

Article

The COVID-19 Pandemic and Nature-Based Tourism, Scenario Planning Approach (Case Study of Nature-Based Tourism in Iran)

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Abstract: The development of nature-based tourism is one of the most critical sectors of tourism, which is influenced by various economic, socio-cultural, and environmental factors. The COVID-19 pandemic has influenced all sectors of tourism, including nature-based tourism. The purpose of this article is to identify the key drivers affecting the development of nature-based tourism and analyze future scenarios of nature-based tourism in Iran based on the uncertainties caused by the COVID-19 pandemic. Micmac and ScenarioWizard software programs were used to analyze the research findings. Many factors affect the development of nature-based tourism in Iran, which fall into two human and natural factors groups. Five factors are the key drivers influencing the development of nature-based tourism in Iran: national, regional and global safety (F2); economic stability (F8); private sector participation (F9), human crises such as diseases, wars, etc. (F16); national and international advertising (national and international (F17); and travel costs (F19). According to the future of the COVID-19 pandemic, the research results show that a total of 10 scenarios for the future of nature-based tourism in Iran are conceivable, which are presented in three groups.

Keywords: tourism; nature-based tourism; ecotourism; Scenario Planning Approach; the COVID-19 pandemic



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1. Introduction

Tourism in general, and nature-based tourism in particular, is one of the most critical services for the sustainability of countries [1,2]. Tourism is a bridge to connect many sectors of the economy [3]. Many factors influence tourism development, such as economic factors [4], human [5], and environmental. These factors affect each other, for example, economic factors affecting the development of nature-based tourism can also affect human and environmental factors. Due to the non-renewable conditions of the natural environment, the development of nature-based tourism should not be done in any way, and there should be a balance between the development of nature-based tourism and nature-based tourism capacities. If nature-based tourism capacities are exceeded, irreparable damages can occur, to the extent that the normal life of residents is disrupted.

In the last two years, the outbreak of the COVID-19 crisis has affected world tourism [6–8]. The COVID-19 pandemic, in December 2019, spread in China. Today, this disease has become one of the most important concerns of humanity, which has affected all economic, socio-cultural, and even environmental sectors of society [7,9]. The COVID-19 pandemic affects almost all sectors of tourism in all parts of the world. Restrictions in most countries of the world have led to a complete halt in developing human and natural tourism in some countries. Many tourism-related jobs were either completely eliminated or reduced. Continuation of this process, in addition, to causing major problems for employees related to this service in the future due to reduced protection of tourist areas, has led to excessive

use of natural and human tourism capacities and may in the future lead to complete destruction or serious damage to them.

On the other hand, due to the relationship between different types of tourism, the development of any type of tourism can affect other types of tourism. For example, the development of nature-based tourism can lead to the development of ecotourism, rural tourism, etc.

Despite having various and valuable attractions, nature-based tourism in Iran did not have favorable conditions before the COVID-19 pandemic. After the COVID-19 pandemic, its condition has become much more unfavorable. Given the world's future in terms of the COVID-19 pandemic and its issues, countries worldwide can improve and develop their nature-based tourism even better than before, based on the decisions and plans they have made to deal with the COVID-19 pandemic. However, if they are unaware of it, part of their nature-based tourism will be destroyed, given the future ahead of the COVID-19 pandemic and in proportion to each future.

Among the important elements affecting the growth of nature-based tourism in Iran in various natural and human sectors, this study aims to identify the key factors affecting the development of nature-based tourism in Iran.

By recognizing these important elements, it is feasible to build short-, medium-, and long-term nature-based tourism development programs to improve the situation of other factors affecting the growth of nature-based tourism in Iran. The next phase is to identify possibilities for the development of nature-based tourism in Iran, taking into account the future of each of these major components as well as the future of COVID-19 and similar conditions across the globe and in Iran, where nature-based tourism development in Iran and the Middle East is being planned.

2. Literature Review

Sustainable development as “the modification of the biosphere and the application” is relevant in the 21st century [10]. Since 2016, 17 SDGs (sustainable development goals), as part of a new sustainable development agenda, were presented for 2030 by the United Nations. The SDGs include economic, social, and environmental developments, including: ending poverty; economic growth; and environmental protection [11]. Sustainable tourism is in line with the sustainable development paradigm.

Nature-based tourism includes wildlife tourism, ecotourism, and adventure tourism. In other words, nature-based tourism can be a kind of special interest tourism [12] Figure 1.

