

Catastrophic Compound Disasters and Their Disaster Reduction Strategy

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【Outline of survey】

In Japan we are apprehensive about the possibility of such large-scale disasters in the near future in our densely populated metropolitan areas. These include the prospect of the great Tokai/To-nankai /Nankai earthquakes. The worst scenario will depend on the disaster damage characteristics such as area-widening, compound and long-term events. The purpose of the study is to find damage scenarios and their disaster reduction strategy. First of all, the understanding is very important to realize time and space changes of hazards such as combinations with time-lag occurrence of some earthquakes, and successive occurrence of earthquake and flooding. Secondly, the development of construction method and proposal of disaster reduction countermeasures are vital in response to occurrence of their sequential events of disasters. Therefore, after understanding of hazards with area-dependent characteristics and time-lag occurrence, we estimate the effect of occurrence time on damage in every area with analysis of the regional disaster reduction planning. Next, in order to minimize the damage, the regional disaster reduction planning is changed to respond on such a changes of occurrence time and time-difference. With these information, decision making among stakeholders and preparedness of pre-countermeasures, the method of establishment of disaster reduction strategy will be developed. We will get the effective disaster countermeasure as an example of implementation science.

【Expected results】

Even if the great Tokai/To-nankai /Nankai earthquakes and the Metropolitan earthquakes do not occur as following not only to the occurrence scenarios described on regional disaster reduction planning but also the outline of their countermeasure policy and grow to the compound disasters, it is possible to propose the countermeasures which describe how to reduce the damage. Through this treatment, we can understand the shortcomings of the usual countermeasures. This process can create the disaster reduction strategy with the action planning and make the contents of self-aid, mutual aid and public aid. Moreover, it is possible to visualize the disaster reduction story, if we continue the effort to reduce damage. The proposed achievement will be expected to be major role of decision process of construction of disaster countermeasures.

【References by the principal investigator】

- How to Survive from The Super-Urban Disasters, Shincyo-sya, 2006.

【Term of project】 FY2007—2011

【Budget allocation】 18,000,000 yen

(2007 direct cost)

【Homepage address】

<http://www.drs.dpri.kyoto-u.ac.jp>