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RANKING THE COUNTIES OF NORTH KHORASAN PROVINCE TO ASSESS THE TOURISM POTENTIALS BY USING THE STANDARDIZED MODELS AND TOPSIS

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ABSTRACT
Balanced distribution of infrastructures and reduction of inequalities in the use of resources, facilities are considered as one of the most basic criteria of sustainable development at regions' level. In land use planning to guide tourists due to the existing infrastructure, welfare of tourists and reducing their adverse effects on the environment, areas ranking and creating sustainable tourism are essential. In this respect, several techniques exist to measure the amount of development of areas such as the standardized model and the Topsis model. This study aims to rank counties of North Khorasan province to assess its tourist potentials in order to prevent the environmental degradation. This study has an applied purpose which is conducted in descriptive-analytical form. The library and field methods are used for collecting data. In this study, the development level assessment is done based on the 8 variables .The statistic sample is the counties of North Khorasan Province. The research findings analysis is performed by using Excle software and finally the map of developed and undeveloped levels of cities have been mapped by GIS software. Results of this study showed that, according to the TOPSIS model, Mane and Samalghan cities has gained the first place and at the end of rating spectrum, Faruj city has achieved seventh place. Also, according to the standardized model Bojnoord county (provincial capital) with point (0.294) is the most developed county and Faruj with point (-0.475) is the most undeveloped county of North Khorasan province. So, this issue manifolds the necessity of paying attention to the promotion of tourism infrastructures in more deprived areas.

Keywords: Sustainable Tourism, Level of Development, Standardized Model, Topsis Model

INTRODUCTION
In recent decades, the development of the tourism industry and its adoption as one of the major economic activities have been considered more than ever by developed and developing countries (Qalibaf *et al.,* 2011) so that, the rapid growth of tourism has had increasing pressure on the environment. This inequality development of tourism would undermine the principles of sustainable development in various communities and has exposed the environment to risks (Borges *et al.,* 2011). In other words, the entry of tourists to a region regardless of capacity and existing capabilities will lead to the problems such as traffic, variation of social identity, inappropriate social behavior and ultimately harm to the environment (Mosa *et al.,* 2013). Many countries consider this dynamic industry as the main source of income, employment and infrastructure development (Heydari *et al.,* 2013). Thus, the coordination should be created between the number of tourists and tourism capacity especially infrastructures. Ranking of the tourism areas is a criterion to determine the centrality and the required infrastructure and to adjust the inequality between regions. One way to rank the tourism areas is to consider the facilities, urban services such as hotels, residences, network access, transportation and supplying tourism services in all areas (Eskandari *et al.,* 2013). In this context, it is necessary to pay attention to the facilities, urban capacities and services required by tourists. Therefore, the implementation of sustainable tourism development is the most effective way to reduce pollution, to remediate environmental degradation and to deplete the natural resources for future development and benefiting the current community. The present article tries to rank

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the counties of North Khorasan province to assess the most important tourism potentials of this province to prevent the further environmental degradation.
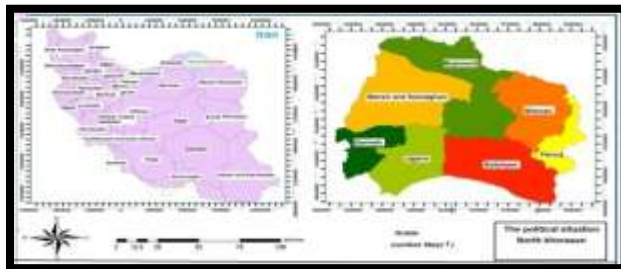
MATERIALS AND METHODS
Research Methodology
The descriptive-analytical method is used in this study with an emphasis on a systematic view. The studied geographical scope is the counties of North Khorasan province. Data is collected by library, documents and field methods. Given the importance of variables as well as the restricted access to them, 8 variables were collected in the form of tourism infrastructure and ranking of the counties is determined by utilizing the Topsis and standardized model, then they obtained results have been analyzed. It is worth mentioning that nowadays, the Topsis technique as a family member of Multi Criteria Decision Making (MCDM) technique has a special place in the ranking in various sciences that the most important reason can refer to its clear mathematical logic and lack of implementation problems. Finally, the Geographic Information System (GIS) is used for drawing and mapping.

Background of Study
The conducted studies in the field of tourism can be categorized in three parts of introducing the spectacular places, evaluating the tourism and its impacts and specialized studies in the subsidiary fields of tourism. SadreMousavi and his colleagues (2007) have assessed the status of tourism in East Azerbaijan (Kandovan, Babak Castle and Sharafkhane) from the perspective of tourists and concluded that the studied places in most areas do not have required facilities to satisfy the tourism. Mohammad BagherQalibaf and colleagues (2011) in a study have evaluated the urban tourism attractions based on the multivariate decision making models in Sanandaj city. The results of the study showed that, the cultural and historical attractions in Sanandaj have a higher priority for the development and planning than other attractions. TaghiHeydari (2013) in a study has assessed the tourism potentials of Zanjan city to present strategies to reinforce the tourist attraction. The results showed that the defensive strategy type has a relative priority compared to other four strategies. Therefore, appropriate strategies and actions should be taken to optimize the status quo and to organize the tourism industry in this city. FatemehEskandari and her colleagues (2013) in a paper have investigated the tourism potentials of Semnan Province by using TOPSIS Model. The results of this study showed Semnan, Damghan, and Shahrood counties are placed in grades 1 to 3 and other counties in grades 4 to 5. Mosawand and his colleagues (2013) in an article have evaluated the role of urban infrastructure to determine tourism hub by using TOPSIS and AHP models in Mazandaran province. The results showed that according to the studied criteria, RamsarCountyhas the highest point as the tourist hub.

