



An Assessment of the Environmental Quality of Rural Tourism Destinations (Case Study: Ghalehroodkhan Tourism Area)

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Abstract

Purpose: The purpose of the present study is to investigate the environmental quality of rural tourism destinations in Ghalehroodkhan tourism area in Fooman County.

Design/methodology/approach: This study was a descriptive-analytical one conducted via survey method. The population of the study included the tourists in the study area. As the total number of the population was not known, to determine the sample size, 380 questionnaires were distributed. Heckman test and factor analysis were used for data analysis.

Findings: The results showed that the structural-performance factors, tourist attractions, and visual and environmental attractions were the factors that played an effective role in the environmental quality of rural tourism destinations. Factor analysis was used to assess the environmental quality of the rural tourism destinations of Ghalehroodkhan area. As a result of reduction of 47 variables, five factors were developed including leisure time, attractions, infrastructure, social and environmental factors, with the special values of 18.41, 17.26, 14.67, 11.83 and 9.78 respectively.

Research limitations/implications: The high cost of the research and the time required to fill out the questionnaires, with regard to the extent of the study area, were among the main challenges facing the present study.

Originality/values: This study plays an important part in consideration of the factors that affect the quality of the rural tourism destinations.

Key words: Environmental quality, Fooman County, Ghalehroodkhan tourism area, rural tourism, tourism destinations.

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1. Introduction

1.1. Statement of the problem

Attention to various levels of comprehensive development, namely regional development, is a precondition for the success of national development. Rural tourism is one of the economic sectors that has not received the due attention in rural development. This kind of tourism was introduced as an alternative type of tourism along with other kinds of tourism such as agritourism, green tourism, soft tourism and ecotourism in the 1980's (Roknodin Eftekhari & Ghaderi, 2002: 26). In recent years, rural tourism has increasingly gained attention as a means of eliminating rural poverty (Holland, Diexy, & Burian, 2003; Jome-pour & Ahmadi, 2011:38). Tourism plays an important role in social, political and economic health of modern societies (Telfer, 2009; Worthington & Dollery, 2000). A tourism destination will be nonsense if there are no tourists to visit the area, as tourists do not select areas that do not please them (Kahtani, Xia, & Veenendaal, 2011: 1). Therefore, the quality of the environment in which tourism takes place is what really matters. Discussion about environmental quality has become one of the most important research topics in psychology, tourism ecology and geography.

The quality of the environment in rural areas plays an essential role in development, because many behavioral abnormalities in urban and rural communities together with historical, cultural and economic backgrounds have to do with the quality of their residential and working spaces (Rahnamaie & Shah-hosseini, 2004: 19). The literature on quality of tourism and recreation dates back to early 1960's. Tourism literature has made various attempts at showing how tourists evaluate the quality of services they receive on their tours (Shonk, 2006: 8). Providing quality facilities and services for tourists is an essential part of developing a sustainable tourism product, particularly when it has to do with natural and cultural heritage. In such cases, the high quality of the tourism products give cause for satisfaction of the tourists, and this may lead to a better holiday experience and a longer stay, and on their way back to home, the tourists may speak to others about their experiences and the local cultural heritage (European Commission, 2002). For a

greater impact, the quality entails the consideration of all tourism process from the beginning of the marketing through the provision of goods, food, information, guidance, urban planning, etc. Each of these products can make an important contribution to the overall level of the visitors' satisfaction (Adina and Bratucu, 2010: 101).

The satisfaction of tourists is seen in five aspects related to quality including expected quality, perceived quality, determined quality, demanded quality, and the quality defined by occupational systems); however, there is a gap between each of these aspects. There are some interests and concerns in a tourism destination including the interests and satisfaction of entrepreneurs, managers, employees, guests, residents and the society, which should be consistent and also achieve a quality that satisfies all interests, because this is the only way to create a high level of employment in any tourism destination (Vujic, 2007). The process of improving the quality, in addition to meeting acceptable standards, requires a close working relationship between each person active in a tourism destination and training programs, and taking their needs into account (Adina and Bratucu, 2010: 101). The quality of the human settlements, especially the rural tourism areas heavily depend on the quality of the infrastructure and its proper management. This situation can be effective in the mental image and satisfaction of local residents and tourists. The mental image of the tourism destination is a factor many tourists consider when choosing a destination (Kazemi, Samira Pour, & Bitaraf, 2011: 12). Environmental quality entails environmental protection, environmental education, cultural heritage attractions, tourism infrastructure and natural resources for enhancing the competitiveness of tourism destinations (Chin, Lo, Songan and Nair, 2014: 34). Given the importance of the environmental quality and its various components in rural tourism development, the present study was carried out to evaluate the quality of the rural tourism destinations in Ghalehroodkhan area in Fooman County. The main research questions are: A) what are the factors affecting the environmental quality of tourism villages in Ghalehroodkhan area? B) How is the environmental quality of tourism villages in Ghalehroodkhan area?

