



ORIGINAL RESEARCH ARTICLE

Identifying Factors Affecting Sustainable Rural Tourism with the  
Approach of Social Capital Education

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ABSTRACT

**Purpose:** The research aims to identify the effective factors on sustainable rural tourism with the approach of social capital education. In the first step, the most important rural tourism criteria have been identified based on social capital education.

**Method:** Theoretical foundations and research literature on rural tourism and social capital has been studied. Also, the professors and experts' views are used to validate and ensure the correctness of the selected indicators. The sample population was 10 managers of cultural heritage and tourism organization. FANP fuzzy network analysis method was used to ensure the correctness of the identified indicators and screening and statistics of the final indicators and including risk factors.

**Findings:** The main criteria are: rural tourism capabilities, rural tourism strategies based on education, government macro-plans and policies, social capital education solutions and improving the performance of rural tourism. Based on the obtained results, the new circle of global development in the current era is witnessing a wide competition based on innovation to obtain scarce and limited resources, which guarantees the path of long-term and sustainable development of the society.

**Conclusion:** There are different types of innovations, including technological, economic, commercial, etc., which are effective in meeting the needs and creating human welfare based on the components of social capital education. ©authors

## 1. Introduction

Rural tourism became a global and growing activity in the late 1970s and early 1980s (Lane et al., 2022). Initially, it was seen by many commentators as a relatively trivial activity that was likely to die out in the near future. However, it has proven to be very important in the overall development of tourism, leading the way to the creation of entirely new forms of tourism based on rapidly growing niche markets. It has also become a cornerstone of sustainable tourism growth and now plays a vital role in regional regeneration plans in many countries and in many settings (Stylidis et al., 2023). Perhaps most importantly, the growth of rural tourism helped break the grip of real estate developers and large tourist resorts on tourism growth. Rural tourism was and is a decentralized and small-scale form of tourism that allows many existing buildings to be repurposed and reused, which is now one of the recognized characteristics of sustainable development (Dimitriadou et al., 2021).

Therefore, if carefully planned tourism can improve the quality of life, create economic, social and cultural benefits - in fact, according to McCool & Martin (1994), this is the main goal of tourism development (McKercher, 1993). However, there are several cases where this scenario does not occur, with rural tourism models distancing themselves from the population and reducing its benefits. In this context, the concept of integrated rural tourism presented by Saxena, Clark, Oliver, & Ilbery (2007) is of particular importance, referring to "tourism that is explicitly linked to economic, social, cultural, natural and human structures". The places where it happens". This model seeks to develop sustainable tourism with long-term benefits through the construction of formal and informal networks that stimulate local coordination and integration (Perelygina et al., 2022).

From the perspective of sustainable development, social capital education along with natural capital, human capital and human capital itself has become an integral part of determining the country's well-being (Karampela et al., 2021). These factors are also one of the critical factors for regional development to overcome emerging inequalities. Various studies have shown that social capital is an essential factor for starting and maintaining the resilience of socioeconomic development of a country or a specific region (Wolf et al., 2015). Although there is no general definition of social capital education, experts strongly agree that it is basically a dynamic and strong trust and relationship between each other in a group or community. In social capital, there is a relationship to know each other, understand and help each other and exchange information and cooperate to achieve common goals. The benefits of this relationship (whether intentional or unconscious) from time to time create and encourage trust, which lasts and is useful for creating physical or non-physical benefits. This interconnected relationship will enhance the ability of an individual or collective actor to act. If communication expands sufficiently, it will have a positive effect on increasing the action capacity of the entire social system (Madani, 2022).

However, social capital training is not always sufficient to sustain and develop local community initiatives. Coordinated government policies are necessary to further develop social capital and create a favorable environment for community development (Ramaano, 2021). Its importance has been proven in areas such as human capital creation, innovation, sustainable development, economic growth, democracy, poverty reduction or environmental sustainability. The central idea of social capital – that social relationships have value because they promote cooperation towards common goals – is therefore valid in many contexts, and tourism is no exception (Sidali et al., 2015).

