A Method for Exploring Land Use Policy Considering Future Depopulation and Urban Vulnerability to Natural Disaster

Kazuki Karashima and Akira Ohgai

Abstract

In Japan, the land use policy for dealing with long standing depopulation and high disaster risk such as earthquakes and floods is required. However, local governments do not regard that long-term depopulation as a viable opportunity to establish land use policy that promotes reasonable land use by aggregating urban land use to areas with low risk.

This paper aims to the development of a tool for the exploration of land use policy that realizes an intensive urban structure by considering future depopulation and urban vulnerability to natural disasters. The tool serves as a GIS-based database of information about disaster risk for floods and earthquakes, future populations, previous and existing urban land use conditions, urban structures. The following results were obtained from a case study. By using this tool, experts such as local government and consultant staff (users) can distinguish areas with high disaster risk and the difficulty sustaining the local community and providing public services due to the progression of depopulation and aging. For this, it has the possibility that discussion for exploring intensive urban structure including withdrawal is promoted.

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