Assessment of developmental levels in Ardabil villages by utilizing multi-criteria decision making methods

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Extended Abstract

Introduction

The development of a comprehensive process of economic, social, cultural and political activities aimed at continuous improvement of the entire population's life and the fair distribution of resources is one of its key pillars. It has now become apparent that the achievement of development depends on the consideration of rural settlements and rural areas as a core part. In this regard, this study tries to reach the developmental levels and also the balanced development at the level of rural districts of Ardabil city by understanding the location and distribution of developmental indicators in this area and utilizing several techniques. Indicator analyzes the desired indicators and, by identifying the effective factors in their development and leveling them, provide strategies for achieving equilibrium in these areas. By determining the extent of each of these villages, officials and Specialists in this field will help to understand the feedback and investment and its impact on decision making.

Methodology

This research is applied in terms of its purpose and in terms of descriptive-analytical method. The statistical population of the study is 10 districts of Ardabil city. In order to rank and rank the rural districts of Ardabil, 76 variables (in 7 indicators) were weighted using the Analytical Hierarchy Process Model (AHP) and Expert Choice software (based on the opinions of 20 experts). Using the three multi-criteria decision-making models (VIKOR, ELECTRON, Numerical Taxonomy), the developmental and ranking locations of each of the districts of Ardabil city have been evaluated. Finally, by using the proximal tooculation test in the software environment SPSS was used to test assumptions.

Results and discussion

Based on the results of the numerical taxonomy test, rural districts of Ardebil city have been located at different levels based on the degree of enjoyment or lack of developmental indicators. The Kalhkuran, Western and Northern Provincial Rural Areas, respectively, have a good status than other cities. At the final levels, the Southern Flygluih and East Arash areas are inferior to other rural districts.

Average Ratings:. In this method, the average of the ratings was calculated using three methods of viquer, electric, numerical taxonomy for the districts of Ardabil city. The results are as follows. According to these results, Kalkhuran, Western, Northern, Eastern Districts , Hir, Sardabeh, Daudak, East Arshab, Balaglou and South Flandaville respectively ranked first to tenth.

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In the present study, using the pathogen correlation coefficient, the association between the population of each village (after conversion to rank) and the average of their obtained rank were investigated (first hypothesis). The correlation coefficient obtained with zero and the significance level of 0.08 in the SPSS software environment indicates that the relationship between the population of each rural district and the average of their rank is insignificant, that is, the increase in the population of each village has an effect on development It does not have the capability. So the first hypothesis is rejected.

In the present study, using the pathogen correlation coefficient, the relationship between the employment rate of each village and the average of their rank were examined (second hypothesis). The obtained taco correlation coefficient with zero and a significant level of zero in the SPSS software environment showed a significant difference between the employment rate of each village and its developmental level. Therefore, the second hypothesis is confirmed.

In the present study, using the pathogen correlation coefficient, the relationship between the center of each rural district's proximity to the center of the city and the average of their obtained rank were investigated (third hypothesis). The obtained correlation coefficient with zero and a significant level of 0.056 in the software environment of SPSS indicates that there is insignificance between the proximity of the center of each rural municipality to the city center and the average rank obtained, which is, with a slight negligence It can be said that this factor is almost effective. Therefore, the third hypothesis is rejected.

Distribution coefficient of development indicators Using standard deviation calculations in SPSS software environment, the dispersion rate of 76 development indicators of rural districts of Ardabil city has been calculated. Based on the results, the most inequality in spatial distribution is related to the indices of the Center for Maternity Facilities, Veterinary Technician, Girls 'and Girls' Nightlife High School, Diesel Engine, New Energy, Laboratory and Radiology. Also, the least inequality is related to indicators of the electricity grid, mosque, village council, piped water, primary school, grocery and home of health. It should be explained that the three indicators of the school of theology, the rural park and the location of the fuel There were no districts in the city of Ardabil.

Conclusion

The present study aimed at measuring the developmental levels of rural districts of Ardabil city. The results of the research indicate that the developmental indices in rural districts of the city are inequalities, so that 6 rural districts are in developmental status, 2 villages of Nima and 4 rural areas of Muharram, and the majority of rural districts in the development process in educational dimensions, Health, infrastructural, cultural and ... were in a relatively underdeveloped position. The lack of proper access of these villages to the proper facilities and dependence of villagers on agricultural activities has had the greatest impact on the lack of proper development of these villages. On the other hand, the results of the assumptions test can be found that the proximity of the center of each village to the city center and the population size did not have much effect on rural development, but employment has had a positive effect; the inappropriate and mountainous communication routes have caused this Has less impact on development, causing divergence and heterogeneity between regions in the spatial structure.

Key words: development, rural development, multi-criteria decision making methods, Ardabil Township