

Spatial Regression Analysis of Factors Affecting the Spatial Accessibility of the Public Libraries in Busan

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How to See the Regional Disparity in Libraries?

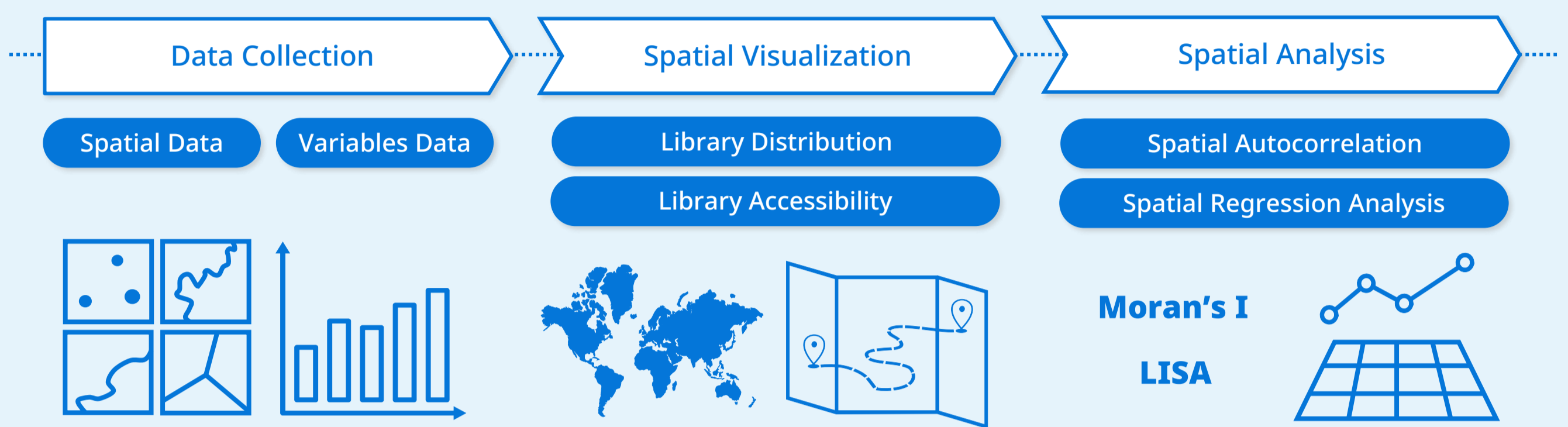
Public library accessibility directly affects library usage, and the disproportionate distribution of accessibility is one of the decisive factors limiting the equitable provision of library services. According to the South Korea's "Library Act", Libraries shall take all the necessary measures so that all nationals shall be provided with equitable service of knowledge and information irrespective of their physical, regional, economic and social conditions and it means that libraries should be located through consideration of spatial equity. Over the past decade, the number of public libraries has increased rapidly in S. Korea. Some of them are located close to user communities, but some others are not. Thus we need to find way for releasing disparities of the spatial accessibility of libraries. This poster will show the current state of spatial accessibility and the task to improve accessibility of public libraries in Busan, S. Korea.

How libraries in Busan are distributed?

Is there a regional gap in library accessibility?

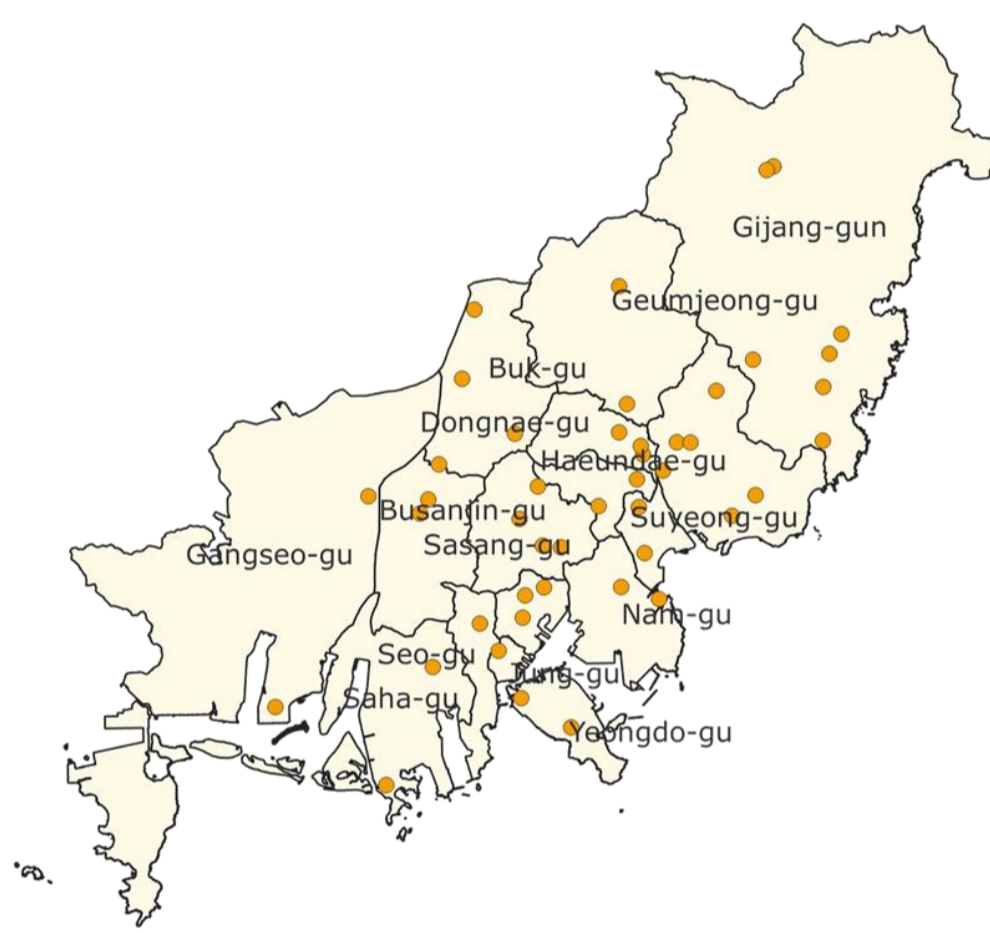
What factors affect library accessibility?