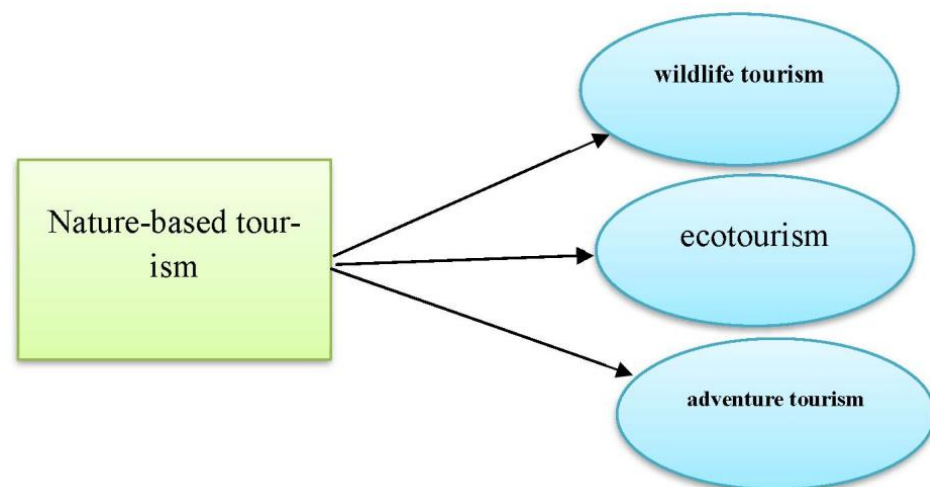


Figure 1. The three types of Nature-based tourism.

Nature-based tourism activities are related to sustainable tourism and tourists who seek to achieve relaxation, discover and learn, and escape into nature [13].

The field of nature tourism has a lot of stakeholders holding various interests [14]. Nature tourism has become an important matter in managing protected areas [15].

Ecotourism as a kind of nature-based tourism is a sustainable development approach to balancing economic, social, cultural, and environmental sectors. The term ecotourism is a relatively new term. In recent decades, ecotourism, as a type of tourism, has entered the scientific and academic communities and follows the principle of sustainability [1].

In other words, ecotourism is a type of sustainable tourism whose development can also develop other tourism sectors. If properly managed, it can lead to sustainable development in one place. In general, ecotourism deals with the living parts of natural environments and focuses on topics such as “social responsibility in travel”, “personality development”, and “sustainable natural environment” [16]. Ecotourism is a nature-based tourism idea [17]. Ecotourism, as a “responsible journey” [18], includes sections that minimize the negative aspects of today’s tourism to the environment, and increase cultural integration. Some scholars have traced the use of the term ecotourism to the late 1980s. In all related texts, Ceballos-Lascurain is the first to use the term. According to his definition, a tourism boom is a trip that takes place to study, admire, praise, enjoy the natural scenery, observe plants and animals, and get acquainted with the cultural characteristics of local communities in the past and present. Some attribute the history of ecotourism to a more distant time. Hetzer believes that he used the term in the 1960s to describe the interrelationships between tourism, the environment, and cultural features. According to Hetzer, the concept of ecotourism was formed in response to inappropriate and negative development practices and the disregard for environmental considerations, dating back to the late 1960s, when experts were concerned about unregulated resource extraction [19].