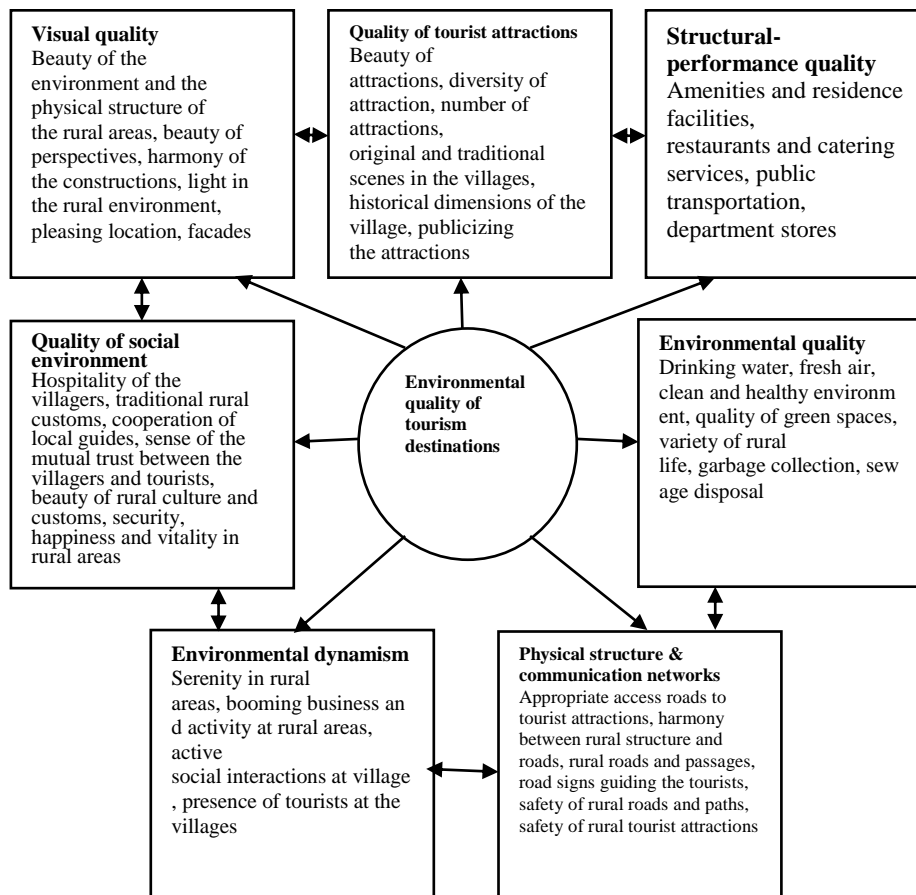


Figure 1: Conceptual model of the study
Source: Research findings: 2016

1.2 Review of literature

Today, many studies have been carried out by Iranian and non-Iranian specialists to assess the environmental quality of tourism destinations, some of which are noted below:

Sojasi Qeidari and Sadeghloo (2016) in an article titled "an analysis of the role of environmental quality in attracting tourists to rural tourism destinations: a case study of the tourist villages of small Lavasan Rural District" assessed the role of environmental quality in 16 tourist destinations of Lavasan Rural District in Tehran province, and they concluded that tourists were satisfied with the components of the environmental quality in these villages, and the highest level of satisfaction was associated with the semantic and perceptual component. Aesthetic and formal components were at the next level of significance. Akbariyan Ronizi and Sheikh Biglou (2015) in a study titled 'Measuring the quality of tourism villages: a case

study of Asara District, Karaj County, concluded that from the perspective of both local community and tourists, the environmental quality of the villages in the study area is above the average. Sojasi Qeidari, Sadeghloo and Mahdavi (2014) in an article titled "the role of environmental quality of rural tourism destinations in enhancing the mental images of tourists: A case study of rural tourism destinations of Rudbar, Ghasran with the aim of explaining the role of environmental quality in enhancing perceived value and mental image of the tourists from rural destinations" concluded that the perceived environmental value and positive image of the tourists in destination villages are acceptable and significant in all cases. Sojasi Qeidari (2014) in a research entitled 'the effects of Rural Guide plans on environmental quality of rural areas; a case study of Ramayan County, North and South Fandorsk Rural District' shows that most significant effects of Rural Guide

plans are related to formal components and the least significant effects have been attributed to functional components. [Fazelnia, Shamsedini and Dehghani \(2013\)](#) in an article titled “An analysis of the quality of location in rural settlements in Mamassani County: a case study of Doshman Ziari Rural District” concluded that there is a significant difference between the mountainous, piedmont and plain villages in terms of the spatial quality of life components, as the piedmont villages have the best conditions.

[Blazeska, Milenkovski, Gramatnikovski \(2015\)](#) in an article titled “the quality of the tourist destinations, a key factor for increasing their attractiveness among domestic and foreign tourists” concluded that dissatisfaction with road infrastructure, the cost of services, and accommodation conditions along with tourist attractions should be investigated more appropriately. [Lo, Ramayah, and Hui \(2014\)](#) in a study investigated the “perceptions and attitudes toward tourism development in the environment”. They examined the environmental constructs including rural tourism destinations, environmental management, cultural heritage conservation, local satisfaction, and the impact of the resources on attitudes of the local community towards rural tourism development. The results show that for the local community, the conservation of cultural heritage and the impact of resources on development of rural tourism have been important. [George and Poyyamoli \(2013\)](#) in an article titled ‘tourism and environmental quality management: comparative perspectives found how tourism had an impact on environmental quality, and believed there is a significant relationship between environmental protection and its development. In a paper titled ‘environmental quality and entrepreneurial activity in rural tourism in Italy, [Di Betta and Amenta \(2013\)](#) examined the relationship between

environmental quality and services in rural tourism. The results showed the highest number of registered companies in rural tourism is in areas where the quality of the environment is better. In addition, only 7% of entrepreneurial activities are associated with the environmental quality, as rural tourism activities in Italy are not well integrated with the environmental quality. [Huang \(2012\)](#) in his research on the impact of local environmental quality on international tourism demands in China over a 10-year period, suggests that increased pollution has a negative and significant impact on demand for international tourism, while air quality plays a more important role.

The review of literature reveals that with the development of tourism in the studied villages in Iran, the environmental quality of the villages has improved in most cases, and in this regard, tourism has been able to well play its positive role, as this ultimately encourages the host community to promote tourism. On the other hand, the review of studies conducted in other countries also shows that there is always a very close relationship between development and tourism, and in order to facilitate development, especially tourism development, in a destination, this relationship should be considered more precisely.

2. Research Methodology

2.1. Geographical Scope of the Research

Ghalehroodkhan is a historical castle, 23 km southwest of Fooman County in central district, Gorabpas Dehestan, Guilan province. The castle is located at an altitude of 665 to 715 meters above sea level, alongside a river with the same name. In this line, there are villages of Gasht, Kord Mahaleh, Gashteh Roodkhan, Siyah Kash, Gorabpas, Malakam, Saeedabad and Ghalehroodkhan.