In fact, research on the subject is still in its infancy. Nevertheless, interest in the connection between these two areas has increased in the last decade, with several authors analyzing this issue and gradually contributing to the creation of social capital as an essential element of sustainable tourism development in urban and rural areas. However, only a few articles and academic studies can be found that link these two topics together – the concept of social capital education is not yet firmly rooted in the tourism literature. While its importance has been

recognized by tourism researchers, there is still a need to better understand the complexities of social capital functioning and how it can enhance the growth of the tourism industry. Therefore, this research examines the rural tourism model based on social capital by considering the rural areas of Iran, this model defends an endogenous approach that implies the participation and empowerment of the community, while it requires an organizational structure that promotes harmony in the society. Looking for an answer to the question, what is the model of sustainable rural tourism with the approach of social capital education?

## **2. Literature Review**

The post-World War II period was one of major economic growth fueled largely by oil, along with all the transportation mechanisms that cheap oil enabled—particularly automobiles and airplanes (Pato et al., 2021). At the same time, population numbers around the world increased thanks to medical advances. Fears of the problems that unstoppable economic and population growth were likely to cause became widespread. Pressure groups emerged to discuss and criticize the aspects and consequences of that growth (Scuttari et al., 2021).

The economic development of rural areas faces obstacles specific to them. One of the main obstacles is population decline and aging, which has intensified in recent decades and is the cause of the lack of agents and promoters who can start the process of economic development. Small-scale agriculture, which is of great importance to the rural economy and society, suffers from reduced economic viability, and the low level of education of the population, combined with the lack of knowledge centers that can provide training, means that there are few job alternatives for the residents of these areas. This situation is worsened by the weak business and institutional structure, low attractiveness of investment and deficit of services and infrastructure, characteristic of these regions. These conditions intensify rural migration and, as a result, cause a loss of self-esteem and a sense of belonging, as well as an identity crisis in those who are left behind. Therefore, rural areas suffer from serious challenges in social and economic fields (Liu et al., 2020).

However, rural areas also have characteristics such as rural landscape, conditions for doing natural sports, tranquility, peace or cultural heritage that act as strong tourist assets that lead to an increase in rural tourism. Lane (2016) states that ideally, rural tourism should grow organically and slowly in rural areas, functionally rural, on a rural scale, traditional in nature, and controlled by local communities. By defining rural tourism, Lin also expresses his opinion on how to develop rural tourism (Lane et al., 2015). This type of tourism development has the potential to create a revitalization process in rural areas through the multiple effects it creates, economic development, job creation and additional income, and stopping or even reversing the problem of population decline. In addition, it can help protect the natural and cultural heritage and increase the quality of life of the people, and as a result, encourage them to stay in the region (Milano et al., 2019).

Social capital education also refers to the value of bonding and trust in a group of people or society and at least one of the five main elements. Human, social, physical, financial and natural. Social capital encourages life sustainability (Kishi, 2019). An institution or institution is defined as the relationships, attitudes, and values that govern interactions between individuals and contribute to economic and social development. In developed countries, social capital has become a vital capital for producing sustainable development. Dale and Newman (2010), in their research in Canada and Australia, showed that social capital is a prerequisite for the sustainable development of the community, which connects and increases access to resources outside the community (Scuttari et al., 2022).

Abbasi et al. (2022) presented a research titled *Designing a Rural Ecotourism Entrepreneurship Development Model with a Qualitative Approach*. The purpose of the research is to design a model for the development of rural ecotourism entrepreneurship in Dezful city. This research is of a qualitative type and in terms of the implementation method, it is a combination of qualitative content analysis and Delphi technique. The results show that the

combination of social responsibility, environmental responsibility, growth and development through ecotourism and ecotourism innovations and creativity provide the development of rural ecotourism entrepreneurship. he does. Also, the physical-infrastructure factor, economic factor, educational and informational factor, institutional factor, environmental factor, socio-cultural factor and individual factor were identified as the most important factors affecting the development of rural ecotourism entrepreneurship.

Mehdipour et al. (2022) presented a research titled pathology of second homes in rural areas of Lahijan city in the last two decades. Lahijan city, having many natural and cultural attractions, has always been one of the tourist centers in Gilan province. The results of data analysis showed that there is a significant relationship between all components of livability and tourism of second homes, and the expansion of second homes in mountainous and forest areas was more than in coastal areas, and the effects of the physical-physical part of second home tourism were more than other parts.

Asgari et al. (2022) presented a research titled identifying the advantageous factors in the tourism of the historical context of Yazd city with the approach of creative destruction. Based on your reference, factors such as the existing conditions for attracting the creative class, the existence of historical and cultural attractions and preserving their identity, creative industries and interaction and co-creation in the creation of values, attention to creativity and innovation and attention to research and development as the best competitive advantages of the range The study was determined in comparison with competitors.