One of the most critical factors affecting ecotourism is natural and human disasters such as war, the spread of disease, etc. The COVID-19 pandemic has exposed the sensitive tourism to unprecedented conditions [20]. The COVID-19 pandemic in 2020 led to global constraints, followed by a rapid decline in international travel and tourism [21]. It has negatively impacted tourism destinations, organizations, and local communities [22]. One of the most critical negative and destructive effects of the COVID-19 pandemic has been on an unprecedented scale for tourism-related occupations due to government restrictions and closures by governments worldwide [23,24], in a research study on tourism amid COVID-19 pandemic, examined the impacts and implications for building resilience in the ecotourism sector in Ghana’s Savannah region. The socio-economic and ecological impacts of The COVID-19 pandemic on the ecotourism sector of Ghana’s Savannah region concluded that the most critical socio-economic impact of The COVID-19 pandemic is the loss of livelihood. The environmental impact of a combination of the effects are both positive and negative, and because the residents of the area are closely linked to tourism, the social and economic impact of The COVID-19 pandemic on the area has been very strong. [25] One of the first studies to evaluate the possible effects of the COVID-19 pandemic on tourism examined the differences between past crises on tourism and the COVID-19 crisis on the tourism. It indicates that in past crises, when the crisis was over, tourism was revived immediately. However, the COVID-19 crisis is different, and it will take longer than the expected 10-month recovery period for tourism to recover after the crisis [26]. The positive and negative environmental effects of the COVID-19 pandemic were examined in a study. The findings showed that the COVID-19 crisis and the conditions it has created have significantly improved air quality in various cities around the world, reduced greenhouse gas emissions, reduced water and noise pollution, and reduced pressure. Reduced tourism destinations may help to rebuild the ecological system. In addition, there are negative consequences of the COVID-19 pandemic, such as increased medical waste, and overuse and disposal of disinfectants, masks, and gloves. Also, untreated waste is constantly endangering the environment. Given the importance of tourism studies, the results of this type of study can be useful for: travel agencies, tour operators, tourism companies or political offices [27], as well as researchers in the field of tourism.

3. Materials and Methods

The present research was applied in terms of its purpose and based on new methods for future studies, and analytical and exploratory science in terms of its nature and method. The questionnaire, Delphi technique, and documentary and library studies were used to collect the required data and information. Questionnaires were prepared in two stages to apply the Delphi technique and analyze the cross-effects. The first stage included 50 open questionnaires in which the most critical factors affecting nature-based tourism (Table 1) were obtained. The second stage included 30 questionnaires to determine the key factors affecting nature-based tourism in Iran through weighting, which was completed by experts. Finally, Micmac and ScenarioWizard software programs were used to analyze the collected data.

Table 1. Nature-based tourism in Iran.

Important Attractions	Sub-Activities	Main Activities
Sahand, Sabalan, Damavand, Taftan, Alamkuh, Alvand, Biston, Shirkuh and Ali Sadr Caves, Katlekor, Delijan	Rock climbing, ice climbing, caving, Kite riding, research	Mountaineering and caving
Mountainous areas such as Alborz, Zagros, central and southern regions of the country	Hunting, fishing,	Hunting and fishing
Sarain hot spring, Sarab, Mahalat, Quchan hot spring, Zanzan hot spring, Esk, Larijan	Hydrotherapy, sludge therapy	Nature therapy
Central Iran	Skiing and boating On sand	Desert touring
Alborz and Zagros heights	Swimming, Boating, Water skiing, Diving, Fishing and snowboarding	Winter sports
North and south coasts and lakes, essential rivers Like Karun and its branches, Zaynderood, Sefidrood protected areas	Swimming, boating, skiing, and boating Sand	Beach and water sports
Different heights and slopes	Visit wildlife, recreation, leisure Exercise, recreation, health	Natural parks and wildlife Climbing range

Source [28].

3.1. Selected Case Studies

Iran has a special position among the world's countries in terms of natural features and nature-based tourism attractions. The presence of the Alborz and Zagros Mountains in the north and west of the country as a barrier against the humid air masses of the Caspian Sea, the Mediterranean Sea, and the Red Sea has caused the humidity of these masses to not be evenly distributed on both sides of the Alborz and Zagros mountains. As a result, a part of the country has enough moisture and rainfall, while on the other hand, most of it is facing dry weather and the expansion of desert areas. Such a climatic feature has given nature-based tourism a wide range of attractive natural phenomena. In addition, other natural features of the country, especially its geological structure, are such that thousands of natural attractions can attract adventurous nature-based tourism. Despite all the capabilities, the natural landscape of the country has not been used much for various reasons, and the development of nature-based tourism in Iran (such as tourism) always faces many challenges and obstacles [29] Table 1 presents the source of Iran's nature-based tourism attractions and activities related to nature-based tourism that can be done there. Unfortunately, these nature-based tourism potentials have not been well-exploited.

