

The Land Use Planning for the Establishment of Multifunctional Emergency Buildings and Regulated Agricultural Areas to Confront the Unexpected Disasters in Christchurch

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SUMMARY

Disasters can happen anywhere and anytime. Those are either predictable or unpredictable. Some places on earth are hazardous and too dangerous to be a habitation. For some reason, people still need to live in any region even though it is not a proper place to live. Some disasters happen so spontaneously and cannot be stemmed. Instead of trying to stem heavy and spontaneous disasters, a good emergency spatial plan of land uses can be designed considering disasters happening unpredictably. There are several ideas of planning concerned with disasters. The first idea is establishment of the multifunctional emergency buildings in a few particular regions in Christchurch, New Zealand. The emergency buildings can be functioned to support urgent things such as food supplies container, clean water resource, emergency hospital, and evacuation shelter. These buildings should be placed evenly throughout Christchurch in both urban and rural area. In case another unexpected disaster comes in the future, then eventually destroys some areas severely, there may be some emergency buildings remaining to help people survive disaster. These buildings also can support the post-disaster recovery. They should be sturdily established in the lowest risk of disaster area according to the past disasters spatial analysis. Secondly, considering the considerable agricultural industry in Christchurch, the agricultural sectors need to be deployed evenly as well. The plan of agricultural land use should be strongly associated with disaster problems. In order to sustain the life and economy when disaster happens, the calculation of which products are indispensable in a particular region, for instance livestock and dairy products, must be accurate. Therefore, the life and economy can be crucially saved. The both spatial plans (Multifunctional Emergency Building and Agricultural Land Use) need to be regularly connected by fine lanes to embody easy access between each other. In the lanes planning, evacuation routes connected to densely populated area need to be considered as well as regular routes. All these spatial objects need to be well-mapped as one disaster-themed map. The map must be completely informative and obviously communicative so people can use it easily in case of emergency. With GIS technology,

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the cartography for visualizing the information about this disaster-themed map will be done efficiently. The materialization of this planning will cause a spatial stability. Due to the spatial stability, Christchurch will be certainly more prepared to confront another unexpected disaster in the future.

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