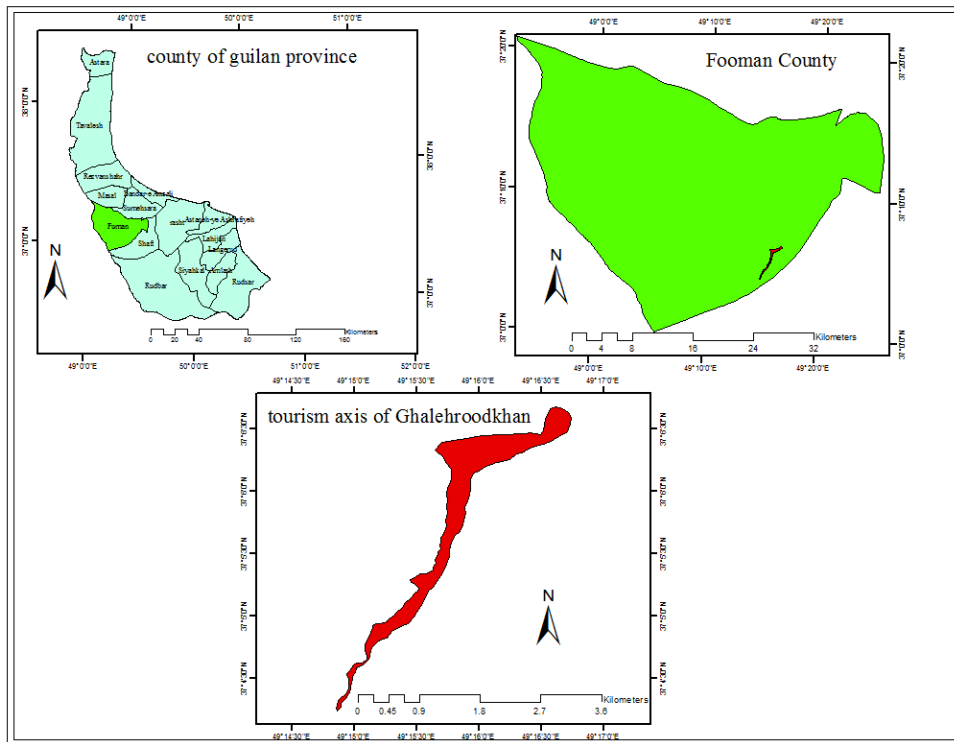


Figure 2. Geographical map of the study area

Source: Research findings: 2016

2.2 Method

The present study is a descriptive-analytic one carried out in a survey method. The research consists of two parts: documentary and quantitative. In documentary part, the data was gathered through library research. In the quantitative part which included field surveys, the data gathering tool was a questionnaire. The research questionnaire was designed based on indices in Table 1, and the Likert spectrum method (very low: 1 to very high: 5) was used to rate the indices. The population of the study included the tourists of the study area. In order to determine the number of samples, and due to uncertainty in number of the population, 380 questionnaires were developed with regard to error rate of 0.055. In order to verify the internal consistency and validity of the questionnaire, we used Cronbach's alpha coefficient. 42 questionnaires were completed and pre-tested. The alpha coefficient in total was 0.781, and for each structural-performance indices, tourist, visual, environmental attractions, physical structure and communication networks, social environment and environmental dynamism are

0.835, 0.847, 0.781, 0.793, 0.734, 0.722, and 761 respectively. Factor analysis and Heckman test were used to analyze the data. To determine the factors affecting the environmental quality of rural tourism destinations and the causal relationships between the variables, descriptive and inferential analytical methods (Heckman model) were used. Heckman two-step model was introduced in 1979 by an economist with the same name. This model was designed to eliminate the error in the selection of a sample or study population (Heckman, 1979).

In the present study, the Heckman model specifies which variables, and how strong, have affected the environmental quality of rural tourism destinations in the study area.

To study the factors affecting the environmental quality of rural tourism destinations, the following equation has been used:

$$DE_i = f(X_i) + u_i \quad (1)$$

where,

DE_i: the capabilities of the study area in terms of the environmental quality of rural tourism destinations

F: the function

X: indices effective on the quality of rural tourism destinations

Ui: error statement

Table 1. Indices of the study

Source: Rafiyan, Molody & Pourtahiri (2009), Shi'a and Alipour Oshliki (2010), Kakavand, Barati and Aminzadeh Gohar-rizi (2013), Alizadeh and Alizadeh (2013), Pourahmad, Farhoudi, Habibi and Keshavarz (2011), Ghadermarzi, Zare Mamaghani and Ziari (2013), Zabihi and Moradi (2013), Chin, Lo, Songan and Nair (2014), Van Kamp, Leidelmeijer, Marsman and Hollander (2003).

structural-performance	amenities and residence facilities, restaurants and catering services, public transportation, department stores, parking lots, mobile and telephone communications, basic treatment facilities, access to gas station in a convenient distance, financial services (banks and ATM), leisure facilities (leisure complex, etc.)
tourist attractions	beauty of attractions, diversity of attraction, number of attractions, original and traditional scenes in the villages, historical dimensions of the village, publicizing the attractions
visual attractions	beauty of the environment and the physical structure of the rural areas, beauty of perspectives, harmony of the constructions, light in the rural environment, pleasing location, buildings' facades
environmental attractions	drinking water, fresh air, clean and healthy environment, quality of green spaces, variety of rural life, garbage collection, sewage disposal
physical structure & communication networks	appropriate access roads to tourist attractions, harmony between rural structure and roads, rural roads and passages, road signs guiding the tourists, safety of rural roads and paths, safety of rural tourist attractions
social environment	hospitality of the villagers, traditional rural customs, cooperation of local guides, sense of the mutual trust between the villagers and tourists, beauty of rural culture and customs, security, happiness and vitality in rural areas, gathering spaces for social interactions
environmental dynamism	serenity in rural areas, booming business and activity at rural areas, active social interactions at village, presence of tourists at the villages

3. Theoretical Framework

The concept of quality has two aspects; while quality is an ambiguous and vague concept, it is also a clear one. In fact, the quality is the main features and characteristics of an entity. On the other hand, quality is a totality and a system of sub-qualities that created one thing (Pakzad, 2006: 78). In addition to the concept of quality, it is also necessary to clarify the concept of the environment. One of the best classifications for the methods of defining a concept is that of Attfield (2003):

1. The periphery is the most common meaning of the environment, which is the surrounding of a person in his lifetime or around a community during their lifetime;
2. Objective systems in nature such as mountains, rainforests, coral reefs, seas and rivers that surround us, and are older and more durable;
3. A perceived environment for a human being or an animal is where it has a sense of belong to it, and it is a home for him or her.

From the above definition, it becomes clear that the environment can be considered as a real thing that has an independent entity or it can be an

interpretation made by human mind (Holden, 2015: 37).

Quality of the environment is a complex subject that embraces abstract perceptions, attitudes, and values among different groups and individuals (Akbariyan Ronizi and Sheikh Biglou, 2015: 436). So, it can be said that the quality of the environment is a multidimensional concept that is associated with concepts such as quality of life, quality of place, perception, satisfaction and livability, which in many cases are considered as similar; therefore, the quality of the environment includes a combination of mental perceptions, characteristics and values that exist among individuals, groups and communities (Sojasi Qeidari, 2014: 153). The lack of a comprehensive, precise, and consensual definition for the concept of quality of environment in the theoretical frameworks is quite obvious (see Table 1); the main reason for this can be the connection or overlap of this concept with other vague and complex concepts such as quality of life, livability and sustainability, because the quality of the environment can be defined as an essential part of the broader concept of quality of life. The quality

of the environment in a location is the resultant of spatial components of a given region, but more than the sum of the components, it implies the overall perception of the location. Environmental components (nature, open spaces, infrastructure, man-made environment, physical environmental facilities, natural resources, social relations, etc.) each have their own features and qualities; therefore, each environment with a desirable quality, passes a sense of well-being and satisfaction to the resident population; this is quite evident in tourist destinations, because the environment is one of the main pillars of the

tourism flows. Therefore, tourism and environment (in both human and natural aspects) are mutually interdependent. The environment shapes many attractions, and the tourism development is dependent on the quality of the environment being visited. In addition, the implementation of tourism programs at various stages, such as site selection, building access roads, construction of hotels and infrastructure facilities, has to do with the environment, as attention to the environmental aspects is a high priority in tourism programs (Sojasi Qeidari, Sadeghloo and Mahdavi, 2014: 63).