3.2. Methods and Tools of Data Collection and Research Information

The present study has identified the influential factors and scenarios for the development of nature-based tourism in Iran within the framework of an exploratory–normative paradigm in original scenario planning in the future using quantitative survey and qualitative methods and a comparative study. Therefore, in general, this research is applied in terms of its purpose and descriptive–analytical in terms of its research method. Doc-

umentary and field methods (questionnaire distribution) were used to collect data and information. The population in question was selected from among tourism experts. The required questionnaires were completed in three stages. The Delphi technique was used to obtain the opinions of decision-makers and tourism experts in Iran. The cross-influence matrix method was used to examine the influence of the factors on each other. The scenario writing technique determined possible, probable, and favorable scenarios for future nature-based tourism development in Iran. To reach the final scenarios in the first stage through an open questionnaire, 50 experts related to Iranian nature-based tourism were asked to make their predictions about the factors affecting Iranian nature-based tourism and the score of each factor. From the dozens of cases raised in the first stage, after combining overlaps, removing irrelevant and ambiguous items, and making the necessary corrections, finally, 19 variables affecting the development of nature-based tourism in Iran were extracted. Then, in the second stage, the influences of each factor on each other and finally the identification of key factors were discussed. After adapting the results to the research background, six key factors affecting nature-based tourism development in Iran were identified. In the third stage, after determining the possible condition of each factor in the future and identifying the influences of each condition on the conditions of other factors, possible, probable, and favorable scenarios have been developed. Various software programs, including MicMac and Scenariowizard, were used to analyze the data.

4. Results

4.1. Identifying the Direct Factors Affect on the Development of Nature-Based Tourism in Iran

Many factors affect the development of nature-based tourism in Iran, which fall into two human and natural factors groups. Some of these factors are interdependent. After identifying the factors affecting nature-based tourism in general and a survey of experts related to nature-based tourism in Iran in the first stage, a total of 19 factors were identified as the main factors affecting the development of nature-based tourism in Iran (Table 2). Some of these factors are natural and their changes depend on changes in nature and the passage of time, such as: the variety of natural attractions, pristine natural attractions, weather and weather conditions. Some of these factors are human, such as: accommodation facilities; national, regional, and global safety; transport and access; investment; economic stability; private sector participation; international cooperation; nature-based tourism development plans; infrastructure; participation of indigenous peoples; ICT; national and international advertising; and management and travel costs. If the plans and policies of planners are consistent with scientific studies, all these factors can have positive effects on the development of nature-based tourism in Iran.

4.2. Influential Variables

After publishing the questionnaires among tourism experts and collecting the required data, the most important factors affecting the development of nature-based tourism in Iran can be seen in Figure 2. Chart data indicate that these variables are more influential and less impressionable. Therefore, the development of nature-based tourism in Iran is more dependent on these variables. In other words, these effective drivers are also the most critical components because changes in the development of nature-based tourism in Iran depends on them, and the degree of control over these key drivers is significant. Out of 19 drivers affecting the development of nature-based tourism in Iran, six drivers are in this category. Considering that these drivers as the main key factors are the basis of possible, probable, and favorable scenarios for developing Iran's future nature-based tourism, they have also been used in the scenario writing section of this study. More complete explanations have been given been provided about them. These key drivers include national, regional, and global security; economic stability; private sector participation; human crises such as diseases, wars, etc.; national and international advertising; and travel costs. (Figure 2).

Table 2. Effective factor on nature-based tourism.

Row	Factor	Coding	Source
1	Accommodation facilities	F1	[30]
2	Safety (national, regional, and global)	F2	[30]
3	Variety of natural attractions	F3	[31]
4	Pristine natural attractions	F4	[31]
5	Weather and weather conditions	F5	[30,32]
6	Transport and access	F6	[33–35]
7	investment	F7	[36,37]
8	Economic stability	F8	[37,38]
9	Private sector participation	F9	[39–41]
10	International cooperation	F10	[42,43]
11	Ecotourism development plans	F11	[19,44]
12	Infrastructure	F12	[30]
13	Participation of indigenous peoples	F13	[45]
14	ICT	F14	[46]
15	Environmental crises	F15	[47]
16	Human crises (diseases wars etc)	F16	[47]
17	Advertising (national and international)	F17	[48,49]
18	Management	F18	[34,50]
19	Travel costs	F19	[36,37]

Source: (Research Findings, 2021).

