

Land use change after tsunami and its problems in Kii peninsula

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Disaster prevention against tsunami is paid attention socially. In Japan, many cities are located in the coast and have a possibilities of damage by tsunami. This paper presents the results of quantitative analyzing land use changes in region have few researches and clarifying its regional characteristics and problem.

Three study areas, Shirahama area, Kushimoto area, Nachiwan surrounding area, were damaged by tsunami in 1944 and 1946. After the disaster, these regions were restored disorderly.

By analyzing Geographic Information System (GIS) data with QGIS, Interview, and field survey, land use changes in study areas were clarified.

Housing/Building increased greatly by converting Wasteland/Farmland and Forest. Especially, from 1947 to 1965, converting flooded vacant lot by tsunami into Housing/Building was prominent. Increasing of Housing/Building, Wasteland/Farmland and port facilities by reclamation were seen. Also, building lot increased in tsunami inundated areas and these areas for itself increased by reclamation in all study areas. Large buildings are increased in the coast with the passing of the years.

As a result of analysis, expanding building lot, building port facilities and so on were clarified as regional characteristics. These are geomorphological limitation, tourism development, increasing demand of building lot and economic structure as its factors. 3 problems, crowded building lot in the coast, increasing building lot and port facilities by reclamation, large buildings in the coast, were also clarified. These problems may disturb refuge from tsunami. A long-term plan for safe land use is necessary to solve problems.

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