Table 2: Definition of environmental quality from the perspective of researchers and international community

Source: Pour Jafar, Taghvaei and Sadeghi, 2009: 70

Research	The concept of environmental quality
Lansing and Marans, 1969	A high quality environment creates a sense of well-being and satisfaction for people through indices that may be physical, social or symbolic.
Porteous, 1971	Environmental quality is a complex matter that involves subjective perception, attitudes and values that differ among individuals and groups.
Netherlands National Institute for Public Health and the environment (RIVM), 2002	Environmental quality can be defined as the main part of the broader concept of 'quality of life' as the main qualities such as health and safety combined with aspects such as comfort and attraction.

The quality of the environment consists of a set of elements and variables including visual quality, environmental quality, structural and performance quality, environmental dynamism, quality of the rural structures and transportation, the quality of social environment and tourist attractions which will be further discussed so that their various aspects are properly explained.

A. Visual quality

The visual quality is a perspective for creating a different degree of satisfaction among visitors. This human response to a perspective is the result of the perceptual characteristics of the environment and the experience of an observer (Sheppard, 2004), which results from the relationship between the features of a landscape and its effects on human perspectives (Daniel, 2001). The visual quality is positively or negatively affected by human interventions in land uses such as industrial development (McCool, Benson and Ashor, 1986; Garre, Mees and Gulinck, 2009; Jallouli and Moreau, 2009; Germond, 2009). Visual quality management can be the best strategy and tool for planning, designing and managing tourist destinations; in other words, visual quality can demonstrate

commitment to reduce barriers and various effects, and seek out definitive opportunities for visual enhancement, especially in the field of forecasting and judging the effects that a new development can have on visual features and visibility. Visual quality is very important because the visual quality of natural areas and man-made areas is an important factor in tourism, and it is also an essential factor in providing quality experiences and balanced development in line with nature (Khairbin and Norouziyan, 2006:103). In tourism, visual quality indices including beauty of the environment, the attractiveness of natural landscapes, harmony of construction, ambient light, pleasant location, beauty of green spaces, and over-population in the target community are examined.

B. Environmental quality

Discussions about environmental quality have become one of the most important topics in the research of psychologists, tourism ecologists and geographers. In most cases, a tourist environment is defined as the interference with biological and socio-cultural environments (Zhong, Deng, Song & Ding, 2011). It turns out that tourism development have economic, environmental and

socio-cultural outcomes for local communities, which help to revitalize and improve living standards of local communities (Kuvan & Akan, 2005; Andereck & Vogt, 2000). People have an impact on environmental resources they use, as the environment also has different effects on people's behavior (Knudson, 1988). Environmental psychologists such as Rapoport (1976), Odemerho (1986) and Golledge (1987) suggest that differences in cultural, socio-economic, and demographic characteristics can reflect the way environmental resources are exploited and uncover the activity patterns among visitors; therefore, an ancient site, an area rich in water resources, or a desert or forest area, or a prohibited hunting area have various environmental impacts on the behavior of the visitors (Awaritefe, 2003: 251). Contrary to what might be in one's mind in the first step, the tourists' demand for environmental resources is not easily understood and analyzed, which is why tourism is not just an economic activity. It includes a set of inseparable activities, such as traveling, accommodation, shops, entertainment and services, and there is a special demand for each of them. In addition, it should be noted that tourists are attracted to destinations with the highest environmental quality. According to Inskip (1991), even for attractions with low environmental quality as an integral part of a credible tourism product, tourists prefer to choose a similar version of a product with better environmental characteristics (George & Poyyamouli, 2013: 32).

Important indices of environmental quality including quality and quantity of drinking water, fresh air, sanity and environmental health, quality of green spaces, waste disposal methods in the environment and the biodiversity of the target community are the focus of attention.

C. Structural and performance quality

The quality of the natural environment and human environment is very important in tourism, for instance in providing the infrastructure such as roads, airports, and tourism facilities including hotels, restaurants, shops, golf courses and beaches. These have an important impact on tourism, especially in rural destinations. Studies show that if rural tourism is not properly planned, it would have uncontrolled consequences on the infrastructure, and may cause damage to natural

environment, wildlife and rivers. It has been reported that the cost of preserving cultural and historical heritage, wildlife and natural landscapes has been very high (Lo, Ramayah and Lee Hui, 2014: 85).

D. Quality of physical structure and transportation

Transportation system is an important part of tourism industry and the experience of tourists in a destination. In many tourism studies, the important relationship between transportation and the tourism sector has been taken into consideration to the extent that 'access' is defined as an empirical and operational link between the tourism departures and the tourist destinations (Prideaux, 2000; Gronau & Kagermeier, 2007). The ability of tourists to travel around is vital in tourism sector. Improving the quality of transportation networks at the destinations is beneficial for both local people and tourists. In addition, the proper transportation networks are very important in attracting tourists.

Important indices in this regard are the availability of suitable access networks for tourist attractions, harmony between the physical structure and the paths, quality and quantity of roads and pavements, tourist guide signs, and safety of roads and tourist destinations.

E. Quality of social environment

The human social environment includes physical surroundings, social relations, and cultural environments that are defined with regard to functions and interactions of the popular groups. Components of the social environment include infrastructure, industrial and spatial structures, labor markets, social and economic processes (wealth, society, people and health services), power relations, government, social inequality and religious institutions. The social environment includes many aspects of the physical environment, current perspectives, water resources and other natural resources that have been shaped by human social processes. Social environment can be considered on a number of scales. These scales include households, kinship networks, neighborhoods, towns, cities and various regions. Social environments are dynamic and affected by internal and external factors (National Institutes of Health, 2000: 1-2).

The quality of the social environment is closely related with quality of human resources; therefore,

it should be considered seriously for development of human capital in the future (Zulkarnaini, 2015: 1).

In this regard, the indices include the hospitality of local community (city or village), the manifestation of traditional customs, cooperation of tour guides and tour manager at local level, the sense of mutual trust between the local community and tourists, and the attractiveness of local culture and customs.

F. Quality of tourist attractions

Attractions are one of the primary components of a tourism system and a motivating factor that challenges tourism activities. Attractions are minor elements in a destination that greatly affect the selection made by tourists and their incentives to visit a destination. These attractions include natural attractions such as perspective, seas, beaches, weather, flora and fauna, and other geographic features of a destination and its natural resources. Man-made attractions include buildings and tourism infrastructures such as modern and architectural monuments, shrines, promenades, parks, gardens, gathering places, harbors, ski trails, golf courses, etc. Cultural attractions include history and folklore, religion, art, theater, music, dance, entertainment, and museums. Social attractions include lifestyle, consumer practices among residents and the host community, language, etc. (Al-Ababneh, 2013: 166).