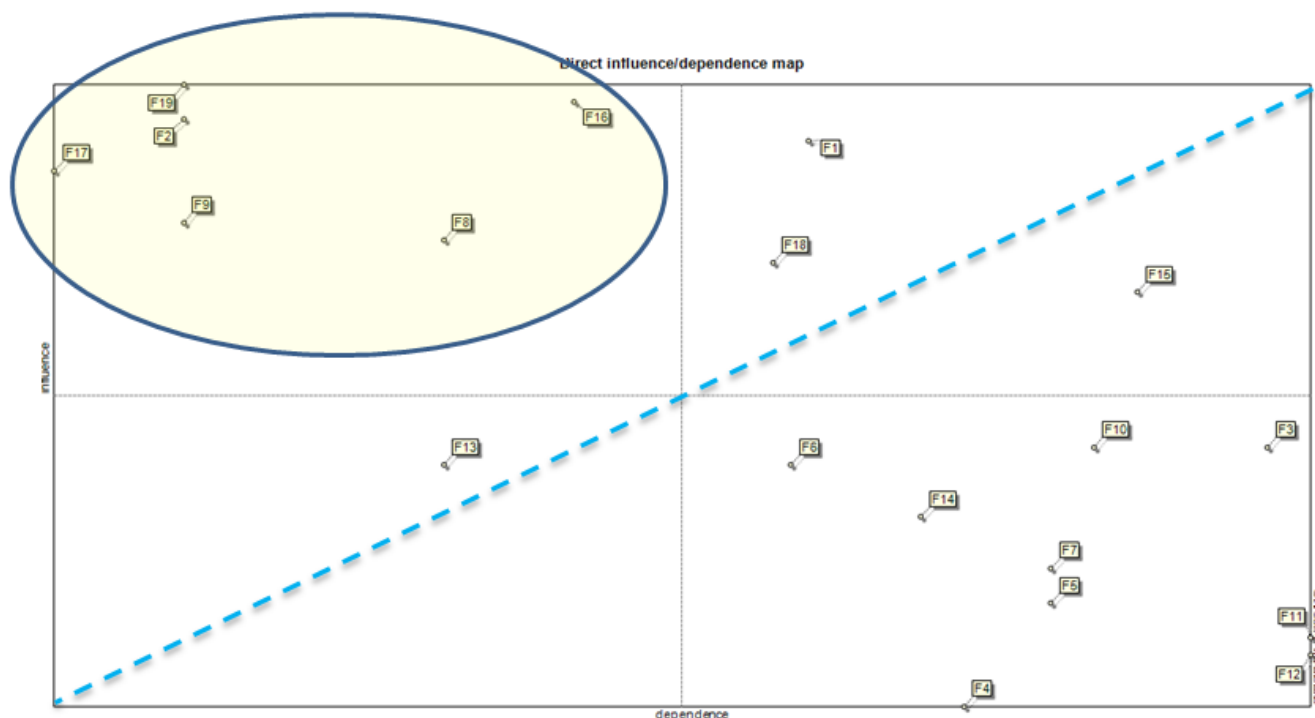


Figure 2. The most important factors affecting the development of nature-based tourism in Iran.

4.3. The Analysis of Development Scenarios of Nature-Based Tourism in Iran

The six key factors affecting the development of nature-based tourism in Iran, each of which is predicted in three possible conditions and a total of 18 cases for the future of nature-based tourism in Iran, are again provided to experts to judge the condition (influence) of each of the 18 possible conditions on each other. This judgment is expressed as a range of numbers from +3 to −3. The findings of these judgments indicate several strong to weak scenarios shown in Table 3.

Table 3. Descriptors and three possible conditions for the future of nature-based tourism in Iran.

Descriptors	Variants		
	Variant (1)	Variant (2)	Variant (3)
A. Economic stability	A1 (Stable)	A2 (Continue the status quo)	A3 (Recession)
B. Private sector participation	B1 (Maximum participation)	B2 (Continue the status quo)	B3 (Minimum participation)
C. Security (national regional and global)	C1 (high security)	C2 (Continue the status quo)	C3 (Low security)
D. Advertising (national and international)	D1 (Spread the ads)	D2 (Continue the status quo)	D3 (Ignoring ads)
E. Human crises (diseases wars etc.)	E1 (Controlling crises)	E2 (Continue the status quo)	E3 (Disaster in human crises)
F. Travel costs	F1 (Reduce travel costs)	F2 (Continue the status quo)	F3 (Increase travel costs)

Source: (Research Findings, 2021). (Green color for optimal conditions. Yellow for medium conditions. And red for critical conditions).

