A syudy on shadow plan to utilize all public facilities as evacuation facilities

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[abstract]

The need for temporal evacuation facilities after large-scale disasters that frequently occur in recent years has increased dramatically. In this study, planning methodology for "architectural shadow plan" can be applied to all public facilities where as evacuation space after large-scale disasters. Thus, the "architectural shadow plan", which enables more concrete, practical and smooth establishment and operation as evacuation space, is considered to be greatly useful for future regional disaster prevention plans.

Firstly, evacuation shelter operation manual published by 17 out of 20 cities designated by the government were analyzed. Although 15 cities have required functions and 9 cities have examples of zoning and plans, there was no specific functional relationships for each building types. While the basic concept and management method are described, it pointed out that a lack of concreteness, practicality, individuality, and a spatial perspective such as functional relationships and moving lines.

Secondary, typology of functional arrangement and spatial configuration is investigated 41 examples including 2016 Kumamoto earthquake. Sleeping space is the central functions of shelters are classified into "centralized type", "large space inclusion type", "large space one room type", "distributed type", "usual use type", "peripheral use type" and "composite type". In addition, the space configuration focusing on management and backyards is classified to "applicable type", "aggregate type", "stepwise type", "essentially function-equipped type", "functionally separated by function linear type", and the cross-sectional configuration is classified to "adaptive type", "composite type", "blow open type", "upstairs non-use type", "separation type".

As an result, method of formulating the "architectural shadow plan" is set to "Functional Triage of Priorities 1 to 3" which is an index of the function to be preferentially provided. Furthermore, phases 1 to 5 of the existing usage check, volume and unit study, function triage, function relationship study, detail, are proposed.