Shayan et al. (2022) presented a research titled tourism supply and demand behavior based on the evolution of the capitalist system. Based on this, the behavioral changes of tourism demand can be defined based on three planning components, tourism products, and characteristics. Also, the behavioral changes of tourism supply can be defined based on four economic components, planning, tourism products, and structure and function. By measuring and evaluating the behavioral model of tourism supply and demand, which was presented in this research based on the evolution of the capitalist system, it provides the necessary ground for awareness of the behavioral model of tourism supply and demand, which will guide the development of tourism in different regions.

Miri et al. (2022) presented a research titled investigating the status of creative tourism components in Chabahar city and its role in sustainable urban development. The results of multivariable regression showed that the financial variable had the greatest impact on sustainable urban development with a beta value of 0.371, and the tourism variable had the least impact with a beta value of 0.132.

Lane et al. (2022), presented a research titled Rural Tourism and Sustainability: A Special Issue, Review and Update for the Early Years of the 21st Century. Rural tourism became a global and growing activity. Initially, it was seen by many commentators as a relatively trivial activity that would probably fade away in the near future. However, it has proven to be very important in the overall development of tourism, leading the way to the creation of entirely new forms of tourism based on rapidly growing niche markets. It has also become a cornerstone of sustainable tourism growth and now plays a vital role in regional regeneration schemes in many countries and in many settings. This introduction explains the development of rural tourism. It also reviews the articles published in this special issue. The organization looks forward to the possible futures for rural tourism in the early years of the 21st century.

Li (2022), presented a research titled investigating the development model of smart rural tourism based on the background of the Internet of Things. Brilliant smart tourism has emerged in this field. Through the actual investigation of smart rural tourism together with related literature, the innovative application of big data is described and analyzed, and the real-time analysis of tourism attractions through big data is carried out. The density of people density helps tourists to choose the routes according to the density and manages the dense flow in time, thus effectively preventing a series of dangers caused by excessive traffic of people and strengthening the management of tourists. It also provides countermeasures that the

development of smart rural tourism needs to improve the information platform of smart rural tourism, formulate smart service standards, create a smart talent service platform, and create a new model of smart rural tourism marketing.

Madani (2022), presented a research titled investigating the role of rural tourism in the development of sustainable employment for residents in the post-corona era with a scenario approach. According to the findings of the first stage, which was conducted using thematic analysis, the themes extracted from the semi-structured interviews were classified into 48 basic themes, 14 organizational themes and 4 global themes, which were used to identify the motivating factors in the next stage. After quantitative results, four scenarios including economic open doors, second home tourism, economic defensive shield, economic isolation and lock-in were found. Therefore, rural tourism not only helps to develop sustainable employment, but also affects residents, especially their employment and income. By enriching job choices and diversifying sustainable rural employment, rural tourism has led to a significant change in labor mobility in villages.

Ciolac et al. (2019) presented a research titled agricultural tourism - a factor of sustainable development to improve the "health" of rural settlements. Agricultural tourism is a complex activity, the sustainability of agricultural tourism in rural health and environment cannot be separated from the economic, social and cultural life of the village. A society in which it manifests itself and has a multiple effect on all areas that are associated with them. Therefore, the purpose of the article is to track the development of the field of agricultural tourism and based on some of the available information, to predict the future for some specific indicators, to highlight the representative aspects related to the development and investment of rural guest houses in the mountainous environment through agricultural tourism and to predict future developments that should be done in the studied area in order to support sustainable development.

As can be seen from the background of the research, first of all, it has not been presented in any research on the modeling of sustainable rural tourism with the social capital approach, and the research method used in this research has not been used in any of the similar foreign researches; Therefore, as stated, this research is completely new in Iran, and the innovation in the title, payment, and research method clearly shows the innovation aspect of this research.

### 3. Method

This research is applied. Choosing the research method, or in other words, which of the research methods is the best method for a specific study, depends on the way of defining the problem and formulating hypotheses. Research can be classified based on different criteria and bases. Saunders classification, which is known as research onion, states:

- Classification based on the philosophical foundations of the research: this research is interpretive.
- Classification based on orientation: the current research is developmental-applicative in terms of its purpose, because it is directed towards the development of previous knowledge and the scientific application of knowledge.
- Classification based on approach: The approach of this research is inductive (from part to whole).
- Classification based on strategy: quantitative analysis strategy is used in this research.
- Classification based on the main objectives of the research: in this research, it is exploratory and field-based.
- Classification based on research horizon: the horizon of this research is cross-sectional.
- Classification based on data collection methods: In this research, the questionnaire method, observation and analysis of documents will be used.