Background of the Study
North Khorasan province with an area of over 28 square kilometers is located in the North East of Iran and is located between the orbit of 36 degrees and 37 minutes to 38 degrees and 17 minutes of northern latitude from the equator and 55 degrees and 53 minutes to 58 degrees and 20 minutes of eastern longitude from the prime meridian. North Khorasan province from the north and northeast with length of 281 kilometers has common border with the Republic of Turkmenistan and from the East and the South with Khorasan Razavi province and from the southwest with Semnan province and from the West with Golestan province has common border (Governor of North Khorasan, 2013).

Map 1: The political position of Northern Khorasan Province in Iran

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Theoretical Foundations

Development is a concept that has emerged since the early nineteenth century (Cowen and Shenton, 1996). The term sustainable development traditionally means resource conservation and wise use of them. Development of each region depends largely on the amount of investment in different sections including infrastructure, social and economic activities (Mir, 2013). The main route of sustainable development refers to the optimization of prosperity for today's generations (Kirk, 2001). Therefore, sustainable development means a development which is coordinated and aligned with the nature. The protection of environment and ensuring from its sustainability and comprehensive development is the most serious challenge facing the global community (Valaei, 2005). Nowadays, regional balance, contributing to the investment in cultural heritage, improving the environment, contributing to the improvement of wildlife habitat, developing areas with tourism attractions and so on can boost the tourism industry in a region and also lead to the environment protection (Lotfi *et al.,* 2012). In order to study the sustainable tourism, at first, the positive and negative effects of tourism should be analyzed then its sustainable development process should be examined. Tourism takes place in the context of the geographical environment which consists of the natural, cultural and social environment. In fact, the human environment and the natural environment are interwoven and human activities and the natural environment have mutual effect on each other (KamaliMohajer *et al.,* 2012). Tourist development depends on providing adequate conditions in the geographic poles and residential centers (Musaviwand *et al.,* 2013). Unfortunately, the damages to the environment are invisible and its various deadly and destructive impacts on human health and environment appear after a long time, so "tomorrow is late," and actions should be done to prevent the damages to the environment (DabirSiyaghi, 2004). Therefore, it is essential to pay logical and comprehensive attention to the sustainable development of tourism. In this context, the main causes of environmental degradation should be considered for each region and the required strategies should be provided to prevent them. In other words, conservation of tourism resources is considered as the main duty of tourist attraction and enough effort should be done to determine the required rules and regulations for protecting the privacy of roads and tracks and rivers pathway and also, determining the type of land use and building regulations and retaining the natural features of region and preventing any action that damage to the environment with prudent enough.

Models and Variables of the Study

Models are used in different fields of science such as geography, geology, sociology, etc., and in some aspects of urban and rural planning, etc., because the diversity and complexity of a phenomenon can only be realized through the use of models (Asayesh *et al.,* 2003). In recent years, the application of quantitative methods in urban and regional planning is increasingly enhanced (Hussein, 2003). The utilized variables in this study include: Travel Service Office, on-the-way restaurants and catering units, residential units and hotels, tourism zones, craft stores, Islamic holy places, the number of staff employed in the transportation sector and storage, the number of staff involved in the provision of accommodation and food services.

TOPSIS Method

TOPSIS is a quantitative approach in multivariate decision-making that options can be prioritized and selected by measuring various variables (Tasdighi *et al.,* 2011). This method was proposed in 1981 by Huang Vion (Meshkini *et al.,* 2011). The basis of this method refers to the selection of an option that has the minimum distance from the appropriate ideal answer (AlemeTabrizi, 2009), and maximum distance from the inappropriate ideal answer (EskandariyeNodeh *et al.,* 2012).