G. Environmental dynamism

The environmental dynamism means the degree of changes in an environment. For example, Wijbenga and van Witteloostuijn (2007) defined the environmental dynamism as the rate at which the preferences of consumers and the products of organizations change over time. Dynamic environments, by definition, are also unpredictable, devoid of patterns and regularities (Dess & Beard, 1984). The important points in this area which are of great importance, include the peace in the environment, business prosperity, active social interactions in tourism destinations, and the extent the tourists spend in a community.

4. Research findings

In order to determine the factors affecting the quality of rural tourism destinations and the causal relationships between the variables of the study, we used descriptive and inferential analytical

methods (Heckman model).* The research variables included two groups of dependent and independent variables. Accordingly, the environmental quality of rural tourism destinations as a dependent variable and factors affecting the quality of the tourist destinations are considered as independent variables.

Table-3 Results of Hackman estimate for factors effective in the environmental quality of rural tourism destinations

Source: Research findings, 2016

factors	coefficients	standard error	statistics	significance
structural-performance	0.14	0.89	2.24	0.000
tourist attractions	0.14	0.91	2.21	0.000
visual attractions	0.13	0.81	2.11	0.001
environmental	0.10	1.18	1.96	0.003
physical structure and communication networks	0.07	1.14	0.88	0.085
social environment	0.07	1.39	0.86	0.075
environmental dynamism	0.08	1.47	0.79	0.106
constant coefficient	0.92	1.52	3.21	0.000

*In this method, the factors that may affect the dependent variable, are entered as independent variables in pro-bite patterns, and the factors that may depend on dependent variables, are placed in a set of dependent variables in a linear regression pattern.

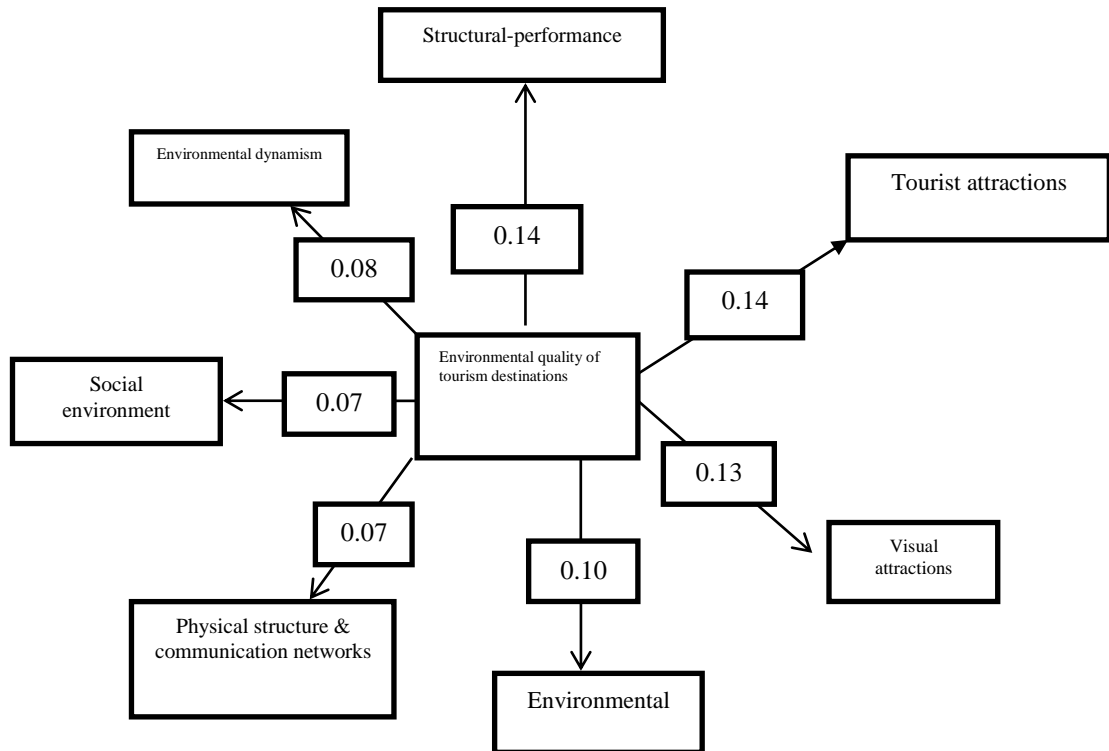


Figure 3: findings related with factors effective in the environmental quality of rural tourism destinations
 Source: Research findings, 2016

Results of the model show that with the possibility of 99 percent, the structural-performance factors, tourist attractions, as well as visual and environmental attractions were identified as factors affecting the quality of rural tourism destinations. Besides, in the present study, the following linear equation has been used to study the factors affecting the quality of rural tourism destinations in the study area:

$$DE_i = \alpha_1 x_1 + \alpha_2 x_2 + \alpha_3 x_3 + \alpha_4 x_4 + \alpha_5 x_5 + \alpha_6 x_6 + \alpha_7 x_7 + \alpha_8 x_8$$

where,

Dei: the environmental quality of rural tourism destinations

$\alpha_1 x_1$: structural-performance

$\alpha_2 x_2$: tourist attractions

$\alpha_3 x_3$: visual attractions

$\alpha_4 x_4$: environmental attractions

According to the coefficients, the following equation is presented for the factors affecting the quality of the environment of rural tourism destinations in the study area:

$$I = 0/92 + 0/14y_1 + 0/14y_2 + 0/13y_3 + 0/10y_4$$

According to final results of the model, four factors effective in Heckman model, 66 percent explained the factors affecting the quality of the rural tourism destinations.

Factor analysis was used to evaluate the environmental quality of rural tourism destinations in Ghalehroodkhan area. Factor analysis was mainly used for assessment of the environmental quality in rural tourism destinations in the study area; it was also used to summarize the research indices to better explain the environmental quality. In this regard, Bartlett's test and KMO index were used to determine the suitability of the data for the set of the variables analyzed for the environmental quality of rural tourism destinations. The significance of the Bartlett test with 1821.33 in the confidence level of 99% and the appropriate amount of KMO (0.781) indicate the correlation and suitability of the variables considered for performing the factor analysis (Table 4).