In the first step, the most important rural tourism criteria have been identified based on social capital education. For this purpose, it will be used to study theoretical foundations and research literature on rural tourism and social capital. Also, after collecting the primary indicators, the

views of the professors and experts are used to validate and ensure the correctness of the selected indicators. The sample population was 10 managers of cultural heritage and tourism organization. Fuzzy network analysis method was used to ensure the accuracy of the identified indicators and screening and statistics of the final indicators and including social capital education.

#### 4. Findings

The most important main criteria of the present study are: rural tourism capabilities, rural tourism strategies based on education, government macro-plans and policies, social capital education solutions and improving the performance of rural tourism. In total, 5 main criteria have been examined as effective indicators. The research criteria and sub-criteria are listed in Table 1.

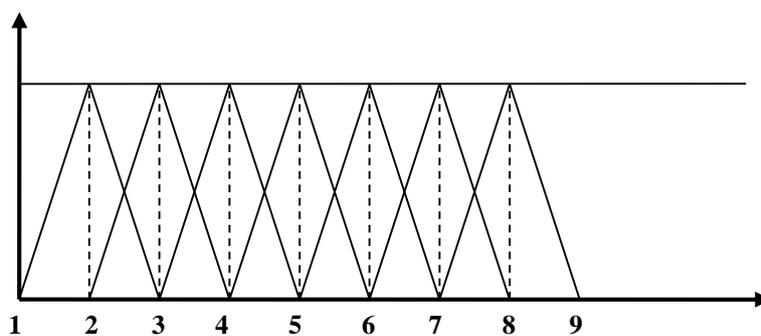
**Table 1.** Main indicators and relevant sub-criteria

Component	symbol
Capabilities of rural tourism	C <sub>1</sub>
Rural tourism strategies based on education	C <sub>2</sub>
Programs and policies of the government	C <sub>3</sub>
Social capital education solutions	C <sub>4</sub>
Improving the performance of rural tourism	C <sub>5</sub>

It should be noted that the criteria and sub-criteria of the research are named with a numerical index in Table 1 so that they can be easily tracked and studied during the research. In this research, the network analysis technique (FANP) has been used to determine the weight of the model's criteria and indicators. In this way, the final priority of the indicators has been determined. The fuzzy scale corresponding to nine hour degrees in the fuzzy network analysis process method is shown in Table 2.

**Table 2.** Phase spectrum equivalent to the nine-hour scale in the ANP technique

Inverse fuzzy equivalent	Fuzzy equivalent	The verbal expression of the comparative situation of i with respect to j
(1,1,1)	(1, 1, 1)	Equally Preferred
$(\frac{1}{3}, \frac{1}{2}, 1)$	(1, 2, 3)	in between
$(\frac{1}{4}, \frac{1}{3}, \frac{1}{2})$	(2, 3, 4)	moderately Preferred
$(\frac{1}{5}, \frac{1}{4}, \frac{1}{3})$	(3, 4, 5)	in between
$(\frac{1}{6}, \frac{1}{5}, \frac{1}{4})$	(4, 5, 6)	Strongly Preferred
$(\frac{1}{7}, \frac{1}{6}, \frac{1}{5})$	(5, 6, 7)	in between
$(\frac{1}{8}, \frac{1}{7}, \frac{1}{6})$	(6, 7, 8)	very strongly Preferred
$(\frac{1}{9}, \frac{1}{8}, \frac{1}{7})$	(7, 8, 9)	in between
$(\frac{1}{9}, \frac{1}{9}, \frac{1}{9})$	(9, 9, 9)	Extremely Preferred



**Figure 1.** The scale of linguistic variables with triangular fuzzy numbers

*Determining the priority of the main criteria based on the goal*

To perform the first network analysis, the main criteria based on the objective have been compared in pairs. FANP technique is a ranking technique and ranking in this technique is based on pairwise comparisons. Pairwise comparison is very simple and all the elements of each cluster must be compared pair by pair. Therefore, if there are n elements in a cluster, the number of comparisons is calculated with relation 1:

Relationship 1

$$\frac{n(n-1)}{2} = \frac{5(5-1)}{2} = 10$$

Because there are 5 criteria, 10 pairwise comparisons have been made from the perspective of a group of experts. Using the fuzzy spectrum of Table 2, the opinions of the experts were collected and the opinions of the experts were aggregated with the geometric mean technique and used to calculate the final weight of the criteria. The geometric mean method has been used to aggregate the experts' opinion in the fuzzy FANP method.

