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Estimation of population density based on topography

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To calculate population density, usually total area on administrative units is used. But in perspective of "Livability", we may feel the narrowness in the mountains even if low population density region.

So, we sometimes use "Habitable area" that subtracted forest and lake area from the administrative area, but it doesn't necessarily match reality because this value contains habitable area by reclamation.

In this study, focused on the terrain inclination, we extract habitable area from relationship slope and building location, and estimate "Buildable area" from this value minus lake area.

We will compare population density on this value with generally density on administrative units, and verify that the value bases on actual situation.

Keywords: population density, topography, Habitable area, Buildable area, Livability