The present findings indicate 64 scenarios with low probability (under the heading of possible scenarios). Dealing with this volume of scenarios is unscientific and impossible. What seems logical and is between the strongly limited scenarios (probable) and the weak broad scenarios (possible) is scenarios with compatibility 1, which is a one-unit extension of strong scenarios to weak scenarios (Zali, 2009:196). Based on this, ten logical scenarios have been calculated for planning and policymaking of nature-based tourism development in Iran, which naturally includes four strong scenarios (Table 4).

Table 4. Total of strong to weak scenarios for the development of nature-based tourism in Iran.

Status of Scenarios	Number of Scenarios
Poor scenarios (possible)	64
Scenarios with maximum incompatibility: 1 (compatibility 1) (compatibility)	10
Strong or probable scenarios	4

Source: (Research Findings, 2021).

5. Analysis and Discussion

Preliminary studies of nature-based tourism development scenarios in Iran indicate that the favorable scenarios are limited, as except for one very favorable scenario and one scenario with moderate desirability, five scenarios have a near-moderate condition (a critical condition) and the other three scenarios are in an unfavorable condition. This indicates that Iran's nature-based tourism is not favorable in the current condition and improving its current and future condition requires coherent and rational planning. If this is delayed, it will gradually become impossible to achieve a favorable scenario.

Selected and Possible Scenarios of Development of Nature-Based Tourism in Iran

In general, the ten scenarios obtained can be classified into three groups based on their characteristics as follows: these groups represent the general framework of the conditions governing the future of nature-based tourism development in Iran:

The first group: leap nature-based tourism, Iran’s nature-based tourism development scenario with very favorable conditions) COVID-19’s complete destruction in less than two years in the future).

This group includes only the first scenario and is the most favorable possible condition for developing nature-based tourism in Iran. As shown in Figure 3, all three cases of different factors are in the best possible condition.

Scenario No. 1	Scenario No. 2	Scenario No. 3	Scenario No. 4	Scenario No. 5	Scenario No. 6	Scenario No. 7	Scenario No. 8	Scenario No. 9	Scenario No. 10
A Economic stability: A1	A Economic stability: A2	A Economic stability: A3		A Economic stability: A2	A Economic stability: A3	A Economic stability: A2	A Economic stability: A3		
B Private sector participation: B1	B Private sector participation: B2								B Private sector participation: B3
C Security (national regional and global): C1	C Security (national regional and global): C2				C Security (national regional and global): C3	C Security (national regional and global): C2	C Security (national regional and global): C3		
D Advertising (national and international): D1	D Advertising (national and international): D2	D Advertising (national and international): D3	D Advertising (national and international): D2	D Advertising (national and international): D3	D Advertising (national and international): D2	D Advertising (national and international): D3		D Advertising (national and international): D3	
E Human crises (diseases wars etc.): E1	E Human crises (diseases wars etc.): E2			E Human crises (diseases wars etc.): E3	E Human crises (diseases wars etc.): E2	E Human crises (diseases wars etc.): E3		E Human crises (diseases wars etc.): E3	
F Travel costs: F1	F Travel costs: F2				F Travel costs: F3				

Figure 3. Total of scenarios for the development of nature-based tourism in Iran.

In this scenario, the COVID-19 pandemic will be contained entirely and destroyed in less than two years. In this case, considering the psychological pressures caused by the disease, this type of tourism will flourish greatly, especially nature-based tourism such as desert and forestry due to the nature of nature-based tourism. If this scenario occurs, considering the key drivers of nature-based tourism examined in the first section, development infrastructures, such as housing and transportation facilities, need to be strengthened, as they will be needed more than ever. In this scenario, planning the arrival of tourists should be controlled more than before to reduce the pressures on nature and prevent its destruction because the double and sudden pressure on nature will cause irreparable damage to nature. Managing the presence of tourists in pristine places is another necessity of this scenario. In this scenario, the need for trained personnel in line with nature-based tourism will be even more urgent due to the multiplier growth of tourists. In this scenario, the main focus should be on preventing environmental degradation Table 5.

The second group: pre-leap nature-based tourism, scenarios for the development of nature-based tourism in Iran on the verge of crisis, the continuation of the current condition in some factors, and unfavorable condition in some other factors (COVID-19 Continues between 2–5 years in the future).

In this group, there are six scenarios Figure 3 and Table 6.

