

Death Rate of Tsunami Disaster of 2011 East Japan Supergiant Earthquake

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There are many tsunami disaster histories in the Pacific Coast of East Japan, such as 1896 M8.5 Meiji-Sanriku and 1933 M8.1 Showa-Sanriku tsunamis. In the Meiji-Sanriku Tsunami, tsunami earthquake occurred and people felt small shaking and they had no ideas of tsunami attack. Over 26,000 people were killed by 10- 15 m height tsunami. There was death rates over 30% were reported in three counties of Iwate prefecture.

On March 11, 2011, a mega-thrust earthquake was occurred in the subduction zone of Japan Trench. Japan Metrological Agency (JMA) issued the tsunami warning in five minutes after the shaking. In the Pacific Coast area, high breakwaters over 10 m or 15 m height were built after the 1960 Chile Earthquake Tsunami. Tsunami drills are renewed every year, and the last one was done on March 3, 2011.

However we lost over 23,000 peoples by tsunami attack on March 11. It is no chance to investigate the death rate of tsunami disaster until now. We estimated the rates from the population of the area of tsunami attack, and dead and missing persons. The rates suggest over 10% in four local cities and towns. It is sure that some neighborhood association lost over 30% population by the tsunami. It is high rate than that of death by earthquakes.

Before the March 11 Tsunami, it is pointed out low proportion of people evacuated under the JMA warning and no evacuation issue from the local governments in Japan. Additionally JMA underestimated the earthquake magnitude and tsunami height of the March 11 event. It is clear that we could not save the human lives with only the early tsunami warning system.