list of victims.

We analyzed except for villages where there were many damage by fire.

Although the damage was great in the area with bad ground condition, it was revealed that fatalities to the completely destroyed houses was ratio is small, and there were many semi-buried houses for the completely destroyed houses. In the vicinity of the surface rupture, there are the huge damage in the area where the surface earthquake fault appeared, and it was found that fatalities to the completely destroyed houses was ratio is large. Conducted a field interview survey, we found that houses with multiple victims were located near the surface rupture. In conclusion, we suggest that the house breaks instantaneously and the number of victims increases with the acceleration at the appearing surface rupture.

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