

Emergency Recovery Cooperation between Local Governments and Construction Contractors after 2016 Kumamoto Earthquake

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Abstract

In areas where severe earthquake disasters happened, quick restorations of fundamental infrastructures are essential to protect daily lives of residents and to maintain local industrial activities. Municipalities and local construction contractors there should cooperate to maximize their recovery power, as well as receiving supports from national agencies, a relevant prefecture and surrounding municipalities.

A research subcommittee in the Earthquake Engineering Committee of JSCE was set up and a set of interview surveys was conducted on emergency restoration activities by staffs of municipalities and construction contractors in the district damaged by the 2016 Kumamoto earthquake. The aim of the interviews was to determine the real picture of their cooperative activities and to find out how they achieved emergency restoration.

Four municipalities in Kumamoto prefecture and relevant groups of construction contractors were interviewed. Minamiaso-village is located inside the great caldera of Mt Aso and on-ground access from Kumamoto-city was destroyed and isolated for a while after the main shock. Nishihara-village is located on the Kumamoto-city side of Aso somma. The settlements scattered in 30 places in the village had a spirit of self-sufficiency and their community-based mutual aid for emergency was practical and effective. Mashiki-town is in the middle position of the hill and flat urban areas, suffered shakings of JMA seismic intensity 7 twice by the foreshock and the main shock. Town office buildings and many residential houses were severely damaged, and launching emergency recovery met difficulty. Kashima-town is partially urbanized flat areas and one of the good performances of cooperation between municipality staff and local construction contractors in restoration management was demonstrated.

Although the investigation is ongoing, the following were noted as important: 1) Big differences among the disaster response performance of the municipalities, 2) Practical preparation and drills in preparation for a big earthquake, 3) Efficient personnel allocation separating emergency restoration work from refugee support work, 4) Building good relationships between municipalities and local construction contractors, 5) Preparedness for receiving support from outside and explanation to local construction contractors about support received, 6) Clear division of support operations based on disaster agreement from works based on maintenance contracts, 7) Improvement of disaster agreement by adding clauses regarding automatic enforcement, compensation for cost and for injuries resulting from restoration work, 8) Utilization of voluntary disaster prevention activities in small settlements, and 9) Development of user-oriented disaster management IT system.