Relationship 2

$$F_{AGR} = \left( \prod(l), \prod(m), \prod(u) \right)$$

The matrix of pairwise comparisons resulting from summarizing the opinions of experts is presented in Table 3.

**Table 3.** *Determining the priority of the main criteria*

	C1	C2	C3	C4	C5
C1	(1, 1, 1)	(1.32, 1.62, 1.97)	(1.92, 2.45, 3.14)	(5.02, 6.01, 6.93)	(1.55, 1.73, 1.95)
C2	(0.51, 0.62, 0.76)	(1, 1, 1)	(1.32, 1.53, 1.78)	(1.93, 2.22, 2.67)	(0.76, 0.84, 0.96)
C3	(0.32, 0.41, 0.52)	(0.56, 0.65, 0.76)	(1, 1, 1)	(3.45, 4.63, 5.62)	(0.27, 0.35, 0.49)
C4	(0.14, 0.17, 0.2)	(0.37, 0.45, 0.52)	(0.18, 0.22, 0.29)	(1, 1, 1)	(1.36, 1.9, 2.7)
C5	(0.51, 0.58, 0.64)	(1.04, 1.19, 1.31)	(2.05, 2.85, 3.72)	(0.37, 0.53, 0.74)	(1, 1, 1)

After forming the matrix of pairwise comparisons, the eigenvector has been calculated. First, the fuzzy expansion of each line is calculated. Each row of the pairwise comparison matrix  $\tilde{X}$  is represented as  $\tilde{x}_{ij}$ . The fuzzy expansion of each row is also represented by the symbol  $\tilde{S}_i$ . Therefore, the fuzzy expansion of each line will be calculated as follows:

Relationship 3

$$\tilde{S}_i = \sum_{j=1}^n x_{ij}$$

Then the fuzzy sum of the total elements of the preferences column is calculated:

Relationship 4

$$\sum \tilde{S}_i = \sum_{i=1}^n \sum_{j=1}^n x_{ij}$$

The sum of the elements of the preferences column of the main criteria will be as follows:

$$\sum \tilde{S}_i = (71.5, 86.68, 104.11)$$

To normalize the preferences of each criterion, the sum of values of that criterion must be divided by the sum of all preferences (elements of the column). Because the values are fuzzy, the fuzzy sum of each row is multiplied by the inverse of the sum. The inverse of the sum must be calculated.

Relationship 5

$$\text{if } \tilde{F} = (l, m, u) \text{ then } \tilde{F}^{-1} = \left(\frac{1}{u}, \frac{1}{m}, \frac{1}{l}\right)$$

Therefore, based on relation 5, we will have:

$$(\tilde{S}_i)^{-1} = (0.01, 0.012, 0.014)$$

Therefore, the results of normalizing the obtained values will be as follows:

$$\begin{aligned} \tilde{W}_{C1} &= (0.168, 0.243, 0.334) \\ \tilde{W}_{C2} &= (0.074, 0.102, 0.14) \\ \tilde{W}_{C3} &= (0.082, 0.122, 0.173) \\ \tilde{W}_{C4} &= (0.042, 0.062, 0.092) \\ \tilde{W}_{C5} &= (0.083, 0.124, 0.174) \\ \tilde{W}_{C6} &= (0.129, 0.183, 0.243) \end{aligned}$$

Each of the obtained fuzzy weight values are related to the main criteria.