Analysis Procedure



Geographic Distribution of Public Libraries in Busan

District 16
Area 769.89km²
Population 3,438,710
Number of libraries 45
Number of collection per library 140,840
Number of service population per library 75,377

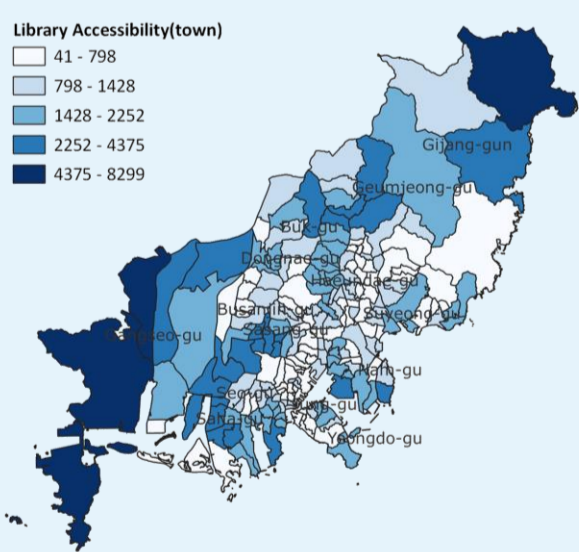


Accessibility Measurement

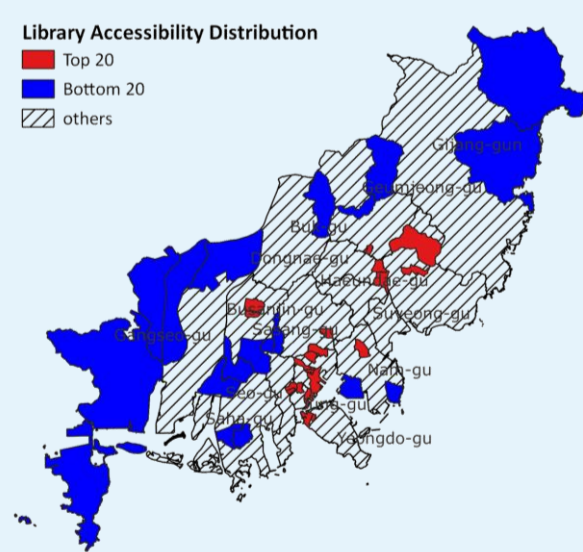
$$A_i = \frac{\sum(p_{ij} \times d_{min})}{P_i}$$

- A_i Accessibility of town i
- P_i A settled population of town i
- P_{ij} A settled population of output area j in town i
- d_{min} The shortest distance from the center of output area j to the library

Public Library Accessibility

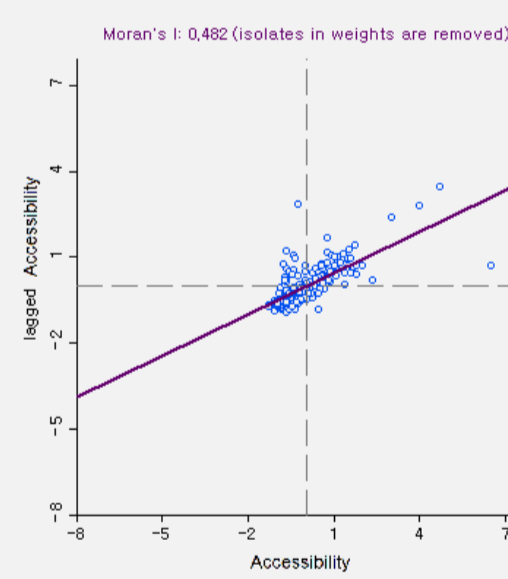


Accessibility of Public Libraries in Busan

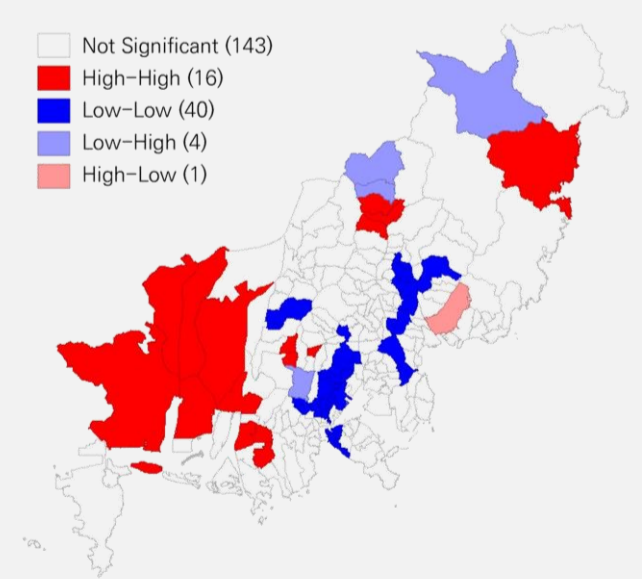


Spatial Distribution of Accessibility to Public Libraries in Busan

Spatial Autocorrelation Test



Moran Scatter Plot



LISA clustering pattern

Results and Discussion

