

Expected Tsunami Heights and Evacuation Alerts

– A Study of Information in an Emergency –

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(Summary)

The impact of possible giant earthquakes and tsunami has been emphasized since the Great East Japan Earthquake that occurred in March 2011. Consequently, the content of tsunami warnings/advisories was revised in March 2013. Reflecting on the bitter experience of the 3/11 earthquake when expected tsunami heights were underestimated, the revision includes the use of qualitative expressions such as “giant” for the description of expected tsunami heights in the first alert in the case of possible extraordinarily large earthquakes. The purpose of this research is to clarify what feature the expected tsunami height information has, and to what extent and how the information will be reflected in local governments’ evacuation alerts. To investigate this, the author conducted qualitative and quantitative research on municipalities in the 3/11 quake-afflicted district as well as in the area where the Nankai Trough Quake is expected to occur. The author examined the results of the research conceptually and concluded as follows.

(1) Since numerical numbers of expected tsunami heights accompany uncertainty of prediction and a margin of error, handling of the information involves a great burden, and “personalization” of the information is difficult. Therefore, many of the municipalities did not announce the numerical numbers in their evacuation alerts via the disaster prevention administrative radio system in the 3/11 earthquake. Even after the revision of tsunami warnings/advisories, some local governments decided not to use fixed phrases with numerical numbers that are specified in the warnings/advisories guidelines.

(2) A tendency is observed that many of the local governments intend to use qualitative expressions for expected tsunami heights such as “giant” in their evacuation alerts instead of numerical numbers that may cause a great burden in handling of data. It is assumed that the purpose of these local governments is to persuade residents to evacuate promptly by employing these impactful qualitative expressions. It is also found that in some cases the meaning of each qualitative expression differs between the Meteorological Agency, broadcasting media outlets, and each local government.

(3) At the time of the Great East Japan Earthquake, the expected tsunami heights were revised upward, but only a small number of municipalities informed the residents of the revised heights. After the revision of tsunami warnings/advisories, a number of municipalities decided to inform the residents about the raise on a case-by-case basis, not adhering to the guidelines’ fixed phrases. Nevertheless, it is not easy to promptly analyze each pieces of information that are constantly renewed and to adequately deliver them to the residents in a chaotic situation during a major disaster. It is necessary to make further efforts not to forget the lesson of the Great East Japan Earthquake—“Upward revision of expected tsunami heights is extremely important information for letting the people know the escalation of emergency situation.”