Analysing Indicators of Housing in Urban Areas Using a Similar Model to the Fuzzy Ideal Option and Lexicograph Sequential Technique (Case study: Townships of Ardebil Province)

A. Zangiabadi, J. Alizadeh
Received: April 19, 2011/ Accepted: March 10, 2012, 21-24 P

Extended Abstract

1- Introduction

Human settlement mechanism has a fundamental role in the process of historical development of civilization. In this process, cities as the top level of accommodation have been the focus of this role. Cities are author, expander, and engine of development and they act as facilitator of expansion of development and innovation on hinterlands. Cities, particularly small towns, play carrying role of the economic, physical, social and cultural between regional cities and rural areas.

Experience of different countries to look at the issue of housing indicators shows the great importance of the subject. In the meanwhile, the study of housing indicators in cities is important because expedite urbanization is accelerating the marginalization and it causes formation of unsafe settlements. Spread out of slum neighborhoods, causing unsightly and undesirable spaces, that the main problem of areas of the city are bad housing and poor health. The increase in poverty, poor access to decent housing and urban services, the emergence of slums and illegal settlements, marginalization and environmental destruction and ... has been ravages associated with urbanization. The adverse consequences of low standards of living in urban areas can be in various fields of social (Including increased mass delinquency), Cultural (including low levels of educational facilities) and physical (including the visual abnormalities).

Due to the mentioned fact that on a hand and on the other hand the lack of research using new level modeling and development spatial analysis in Iran in general and Ardabil Province, in particular and also there are the deficiencies in studies communication

Author(s)

A. Zangiabadi (✉)
Associate Professor of Geography and Urban Planning, University of Isfahan, Isfahan, Iran
email: dr_adelz@yahoo.com
J. Alizadeh
M.A. of Geography and Urban Planning, University of Isfahan, Isfahan, Iran

with a desire range of urban residential areas, such studies look essential and care should be doubled.

2- Methodology

Present Study is "analytical-descriptive" in which its the output can be applicated. Data required from library procedure and using statistical sources related to the 1385 Census was collected in Ardebil Province. In order to observe the accuracy of the calculation tries to be all the processing steps in the SPSS software. In order to consider the erosion of time, compare to research time, the four stages of Topsis fuzzy techniques were used to rank cities. While the calculation of weights for the index in the entire process, AHP method is applied and therefore the weighting of the Expert Choice software was used. The final composition of the results performed using the sequential Lexicography method. Finally, using cluster analysis and the levels detected with the aid of maps and software ARC \ GIS is displayed. The main indicators used in the study are includes the area of housing with six subsets, including up to 75 square meter, between 75 and 100 square meter, 101 to 150 square meter, 151 to 200 square meter, 201 to 300 square meter, 301 square meter and more). Number of living rooms in each building (with a set of rooms, single rooms, double rooms, three rooms, four bedrooms, five bedrooms, six bedrooms and more) and how the building occupied accommodation (with five variables and the Lords of civilian areas, civilian Lords, rent, live as a free service) .

3- Discussion

In this study types of used materials are the most important indicators

examined; so that the calculated coefficient for this indicator is 0.565. The best coefficient was awarded to the type of reinforced concrete with fuzzy coefficients of (0.56, 0.58, 0.6) and a metallic phase factor with fuzzy coefficient of (0.32, 0.34, 0.36) and other materials with (0.06, o.08, 0.1) ratio was fixed in the next rank. The Urban areas, townships of Nir, Namin and Ardebil respectively ranked first, second and third. In this regard the class of Nir Township in comparison to the other options is very impressive. Kosar has the worst possible conditions of a city. Finally, due to the calculation part of fuzzy Topsis techniques, 0.03, is gotten for material type of conflict rate calculated for the variables weight.

For impressing the indicator of number of rooms in the spatial analysis of residential development indicators in urban areas, factor of 0.23 of computing binary indicator to the Expert Choice software was applied in the calculations. Germi Township with the best possible conditions in the province and the Kosar Township and Khalkhal are located respectively in the next. And Pars Abad has the worst possible condition. Finally, the conflict rate which is calculated to determine the weight room in the number of subsets 0.03 was obtained. How to capture the building, with the constant of (0.107) is the third order of worth. The indicator into the Lords by a factor of fuzzy subsets of the real estate (0.506, 0.526, 0.546), property of Lords with a phase factor (0.231, 0.251, 0.271), rent phase with points (0.109, 0.117, 0.137), occupied in the service of the fuzzy score (0.047, 0.067, 0.087) and a free hold property with a value of phase (0.02, 0.04, 0.06) is separated. Accordingly Urban areas, Townships of Namin, Nir, Kosar and

Meshgin are located on the first level. In this category the urban areas, townships of Aredbil, Pars Abad and Germi respectively have the worst conditions. Also the calculated inconsistency rate to determine the rate subsets of how to capture the construction was obtained 0.03.

In order to analyze the impact of built-up building on the spatial analysis of residential development indicators in the urban areas of Ardebil Province, factor of 0.98 was calculated from binary computing of indicators. In this category township of Ardebil Province is in the best possible condition and the urban areas, townships of Bile Savar and Namin are in the next rankings respectively. In this category Kosar has the worst possible condition. Finally, in the calculations, 0.02 was calculated for inconsistency rate of the weights of the indicators of number of rooms.

Finally, in order to achieve the same number of studies, Technique based on the results Lexicography order, was organized.

All the major indicators of the type of materials used, manner of capture, number of rooms in the building of residential and housing built-up, The weights of 0.565 , 0.107, 0.230 , 0 .098 in the Expert Choice software are obtained.

Accordingly, the urban areas, townships of Nir and Namin are living in good condition that are two developed urban areas, townships of Ardebil Province. Urban areas, Townships of Germi, Bile Savar, Ardebil and Khalkhal cover four sides of semi-developed group. Urban areas, Townships of Meshgin, Kosar and Pars Abad are in the deprived group that required to be noticed more to reach the average level of the province.

4- Conclusion

Gap between Urban areas, townships in terms of discussed indicators has been very impressive. This gap, particularly in relation to the type of used materials in the construction is more, so that the maximum gap between the most developed township and the most deprived township with (0.31) gap, is in this connection. This gap in how to capture the building with 0.22 gaps ranks second after the indicator of type of building materials in urban areas of Ardebil Province. In this context the following indicators (0.14) points for the number of rooms and (0.08) points for the built-up area is close to equilibrium.

The highest correlation between indicators of the materials used in the built-up area and the residential intensity (0.633) is established. The worst condition in this field is relevant to number of rooms and Built-up Area indicators with correlation coefficient of (-0.483) is established. This should be said that the township of Pars Abad, Kosar and Meshgin city needs the most attention to bring a balance of Ardebil Province. Urban areas, Townships of Germi, Bile Savar, Ardebil and Khalkhal are located in the second phase of attention.

Key words: Fuzzy Topsis Technique, Analytical Hierarchy Process, Lexicograph Sequential Technique, Ardebil

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