Assessment of Distributing Condition and Clustering of Regional Development Indicators of Kermanshah Province

S. Malaki[1], H. Alizadeh[2] and S. Daman Bagh[3]

[1] Associate Professor of Geography and Urban Planning, Chamran University of Ahwaz,
[2] Ph.D student of Geography and Urban Planning, Chamran University of Ahwaz,
[3] M.Sc student of Geography and Urban Planning, Chamran University of Ahwaz,

Abstract

Development is indispensable concept to describe the evolution of the humans to achieve sustainable growth and excellence. This concept is biased towards sustainability balance of national resources development at local and regional levels. In the meantime considering the comprehensive planning approach and focus on the areas, the greatest gaps in resource allocation are shown in different areas that necessitates a stable balance and fairness in resource allocation approach. The research is conducted by "descriptive - analysis" methodology to aim measure of regional development indicators at 14 cities of Kermanshah province. In this study, on the basis of the data from the province Statistics Letters of the year 1391and Statistics letters of Department of Planning and development in the Kermanshah province 35 sub-indexes of development categorized in seven key indicators in 14 cities of Kermanshah have been identified and analyzed. In order to find the distribution pattern of research indicators among the cities of province T test, to rank the cities in terms of development indicators the Shannon entropy models and Vikor model and to grouping the development in the province cluster analysis were used. The results show that, firstly, based on T-test results, health indicators with -6.79 of baseline mean difference, economic indicators with -4.50 baseline mean difference, communication indicators with -1.21of baseline mean difference and urban facilities indicator with -.141 of baseline mean difference are in unequal distribution in region. Secondly, based on the results of Vikor Model, the city of Kermanshah has a huge difference from other cities of province. Finally, the results of cluster analysis indicate that there are four developed clusters for the city of Kermanshah, developing cluster for Harsin, West Islamabad, Kanghavar and Songhor cities, breaved closter for Ghilangharb, Paveh, Sarpolzahab and Sahneh cities and very bereaved cluster for Javanrood, Ravansar, Dalahoo, Ghasrshirin and Salasbabajani cities.

*Keywords***:** Sustainable development, Vikor model, Cluster analyzing, Kermanshah province

Introduction

Conceptual development challenged and stimulated to change society once the Industrial Revolution began in England. Findings and physical structural changes to achieve economic growth were the main incentives for the development in the eighteenth century. The actual changes in the notion of with the aim of understanding the influences and attitudes towards it have been mainly recognized in the framework of sustainable development. Such approaches have displayed mainly during the last two centuries especially the twentieth century, the true attitude to the development. Due to the importance the topic, the present study attempts to investigate resource distribution and categorize the regional development in Kermanshah Province.

Methodology

This study is applied research and was conducted by "descriptive - analysis" method. In this study, using data contained in the general statistical letter Province in 1391, condition of province development in 7 main indicators and 35 sub indicators of development have been analyzed. In this research firstly, using by T test, the distribution of regional development

indicators in Kermanshah province have been analyzed. Then using Vikor model, Shannon coefficient and variation coefficient were performed to evaluate and rank the cities of province in order to gauge development indicators. Finally using cluster analyses, clustering of regional development was done.

Discussion

According to three aims of this research, first, to analyze of distribution of 35 sub indicators in 14 cities in Kermanshah province T test was employed. Data analysis in this stage show that hygienic and economic indicators have a different average disparities in the distribution in the regional level in Kermanshah province. In the second stage, to rank cities of the province with regard to the development indicators vikor model was used. This stage of study showed that the city of Kermanshah is far from the other cities of Kermanshah Province in terms of development indicators. And in the final stage of data analysis, cluster analysis was used to cluster the developmental levels of the Province. Data analysis showed that at this stage there are four levels of development in the province. Level one, i.e., developed, includes the city of Kermanshah , In the second level or developing level, there are cities like the Songor, West Islamabad, Harsin, Gilangharb and Kangavar. The third Deprived level includes the Paveh city, Sarpolezahab, Sahneh and Javanrood city and very poor cluster includes the city of Dalahoo, Ravansar, Qasr-e Shirin and Salas babajani.

Result

The present study investigated 35 sub indicators in 7 indices of economic, social, cultural, medical, environmental and urban equipment to gauge the rate of development indicators at regional level and categorize and assess the level of development in Kermanshah Province. To evaluate the distribution of development indicators at the regional level in Kermanshah province, T-test showed that the therapeutic index of economic, communications and municipal equipment with a negative mean difference. Unequal and unfair distribution status in the district in the province is found. Ranking of the city and province in terms of resources and development indicators it was found that Kermanshah city have 63% of urbanized areas in the province, all resources in the province as a hub for regional development is captured. This results from the more pronounced Vikor model. The final stage of data analysis was the clustering development in the Kermanshah Province. To do this, the cluster analysis was used. the results of cluster analysis indicate that there are four developed clusters for the city of Kermanshah, developing cluster for Harsin, West Islamabad, Kanghavar and Songhor cities, breaved closter for Ghilangharb, Paveh, Sarpolzahab and Sahneh cities and very bereaved cluster for Javanrood, Ravansar, Dalahoo, Ghasrshirin and Salasbabajani cities.