Table 4: Bartlett and KMO tests and their significant levels

Source: Research findings, 2016

analyzed set	the value of KMO	Bartlett value	Significant level.
environmental quality of the tourism destinations of Ghalehroodkhan Village	0.781	1821.03	0.000

In the following steps, the variables were tested by factor analysis. In this way, the variables loaded in each factor above 0.5 constitute a factor and the variables that cannot be aggregated with

these factors, constitute another factor. As shown in Table 5, the result of the reduction of 47 variables was 5 factors.

Table 5: Factor analysis of the variables

Source: Research findings, 2016

variables	free time	attractions	infrastructure	social	environmental
the attraction of the natural sceneries	0.879				
beauty of attractions	0.841				
pleasant qualities of the locations	0.823				
facilities to spend leisure time	0.780				
fresh air	0.764				
presence of tourists at the village	0.738				
security	0.712				
booming businesses and activities at the villages	0.683				
supply services of different stores	0.662				
catering and restaurant services	0.647				
quality of green spaces	0.633				
parking lots	0.617				
number of the attractions		0.824			
variety of the attractions		0.805			
beauty of the environment and physical structure of the villages		0.793			
original and traditional effects at the villages		0.771			
hospitality of the villagers		0.734			
accommodation and residential facilities		0.693			
cultural attractions and rural customs			0.786		
historical dimensions of the village			0.758		
biodiversity in rural areas			0.764		
effects of traditional customs at village			0.681		
appropriate access roads to tourism attractions			0.649		
safety of tourist destinations			0.643		
telephone and mobile communications			0.626		
mutual sense of trust between villagers and tourists			0.577		
access to gas stations in a convenient distance			0.548		
quiet environment at village				0.743	
a sense of happiness and vitality in rural areas				0.738	
fresh water				0.714	

variables	free time	attractions	infrastructure	social	environmental
rural paths and roads				0.706	
clean and healthy environment				0.679	
safety of rural roads				0.663	
spaces for social gatherings and interactions				0.516	
facades				0.486	
financial services (banks and ATMs)				0.472	
public transportation facilities					0.712
basic treatment facilities					0.678
active social interactions at village					0.639
harmony in buildings					0.607
ambient light of rural environment					0.571
publicizing the attractions					0.563
garbage collection					0.542
harmony between physical structures and various rural paths					0.522
wastewater disposal					0.482
cooperation of local guides					0.456
guiding road signs for tourists					0.416
number of variables	12	6	9	9	11
special amounts	18.41	17.26	14.67	11.83	9.78
percentage of variance	26.17	19.51	15.48	11.32	10.07
cumulative variance percentage	26.17	45.68	61.16	72.48	82.55

As shown in Table 5, the special amount of leisure time is 18.41, which alone can calculate and explain 26.17% of the variance. In this factor, 12 variables have been loaded. Among the variables of the study, in this factor, the attraction of natural sceneries with a factor load of 0.879, the beauty of attractions with the factor load of 0.841 and the pleasant qualities of the locations with a factor load of 0.823 were identified as the most important factors in the quality of the rural tourism destinations of Ghalehroodkhan tourism area. Given that the study area is a natural tourism or ecotourism destination, the variables related to natural factors play a major role in the environmental quality of the region. In this area, the complex of natural elements including forest and vegetation, rivers, mountains, pleasant climate and fresh air are placed together and combined with each other and this has been able to play a major role in attracting tourists. Besides, the second factor, namely the attractions have a special amount of 17.26, which alone can calculate and explain 19.51% of the variance. In this factor, 6 variables are loaded; among them, the variable of number of attractions with the factor load of 0.824 and the variety of attractions

with the factor load of 0.805 were identified as the most important factors adding to the quality of rural tourism destinations in the study area. Types of natural and man-made attractions (the castle and adjacent buildings) are considered as the main attractions of this region. The third factor is the infrastructure, with a special value of 14.67 that alone can calculate and explain 15.48% of the variance. In this factor, nine variables are loaded. Among the nine variables examined in this factor, the attractiveness of rural culture and customs with a load factor of 0.786 were identified as the most important factor in the quality of the rural tourism destinations in the study area. It is necessary to note that due to long history of this region and the events that have occurred in different periods in this region, these developments have influenced the customs and culture of local people, and on the other hand, the subcultures created or changed during these periods have become a human attraction for tourists in this region, the most notable of them is the castle, which is one of the historical and cultural symbols of the region; that is why cultural attractions have been able to play a great role in attracting tourists. The fourth categorized factor is

the social one with the special value of 11.83 that alone can calculate and explain 11.33% of the variance. In this factor, nine variables are loaded. Among the variables studied in this factor, the quiet environment in the village with the factor load of 0.743 and the variable of happiness and vitality in the rural environment with the factor load of 0.738 were identified as the most important factors in the environmental quality of the rural tourism destinations of the study area. The distance between this village and Fooman County and the forest-mountainous environment have led to creation of an environment that has socially been able to provide many social needs of the urban community and tourists, since one of the incentive for such trips is to get rid of noise and environmental pollution. On the other hands, the tranquility and silence of the village act as an attraction. These attractions and repulsive forces

have led to the formation of tourism flows from urban to rural areas, whose realization is clearly visible in Ghalehroodkhan Village. The last factor is the environmental one whose special value is 9.78, which alone can calculate and explain 10.07 percent of the variance. In this factor, 11 variables have been loaded. Among the variables studied in this factor, public transportation facilities with the factor load of 0.712 and the variable of basic treatment facilities with the factor load of 0.678 were identified as the most important factors for improving the quality of rural tourism destinations in the study area. The roads and access routes to this area are of good quality, which makes it easy to access the area, while at the same time, in the event of an accident, it is possible to get the people in the shortest possible time to access treatment facilities and services.

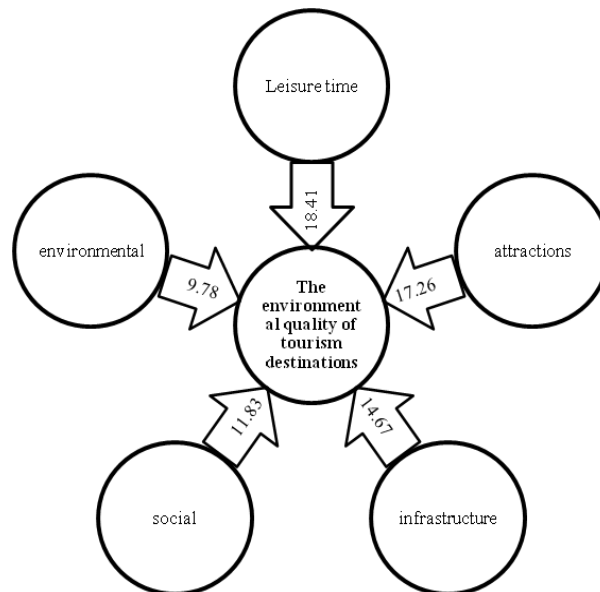


Figure 4: The impact of factors effective in the environmental quality of rural tourism destinations
 Source: Research findings, 2016

