

A STUDY ON TEMPORARY HOUSING SUPPORT AFTER DISASTER REFLECTING VICTIM'S DEMAND

— Development of an Allocation Planning Method of Temporary Housing —

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[SYNOPSIS]

This dissertation aims to develop a planning support tool for local governments to devise allocation plan of temporary houses immediately after a large-scale natural disaster, through applying an optimum resource allocation model.

The allocation problems naturally lie in emergency temporary housing planning after disasters due to the limitation of possible supply of temporary houses, and the diversity of housing demand of victims resulted from different household type at the different income level. In case of the Hanshin-Awaji Earthquake, however, the inappropriate allocation policy that the first priority should be given to the elderly and the disabled caused eventually lonely deaths of them. In the Niigata-ken Chuetsu Earthquake, based on the lessons learnt, allocation policy of "subscription/placement by district" was applied and successfully implemented. This policy, however, may not be applicable to the anticipated serious earthquake of the capital city area, because the estimated demand for temporary houses may far exceed the possible supply capacity, and there may remain remarkable inequity between districts which can move in to temporary houses, while others cannot. Apart from the point of conserving such community mutual-aid function, the victim's needs for the temporary houses should also be considered. There must be households that prefer locations near train stations, while other households prefer more floor space rather than accessibility. So far, such victim's needs for temporary houses have been totally neglected, simply because the large-scale and complicated resource allocation model is required to solve this problem and the capacity of the affected local governments is far less to develop the model, though they have understood that it is desirable to achieve several social trends and residents' needs in allocation planning.

In order to solve the problems mentioned above, the paper, first, tried to develop a model which identifies the numbers of applicants to temporary houses among victims that have lost houses by an earthquake. Second, a model, which measures the different needs of victims toward temporary houses, was constructed, resulted in classification of the needs. Third, the paper developed a mathematical model for allocation planning with multiple objectives by applying the results of the classified needs to several social trends.