This group includes the largest number of future scenarios for the development of nature-based tourism in Iran (6 out of 10 scenarios), named as scenarios on the verge of crisis. In some scenarios of this group, despite conditions such as (private sector participation,

security, and travel costs), the current condition has continued, or they have faced a state of crisis. Given the breadth of this group of scenarios compared to other scenarios in the future of nature-based tourism development in Iran, the need for immediate action by planners and policymakers to achieve the desired conditions of these factors is doubled in Figure 3 and Table 6.

Table 5. Scenarios of the first group of total acceptable scenarios of development of nature-based tourism in Iran.

Group	Scenario No	Consistency Value	Incons Descript	Total Influence Score	Scenario Description
First	76	0	10	1	In this scenario, all six key drivers' Economic stability, Private sector participation, Security (national, regional, and global), Advertising (national and international), Human crises (diseases, wars, etc.), Travel costs will be in favorable condition. In this condition, paying attention to the sustainability of nature-based tourism in all key drivers should be the priority because if one driver is unfavorable, it will negatively influence other drivers.

Source: (Research Findings, 2021).

Table 6. Scenarios of the second group of total acceptable scenarios of development of nature-based tourism in Iran.

Group	Scenario No	Consistency Value	Incons Descript	Total Influence Score	Scenario Description
Second	2	0	0	11	In this group of scenarios, none of the key drivers are in favorable condition. The current trend will continue (scenarios 2 and 7), or they will become critical in one driver (scenarios 3 and 5). Some scenarios in this group even have two critical drivers (scenarios 4 and 8). The best planning for this group of scenarios is to try to control the critical drivers to return to normal and strengthen the current drivers to reach the favorable condition. Given the internal interdependence of the drivers, it is possible to at least improve the status of scenarios (2 and 7) by strengthening the two key drivers, such as security and economic stability.
	7	−1	2	13	
	3	3	1	12	
	5	−1	3	13	
	8	−1	3	15	
	4	−1	3	18	

Source: (Research Findings, 2021).

In this scenario, given the fear of the existence of the COVID-19 pandemic, tourism in general and nature-based tourism, in particular, will flourish slightly; but still, due to the limitations of other tourism sectors, nature-based tourism will continue to flourish. The success rate of nature-based tourism is directly related to compliance with health protocols and the sense of security resulting from the COVID-19 pandemic. In this intermediate scenario, there will be no sudden pressure on nature. Still, nature-based tourism will continue to be welcomed, and nature-based tourism will be gently sloping in the pre-leap period. Nature-based tourism planning in this scenario should be with a medium-term vision of 5–7 years because nature-based tourism and ecotourism will be greatly developed after this period. If not prepared, irreparable damage to the environment will occur.

Third group: recession of nature-based tourism; critical scenarios (COVID-19 continues for more than five years in the future).

In this group, there are three scenarios. As shown in Figure 3, the scenarios in this group are in a condition of complete crisis, and there is no trace of trying to improve or even maintain the status quo (except for the management condition in scenario number 12,

which is in the status quo). A complete and severe crisis has covered all sectors of nature-based tourism in Iran. One of the consequences of realizing these scenarios is that not only will nature-based tourism condition in Iran not improve, but its condition will become much more unfavorable and will probably lead to the destruction of a large part of Iran's nature-based tourism. Therefore, its consequences will have fundamental problems for Iran and involve the countries of the region.

In this scenario, tourism in general, and nature-based tourism, in particular, will face a major crisis due to the decrease in tourists. Lack of tourists will eliminate many tourism-related jobs that have the task of preserving nature; if it is not planned correctly, nature-based tourism will be severely damaged. Directing nature-based tourism -related jobs to jobs related to other fields, such as the development of handicrafts, etc., can to some extent help the survival of nature-based tourism-related jobs, as seen in Table 7.

Table 7. Scenarios of the third group of total acceptable scenarios of development of nature-based tourism in Iran.

Group	Scenario No	Consistency Value	Incons Descript	Total Influence Score	Scenario Description
Third	10	0	0	52	In this group of scenarios, which includes three scenarios, most of the key drivers are unfavorable. In Scenario (No. 10), all key drivers are in critical condition. In Scenario (No. 9), only one key driver of private sector participation is in the status quo. In Scenario (No. 6), only the two key drivers of private sector participation and travel costs continue to exist. In this group of scenarios, nature-based tourism in Iran will be destroyed very quickly, which should be controlled to some extent by implementing short-term and strike programs. Then in the form of medium-term and long-term plans to revive nature-based tourism.
	9	0	0	39	
	6	−1	3	15	

Source: (Research Findings, 2021).

