The evaluation and ranking of rural development level Using multiple attributes decision making methods  
(Case study: rural districts in Sari County)  
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1. INTRODUCTION

In general sense, development means improving material and spiritual levels of human society and creating the proper conditions of a healthy life for all people of a society. According to this, development includes cultural, political, social and economic aspects which incorporates qualitative and quantitative changes and yet it can be considered a relative concept from both internal and external points of view. Recognition and understanding of existing differences among rural areas regarding their enjoyment of various services and facilities is an inevitable necessity in development planning at regional and macro levels. This recognition can enable decision makers and planners to discover and recognize the deprivation degree of rural districts, the distance of current conditions from determined goals, and to understand capabilities of each district, reduce regional disparities and also move towards balanced development planning of rural areas. Accordingly, evaluation and ranking of the development degree of rural areas of Sari by MADM methods are the aims of this study. The rural districts of Sari, the capital of Mazandaran province, are taken as the statistical society of this research. Sari is located in northern Iran and situated in three zones of plain, forest and mountain. It consists of fifteen rural districts. Based on Iran's administrative divisions, village is the smallest unit of administrative divisions after district. Library research and documentary method were used in data collection, and examination of books and references related to the object of study. We used data of 2006 national census of population and housing of Sari.

2. THEORETICAL FRAMEWORK

There are various ways to determine development degree of districts, such as Maurice Method, factorial analysis, difference coefficient and numerical taxonomy method. Being familiar with different decision making methods and employing them in making practical and critical decisions could be very instrumental. Considering the nature, conditions and effective criteria in decision making, its techniques are classified in general common

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ways. Classification based on the number of evaluated criteria and standards is one of them, the most important of which are multi-criteria decision making techniques. As the algorithm of these methods is based on the logic of mathematics and has great compatibility with the man’s thought manner and mental processes, they are highly efficient and using them many problems of decision making could be removed. The multi-criteria models of decision making are techniques which can be used where we are supposed to choose one from a range of options. In a general sense, certain preferential decisions such as evaluation, prioritization or selection of available options which sometimes should be done against some opposite criteria can be considered as multi-criteria decision making. The ability to consider qualitative and numerical variants and conditions of a problem simultaneously is another characteristic of multi-criteria decision making techniques. In MADM a certain number of options must be studied and the process of ranking, choosing and prioritizing should be done about them. Number of desired options might be infinite or finite. Each MADM problem has several criteria and the decision makers must completely specify them for each problem. The number of criterion depends on the nature and type of the problem. In all MADM problems, we need to have access to information which shows the relative significance of each criterion. This information usually has nominal or ordinal scale. Weights related to criteria can be allocated by the decision maker directly or through existing scientific methods. The data analysis method was arranged in a way that at first, nineteen principle criteria including population, cultural-educational, hygienic-curative, installation-infrastructural, official-political, communicative-informational and service-commercial areas were selected. Then in order to evaluate and classify development degree of the villages, three methods of VIKOR, TOPSIS and SAW were chosen from among different methods of multi-criteria decision making techniques.

3. DISCUSSION & CONCLUSION

The study results show the unbalanced development of rural areas of Sari. In a way that villages located in plains have higher degree of development in comparison to those located in mountainous and forested areas which are placed in the lower ranks of order of hierarchy. Another fact which can be derived is that most of the more developed villages are located in the neighborhood of Sari (the center of Sari which is situated in central region and in plain and semi forested areas). This means that distribution of facilities is concentrated around the central areas of Sari which is incompatible with the principle of moderate and balanced development. Therefore, the future planning should be arranged and prepared in a more balanced and purposeful manner to eliminate deprivation and ensure equal development of rural districts of Sari.

Keywords: MADM, Rural Development, Regional Planning, VIKOR, TOPSIS.
References (in Persian)


References (in English)