5. Discussion and conclusions

The goal of sustainable rural development is to expand facilities and improve the living conditions of vulnerable rural populations. In order to foster sustainable rural development, along with agricultural, livestock, and industrial activities in the village, one can extended other activities including tourism. Rural tourism is important in two aspects: one as a global activity, and the other as an emphasis on development of

regional and local policies. Considering the interconnectedness of the three principles of job and income generation, tourist satisfaction, and environmental protection, one can argue that rural tourism as a global activity has become increasingly important. Tourism in these areas is used as a potential tool for socio-economic development and rural regeneration, as tourism is affecting rural areas by reducing dependence on land-related activities, and it is one of the ways to

save villages from poverty, migration and socio-economic issues. Since various tourist destinations are attracting tourists in a competitive manner, it is of great importance to improve the indices effective in attracting tourists to rural destinations. Many definitions of quality indicate that collective consensus is mainly about the fact that quality is capable of satisfying the needs of consumers. A large part of the indicators and criteria for attracting tourists and creating the highest level of satisfaction, depends on the quality of the environment and the characteristics of the tourism destinations. In order to achieve sustainable tourism development in rural areas, it is essential to recognize, measure and consequently improve the environmental quality of the rural tourism destinations. That is why, in this research, we have assessed the environmental quality of rural tourism destinations in Ghalehroodkhan tourism area in Fooman County, Guilan province. In order to determine the factors affecting the quality of rural tourism destinations and the causal relationships between the variables, the Heckman model has been used. The results of the model show that with a probability of 99% structural-performance factors, tourist attractions, and the visual and environmental attractions were identified as the effective factors of the environmental quality of rural tourism destinations. According to the final results of the model, four structural-performance factors, tourist attractions, visual and environmental factors effective in the Heckman model justify 66% of the factors affecting the quality of the rural tourism destinations. The results of the research conducted by Akbariyan Ronizi and Sheikh Biglou (2015) also showed that according to the tourists' views, among the environmental quality indices of the study, the structural-performance quality index has had the greatest impact on tourism development, which is consistent with the results of this study. However, Sojasi Qeidari and Sadeghloo (2016) show that semantic, perceptual and aesthetics components have the most general effect, and the environmental quality has the least effect on attracting tourists to rural areas, which is consistent with the results of the research; however, there is no perfect match. But in terms of visual quality, or the aesthetic and formal aspects, the results are consistent, and this is because of the importance that geographic

perspectives, especially the particular conditions of the region, and its forest and mountains have in attracting the tourists.

In order to evaluate the environmental quality of the rural tourism destinations of Ghalehroodkhan tourism area, factor analysis was used. Then, the variables were analyzed by factor analysis. In such a way that variables above 0.5 loaded in each factor constituted one factor, and variables that could not be aggregated with them constituted another factor. The result of the reduction of 47 variables was five factors which include leisure time, attractions, infrastructure, social factors, and environmental factors. According to Shi'a and Alipor Ashliki (2010), the factor of 'cleanliness, sceneries and social security' is the most important quality factor relevant to coastal tourism environment from the perspective of tourists in Ramsar County, the indices of this factor are close to the factors of leisure time in this study. Therefore, the results of the two studies are consistent in this case. Nevertheless, in many studies related to the quality of urban environments, indices such as transportation and parking lots are considered to be the top priority for quality factors. However, since most people entering the tourism destinations of this study, come from far urban centers and have a personal vehicle, and there is no problem with the parking lot in the destination, this factor has not been a priority in the present study; therefore, the results of this study are not consistent with Zabihi and Moradi (2013).

Taking the above points into account, and the fact that Fooman County and Ghalehroodkhan tourism area with its tourist villages, natural location, climatic features, historical and cultural attractions, etc., have the prerequisite of tourism development, and special attention must be paid to environmental quality of the region. One of the important points in selecting a tourism destination is the ability to create a unique image that may influence tourists. In this case, tourists with memories from the environment will be able to influence others; therefore, while observing the principles of visual beauty in the construction of villages and preventing the constructions inconsistent with the functions of these villages, authorities must make plans and formulate regulations to protect them, and help develop sustainable tourism in the villages of the study

area. On the other hand, preserving local values, restoring monuments, preserving rural identity and protecting the environment of the region, can help improve the quality of tourism in the region. Stability of the environmental quality would improve if managers, planners, local people and

the community of tourists take the above points into account.

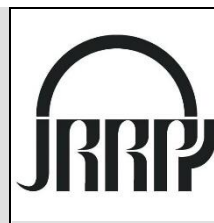
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ارزیابی کیفیت محیطی مقصدهای گردشگری روستایی (مطالعه موردی: محور قلعه رودخان)

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چکیده مبسوط

۱. مقدمه

در تمام کشورها، هدف اصلی، دستیابی به توسعه پایدار است. در این زمینه استراتژی توسعه گردشگری می‌تواند در دستیابی به این هدف مفید باشد. توجه به سطوح مختلف توسعه جامع یعنی توسعه منطقه-ای، از پیش‌شرط‌های موفقیت توسعه ملی است. یکی از بخش‌های اقتصادی که در توسعه روستایی کمتر به آن توجه شده است، گردشگری روستایی می‌باشد. در این میان، آنچه حائز اهمیت قابل توجهی است کیفیت محیط‌هایی است که گردشگری در آن‌ها رخ می‌دهد. بحث‌های مربوط به کیفیت محیطی امروزه به یکی از مهم‌ترین مباحث در تحقیقات روانشناسان، اکولوژیست‌های گردشگری و جغرافیدانان تبدیل شده است. فراهم نمودن تسهیلات یا خدمات با کیفیت برای گردشگران، بخش اساسی و مهمی برای توسعه یک محصول پایدار است. کیفیت محیط سکونتگاه‌های انسانی و به‌ویژه نواحی روستایی، گردشگری، بستگی زیادی به کیفیت زیرساخت‌ها و مدیریت مناسب آن دارد. این وضع می‌تواند در تصویر ذهنی و رضایتمندی ساکنان محلی و گردشگران مؤثر باشد. با توجه به اهمیت کیفیت محیط و مؤلفه‌های مختلف مربوط به آن در توسعه گردشگری روستایی، پژوهش حاضر به منظور ارزیابی کیفیت محیطی مقصدهای گردشگری روستایی در محور قلعه رودخان شهرستان فومن انجام شده است.