Standardized Method

Standardized method is used to compare the indices and to obtain a single index from the combined results of indices. This method reveals the difference among the regions, districts, areas and neighborhoods. The use of sustainable development variables in social, economic and environmental dimensions can be an appropriate criterion to determine the position of areas and to solve their problems and failures in order to reach economic prosperity, social- environmental health of residents and to achieve the urban sustainable development (Maleki, 2011).
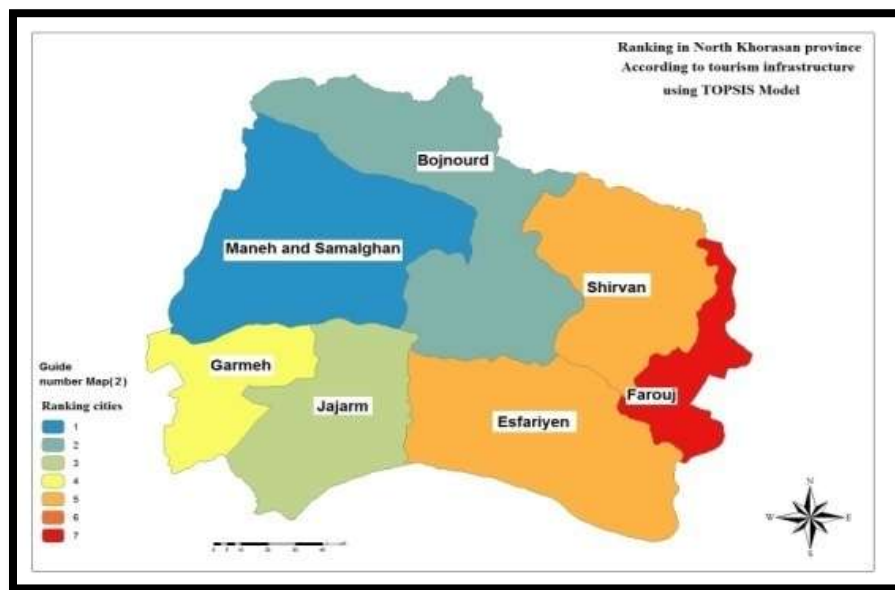
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Research Findings

Models and quantitative methods can only be proposed as reliable points to facilitate the planning process and to contribute to the decision making for planners in initial identification of issues when they are used appropriately (Badri *et al.,* 2006). Given that the development and advancement of every region can come to fruition by identifying capabilities and or its relative merits faster and shorter than the other way. Numerous factors and facilities are needed for investment and development that provide more than half of the investments or development needs by having relative superiority in that area (Sourkh *et al.,* 2011). As can be seen in Table 1, according to the TOPSIS model, the priority index (Ci) has provided ranking of cities in tourism infrastructures sector and Mane and Samalghan counties have acquired the first rank and Bojnoord and Jajarom counties have gained the second and third rank respectively. Shirvan, Asafrainand Farujare respectively at the end of ranking spectrum.

Table 1: Ranking of the counties of North Khorasan province by using standardized technique and TOPSIS model

rank	Standardized amount	rank	Ci	D-	D+	Counties
6	-0.1925	6	0.3731	0.5752	0.9665	Asafrain
1	0.2938	2	0.5077	0.8373	0.8120	Bojnoord
4	0.0421	3	0.4760	0.8730	0.9609	Jajarm
5	-0.0841	5	0.3877	0.5995	0.9467	Shirvan
7	-0.4748	7	0.2886	0.4753	1.1716	Faruj
3	0.1873	4	0.4599	0.8426	0.9894	Karmeh
2	0.2291	1	0.5150	0.8931	0.8410	Mane and Samalghan

Source: Authors' calculations

Map 2: Ranking of the counties of North Khorasan province by using TOPSIS model

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Map 3: Ranking of the counties of North Khorasan province by using standardized model

Also, according to the calculations performed in the standard model Bojnoord is the most developed county and Shirvan, Asafrain and Faruj (like TOPSIS model) are ranked at the bottom of the ranking spectrum that manifold the necessity of paying special attention to improve the tourism infrastructure level in this area.

Conclusion

Sustainable development of tourism is considered as a lead to manage all the resources and infrastructures in a way that the economic, social and environmental needs can be met until a sort of homogeneity to be created between tourist's attraction and the environment protection. Therefore, planning for tourism is not enough solely and without other different sectors. But, for effective and sustainable tourism, integrity should come into action in various economic, social and environmental sectors, which this issue requires centralized planning and management. North Khorasan province has important natural and manmade tourist centers which need to be identified and introduced. By identifying these regions and creating required facilities, on the one hand, these talents can be brought from potential state to the actual state and on the other hand, further environmental degradation can be prevented by creating the necessary measures. Accordingly, this article due to the urban infrastructures and services which are used by tourists in the host society has ranked the counties of North Khorasan province. The main objective of identifying the factors affecting tourist attraction and efficiency of tourism spaces is to reduce the environmental degradation. On the other hand, a model will be presented to reinforce the centers and areas that are of low-interest to attract tourist. Accordingly, investigations reveal that the residential infrastructures such as hotels, motels, residential and catering units, travel agencies, tourism areas and so on have important role in tourism development. According to the assessments conducted in the province level, the tourism infrastructure status was not equal in terms of tourism development and always there is a clear difference in their development amount based on the selected variables .In a way that, according to the TOPSIS model, the most developed counties are Mane and Samalghan with priority of (0.5150) and the most undeveloped counties are Faruj with priority of (0.2886).Also, according to the standardized model Bojnoord County (provincial capital) with points of (.294) is the most developed county and Faruj County with points of (-0.475) is the most undeveloped county of North Khorasan province.

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