De-fuzzification of values: There are several methods such as Chang's degree of feasibility method, surface center method and Minkowski method for de-fuzzification. In this study, the surface center method is used as follows:

Relationship 6

$$DF_{ij} = \frac{[(u_{ij} - l_{ij}) + (m_{ij} - l_{ij})]}{3} + l_{ij}$$

It should be noted that the calculated weights are non-phase, but should be normalized. The calculations performed to determine the priority of the main criteria are as follows

**Table 4.** De-fuzzification of the calculated normal weights of the main variables of the study

Rank	Normal	Deffuzy	Surface center method
1	0.369	20.28	Capabilities of rural tourism
4	0.157	8.66	Rural tourism strategies based on education
3	0.186	10.23	Programs and policies of the government
5	0.096	5.29	Social capital education solutions
2	0.189	10.37	Improving the performance of rural tourism

## 5. Discussion

Based on the purpose of the research, 5 factors of rural tourism capabilities, rural tourism strategies based on education, programs and macro policies of the government, social capital training solutions and improving the performance of rural tourism were identified. Han (2020), research titled Countryside Vacations: Traveling for Relaxation? presented The search for peace is a growing phenomenon in tourism. This study seeks to examine forms of relaxation through the lens of the motivational framework. Data collected from Mozhanshen City, a well-known rural village in China, shows that travelers generally recognize various forms of

relaxation in vacation experiences. In particular, the need for calm facilities and not the need for a calm state was an important factor of this phenomenon; the emotional characteristics of relaxation were the main source of information that influenced destination choice. Incorporating relaxation into tourism expands our understanding of tourism motivation and creates a new topic for tourism. Alexander et al. (2018) presented a research entitled the power of consensus: development of community voice (theories and perspectives) in land use planning and tourism development in the diversity of different places. In areas rich in natural resources, nature-based tourism (nature tourism) is developing rapidly. Such development has been identified as an important economic opportunity for local communities, but it can affect ecosystem services through rapid landscape transformation, and threaten the livelihoods of the poorest sections of a community. While it is accepted that communities should participate in the planning process, Chenari et al. (2019), *Serving the tourists is agriculture*. Also, the general result of the research model showed that based on the mentioned indicators, in the current situation, rural households living in the foothills and mountainous areas have shown a greater tendency to accept agricultural tourism. Bavarsad et al. (2021) showed that the success and sustainable growth of tourism depends on the proper and coordinated performance of several elements and factors that are closely related. One of the most important factors is "security of tourists and tourist destinations". Today, security is considered as the most important and basic principle in the development of tourism development strategy in the world. There is a defined relationship between tourism, stability, development and security, and any occurrence of insecurity and use of violence at different levels causes irreparable losses to this industry.

## **6. Conclusion**

The ever-increasing changes in the environment, social life, technology, transportation and people's leisure time have made tourism manifest as an important economic and social category in the world. Among the natural environments, mountains and rivers are among the most attractive environments in attracting tourists. If an organization wants to remain in the field of competition and market for a long time, it must be able to satisfy customers. In order to achieve the goal of customer satisfaction, it is necessary for managers of organizations to have a broad and comprehensive view of the internal and external conditions of the organization. that they can take steps towards the development of services. Synchronizing with global changes is one of the necessities of civilization. The new circle of global development in today's era is witnessing a wide competition based on innovation to obtain scarce and limited resources, which ensures the path of long-term and sustainable development of the society. Creating a competitive advantage requires that its occurrence creates significant qualitative changes. There are different types of innovations, including technological, economic, commercial, etc., which are effective in meeting the needs and creating human welfare. However, many needs are not met. From the point of view of various experts, one of the ways to meet the needs is to keep pace with the changes in all fields, which is all-round innovation.

Based on the obtained results, it is suggested:

It is necessary to use experts to train employees and managers to maximize the use of appropriate tools for the development of rural tourism.

It is also suggested to follow the example of the best units in the world in order to implement tourism based on digital developments and improve social capital education.

The results show the lack of coordination between the tourism bank and the health tourism program in Iran, which is suggested to the managers and planners to provide the basis of inter-bank cooperation, to provide capital and attract investors in projects related to the development of health tourism in the region.

Creating educational and advertising centers to introduce and guide tourists and localize eco-tourism culture for local natives and then other tourists.

Providing interpretation programs with brochures, guides and general and specialized educational and interpretation materials, as well as the use of experienced experts for different

groups, as well as the interpretation process in the environment. Also providing training programs for tourism operators, department managers, provincial and national investors, non-governmental organizations, managers, experts, employees, environmentalists of the General Department of Environment and Natural Resources.

Encouraging and persuading rural tourism centers to obtain permits and international tourism standards, in line with the development of tourism and promotion of recreational indicators.

Designing an efficient structure of cooperation and partnership between agents and activists of the private and public sector in this area and supporting the best ideas of tourism development in the region based on the environmental and human capabilities of the region.

### Declaration of Competing Interest

The author declares that he has no competing financial interests or known personal relationships that would influence the report presented in this article.

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