سؤالات اصلی تحقیق به این صورت است که: الف) عوامل مؤثر در کیفیت محیطی روستاهای گردشگری محور قلعه رودخان کدامند؟ ب) کیفیت محیطی روستاهای گردشگری محور قلعه رودخان در چه وضعیتی قرار دارد؟

۲. مبانی نظری

می‌توان بیان داشت که کیفیت محیط یک مفهوم چندبعدی است که با مفاهیمی همچون کیفیت زندگی، کیفیت مکان، ادراک و رضایتمندی و قابلیت زندگی اشتراکاتی دارد. به طوری که در بسیاری موارد به‌عنوان معانی مشابه در نظر گرفته می‌شوند؛ بنابراین کیفیت محیط شامل ترکیبی از ادراکات ذهنی، ویژگی‌ها و ارزش‌هایی است که در میان افراد، گروه‌ها و جوامع مختلف است. محیط بسیاری از جاذبه‌ها را شکل می‌دهد و پیشبرد توسعه گردشگری به کیفیت محیط مورد بازدید وابسته است. علاوه بر آن، اجرای برنامه‌های گردشگری در مراحل مختلف همچون انتخاب محل، ایجاد امکانات دسترسی به محل‌های موردنظر، احداث هتل‌ها و برپایی تأسیسات زیربنایی همگی با محیط در ارتباط است و توجه به ابعاد محیطی در برنامه‌های گردشگری همیشه در اولویت قرار دارد. کیفیت محیط از مجموعه‌ای عناصر و متغیرها شامل کیفیت بصری، کیفیت محیطی، کیفیت ساختاری و عملکردی، پویایی محیط، کیفیت بافت و حمل‌ونقل، کیفیت محیط اجتماعی و کیفیت جاذبه‌های گردشگری تشکیل شده است.

این‌ها را ندارند عامل دیگری را تشکیل می‌دهند. نتیجه حاصل از تقلیل ۴۷ متغیر ۵ عامل اوقات فراغت، جاذبه‌ها، زیرساخت‌ها، اجتماعی و زیست‌محیطی بوده است.

۵. نتیجه گیری

هدف توسعه پایدار روستایی گسترش امکانات و بهبود شرایط زندگی اقشار آسیب‌پذیر روستایی است. از آنجاکه مقصدهای مختلف گردشگری در جذب گردشگران در فضایی رقابتی قرار دارند، بهبود و ارتقاء شاخص‌های مؤثر در جذب گردشگران به مقصدهای روستایی از اهمیت بالایی برخوردار است زیرا کیفیت در گردشگری روستایی به‌طور خاص مورد توجه گردشگران است. بسیاری از تعاریف در مورد کیفیت نشان می‌دهد که توافق جمعی بیشتر به این حقیقت پرداخته است که کیفیت، قابلیت راضی نگه‌داشتن نیازهای مصرف‌کنندگان است. بخش عمده‌ای از شاخص‌ها و معیارهای مربوط به جذب گردشگران و ایجاد بالاترین سطح رضایت به کیفیت محیط و ویژگی‌های مقصد گردشگری بستگی دارد. در مسیر دستیابی به توسعه پایدار گردشگری در نواحی روستایی، شناخت، سنجش و در نتیجه ارتقای کیفیت محیط روستاهای گردشگری ضروری است. از این‌رو در این تحقیق به ارزیابی کیفیت محیطی مقصدهای گردشگری روستایی محور قلعه رودخان در شهرستان فومن استان گیلان پرداخته شده است. با توجه به مباحث مطرح‌شده باید با برنامه‌ریزی برای رعایت اصول زیبایی بصری در ساخت‌وسازهای روستاها و جلوگیری از ساخت‌وسازهای نامناسب و ناسازگار با بافت و کارکرد این دسته از روستاها و تدوین قوانین و مقررات متناسب برای حفاظت از آن‌ها به توسعه گردشگری پایدار در روستاهای مورد مطالعه کمک نمود.

کلمات کلیدی: کیفیت محیطی، شهرستان فومن، محور قلعه رودخان، گردشگری روستایی، مقصدهای گردشگری.

تشکر و قدرانی

این پژوهش حاضری حامی مالی نداشته و حاصل فعالیت علمی نویسندگان است.

۳. روش تحقیق

یکی از کلیدی‌ترین بخش‌های مقالات پژوهشی، روش تحقیق آن می‌باشد که تعیین‌کننده رویکرد محقق می‌باشد. مطالعه حاضر از نوع توصیفی-تحلیلی است که به روش پیمایشی انجام گرفته است. تحقیق دارای دو قسمت اسنادی و کمی می‌باشد که در قسمت اسنادی از طریق مطالعه کتابخانه‌ای به جمع‌آوری ادبیات تحقیق پرداخته شد. در قسمت کمی که شامل پیمایش میدانی است، ابزار گردآوری داده‌ها، پرسشنامه می‌باشد. جامعه آماری این تحقیق گردشگران منطقه مورد مطالعه می‌باشند. جهت تعیین تعداد نمونه تحقیق با توجه به نامعلوم بودن تعداد جامعه آماری، تعداد نمونه لازم ۳۸۰ پرسشنامه به دست آمد. همچنین به‌منظور تحلیل داده‌ها از آزمون آماری هکمن و تحلیل عاملی استفاده گردید.

۴. یافته‌های تحقیق

به‌منظور تعیین عوامل مؤثر بر کیفیت محیطی مقصدهای گردشگری روستایی و بررسی روابط علت و معلولی بین متغیرهای مورد مطالعه از روش تجزیه و تحلیل توصیفی و استنباطی (مدل هکمن) بهره گرفته شده است. نتایج مدل نشان می‌دهد با احتمال ۹۹ درصد که عوامل عملکردی ساختاری، جاذبه‌های گردشگری، بصری و زیست‌محیطی به‌عنوان عوامل مؤثر کیفیت محیطی مقصدهای گردشگری روستایی مطالعه شناسایی شدند. همچنین در تحقیق حاضر از معادله خطی زیر برای بررسی عوامل مؤثر بر کیفیت محیطی مقصدهای گردشگری روستایی در محدوده مورد مطالعه استفاده شده است. طبق نتایج نهایی مدل ۴ عامل تأثیرگذار در مدل هکمن ۶۶ درصد توجیه‌کننده عوامل مؤثر در کیفیت محیطی مقصدهای گردشگری روستایی بوده است. در ادامه به‌منظور ارزیابی کیفیت محیطی مقصدهای گردشگری روستایی محور قلعه رودخان از آزمون آماری تحلیل عاملی استفاده گردیده است. در ادامه تحقیق متغیرهای مورد بررسی توسط آزمون تحلیل عاملی؛ عامل سازی گردیده است. بدین‌صورت که متغیرهای بارگذاری شده در هر عامل که بالای ۰/۵ هستند یک عامل را تشکیل می‌دهند و متغیرهایی که امکان تجمع با

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