6. Conclusions

The security factor is one of the key drivers of nature-based tourism development in Iran. This factor is one of the most critical factors in developing nature-based tourism in Iran. Until there is a sense of security for tourists, tourists will not visit natural and human attractions. The insecurity in Iran has increased due to the prevalence of the COVID-19 pandemic and the unfavorable success of Iran in controlling it. The insecurity is caused by changes in the power structure in neighboring countries, especially in eastern Iran. In order to reduce this feeling of insecurity, while recognizing its causes, with short, medium, and long-term planning, a sense of security should be established, and basic measures such as strong control and monitoring of the country's borders should be done.

The private sector is a major factor in the development of nature-based tourism in Iran. The participation of the private sector in the development of nature-based tourism depends on various factors, including the level of nature-based tourism efficiency in this sector. Given that the success of attracting private sector participation in nature-based tourism development depends on factors such as economic sustainability and security, so to attract maximum participation, other drivers of nature-based tourism development must first be strengthened to influence private sector participation.

Human crises such as disease and war in the destination country have directly influenced the decision-making of global tourists. In the last two years, the outbreak of the COVID-19 pandemic has had a devastating influence on nature-based tourism development. In this regard, the way in which countries of the world deal with this crisis, such as the rate of vaccination of people and the number of patients and daily mortality of individuals, as well as the rate of compliance with health protocols by individuals, has

affected the mentality of tourists. Iran has not been successful in the COVID-19 pandemic crisis, and Iranian tourism has been greatly affected.

Domestic and foreign advertising on nature-based tourism is very influential in the success and development of this sector. Introducing nature-based tourism attractions has the most critical influence on attracting tourists and nature-based tourism. In addition, advertising other key drivers such as a sense of security, presenting investment opportunities in the nature-based tourism sector, etc., will attract foreign tourists. Today, with the development of the Internet, advertising space has become much more available, and the development of this sector requires coherent and logical planning from the relevant authorities.

Travel costs are one of the most important key drivers of nature-based tourism development (domestic and foreign). Controlling this factor will attract more tourists from all over the world. Iran has distanced itself from economic stability for various reasons, and the costs of nature-based tourism development have increased sharply. Planning to reduce travel costs to Iran will boost nature-based tourism.

Iran has various natural and human tourist attractions, but these potentials have not been used properly. In recent years, with the COVID-19 pandemic, all tourism sectors in Iran, as with other developed or developing countries, were affected. Tourism in Iran in general, and nature-based tourism, in particular, did not have a favorable condition before the COVID-19 pandemic and its condition worsened with the outbreak of this virus.

Many factors affect the development of nature-based tourism in Iran, the extent of this influence is not the same, and some factors are considered as key drivers of nature-based tourism development in Iran so that with the development of these factors, other factors will develop and with the recession of these factors, other factors will also face major problems.

The nature-based tourism factor is considered the main and key driver in developing tourism in general and nature-based tourism in particular. On the one hand, the economic stability in the country will lead to the prosperity of domestic tourism and, consequently, foreign tourism. On the other hand, the economy's stability will cause reassurance for foreign tourists. Iran has a very unfavorable condition in terms of economic stability for various reasons, including global sanctions, especially in recent years. This has led to the lack of confidence of foreign tourists for Iranian nature-based tourism. With the boom of tourism and nature-based tourism, planners and officials in the country can achieve some economic stability due to the influences of the tourism boom on economic sustainability.

The success rate of Iran in the development of nature-based tourism in the future, especially in the post-Corona era, largely depends on the decisions of managers to develop nature-based tourism (national, regional, and transnational). COVID-19 pandemic damage management, including preventive and disease control measures and forward-looking planning to work with other countries on nature-based tourism development, can improve nature-based tourism development in Iran and prevent its destruction. The results of the present study on the key factors affecting the development of nature-based tourism in Iran are in line with the results of the following studies: safety (national, regional, and global) (Francoise Cronje and Du Plessis, 2020), economic stability (Wang and Ap, 2013; Liu et al., 2017), private sector participation (Briec, 2018; Osman, 2018; Vang and Xu, 2014), human crises such as diseases, wars, etc. (Indra Bhaskara and Filimonau, 2021), advertising (national and international) (Weng, 2021; Tan et al., 2018); and travel costs (Mikulic et al., 2021; Liu et al., 2017).

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