

# Assessment of Spatial Distribution of Public Libraries in Urmia Using Fuzzy Algorithms and GIS with a particular Emphasis on Social Justice

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## Abstract

**Purpose:** The purpose of this study is to investigate the level of inequality and social inequalities gap in Urmia City considering the spatial distribution of public libraries and the urban places which have those services.

**Methodology:** This is an analytical and descriptive study. The data gathered using a combination of documentation and field study. To evaluate the spatial justice in this study these variables were studied: distance from existing libraries, distance from main streets, distance from troublesome industries, population density, proximity to living places, proximity to green spaces, distance from commercial centers, proximity to educational centers, distance from health centers, usages adaptability, slope and distance from the fault line. , the evaluation and analysis of the data is done using Fuzzy method from 0 to 225 membership degrees.

**Findings:** The findings show that the number and spatial distribution of existing libraries in Urmia city is not sufficient for the demands and accessibility to the existing services is not proper. Therefore lack of 6900 square meters space in libraries can be replaced with establishing four new libraries, which is proper in terms of population indexes, accessibility and social justice and multiple spatial distributions. This would help improving the level of education, reading rate, living quality. As a result, the social justice index can be enhanced among Urmia people accordingly.

**Originality/Value:** This study shows relationship between development and social justice in public services distribution. Public libraries play a crucial role in enhancing public education and public knowledge. The proper distribution of the libraries can have an important impact on social justice.

**Key Words:** Land use, Services, Social justice, Multi Criteria Analysis, Urmia city.

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