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Prioritizing tourism destination waterfall for tourism investment and development in Lorestan Province, Iran

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ABSTRACT

Tourism is a key strategy of development in all international to the local level. It uses human and natural capacities and attractions and improves sustainable development indicators like diversifying economic diversification, job and income generation, empowering local people, preserving human and natural heritage, equitable distribution of income, infrastructure and services, reducing emigration, etc. Waterfalls and cascades as considerable natural attractions are some of the interesting tourism sources around the world that attract domestic and foreign tourists. Realizing this potential depends on appropriate investment that needs identifying and introducing their relative advantages. So, the purpose of this study is to prioritize tourism destination waterfalls in Lorestan province to introduce them for investment, so to be a stimulating factor for the regional economy and also better planning for tourism-based development in the province. This is applied and descriptive-analytical. Documentary and field study used to data gathering and the ELECTRE techniques to analyze the data. The findings showed that Nojian waterfall was the priority for investment and development of tourism in Lorestan province.

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1. Introduction

Tourism is a complex economic activity that has infiltrated all aspects of human life (Milenkovska, 2011). This industry has been world fastest growing industry globally with lots of economic, social, and environmental benefits (Fang, 2020). According to statistics released by the World Tourism Organization(WTO), the number of tourists in 2015 increased by 3.6% compared to 2014, reaching an amount of 1.184 billion (UNWTO, 2015). Besides, the number of international tourists increased by 3.9 percent to one billion two hundred and thirty-five million in 2017 (UNWTO, 2018) Tourism is also one of the largest and most profitable growing industries in the world (WTTC, 2017). It accounts for 10% of GDP and 10% of world employment (UNWTO, 2008). An industry with such characteristics has an important role to play in creating employment and contributing to GDP in many developing countries (Jucan and Jucan, 2013).

Therefore, tourism has been considered a major instrument of regional economic growth in many countries around the world (World Bank 2015; Boukas and Ziakas, 2013; Meng, 2014; Sharpley, 2001; Nemirschi and Craciu N., 2010). In recent decades, tourism has become a major pillar of the national economy and a potential source of diversification to achieve sustainable regional development (Millennium Development Goals, 2009). In other words, this industry is an efficient catalyst for the socio-economic reconstruction and development of regional areas (Altinay et al., 2005) tourism is a key pillar of sustainable development and also, one of the main approaches for the government to income generation, poverty reduction, and livelihood improvement, so on create development incentives to exploit the deprived areas' capabilities (Arntzen et al., 2007; Kim et al., 2020).

The development of this industry in industrialized countries leads to diversification of incomes and decreases in economic disparity and in developing countries is an opportunity for export, currency production and employment creation (Witt and Moutinho, 1994). Tourism industry development and attracting tourists in a region depend on many factors. In this regard, existing the numerous attractions and potentials of tourism, including natural, historical, cultural, social, sporting is important. These attractions are one of the region's unique capital (Witt and Moutinho, 1994). In this regard, effective Legislation, policy-making, and planning are essential (Telfer et al., 2008). Therefore, different countries are trying to provide opportunities for exploitation, development, and satisfaction of the positive aspects of this industry by preparing and promoting the value of tourism attractions and attracting capital in tourism destination areas (Rosentraub et al., 2009). Iran due to its geographical, geopolitical position, numerous historical and natural attractions, four-season climate, ethnic, tradition and lifestyles diversity, proximity to the rich Persian Gulf countries market, and etc., has great potential to become the pole of tourism industry in the region and can be considered as a way to get rid of single-product revenues in a country that is heavily dependent on oil revenues (Tayebi et al., 2007). Therefore, in Iran, tourism development as a strategy for regional development can play an important role in economic diversification and reduction of regional inequalities. This industry, through a close relationship with other sectors of the economy and rational planning, can make a huge evolution in the development of different regions of the country. Lorestan is one of the provinces with a long history and rich natural heritage. Being historical attractions such as castles, bridges, markets, museums, mosques, tombs, … and natural heritages like Mountains and rocks, forests, ranges and parks, rivers and lakes, and also beautiful high altitude waterfalls attract many numbers of tourists annually. Among these, waterfalls and cascades are particularly important as sometimes the province called waterfalls land. Lorestan has a very good condition for the formation of natural waterfalls due to its location in the mountainous area and the abundance of water resources and springs (Roumiani et al., 2012). The waterfalls of Lorestan province due to its natural and historical attributes, beautiful landscapes, environmental features, long altitudes, etc. can play an important role in the holistic and sustainable development of the region. This needs efficient management and planning (Taghavi et al., 2010) that develop an appropriate context to evaluate the waterfalls tourism potential and introduce them to all stakeholders includes policy-makers and planners, entrepreneurs and investors, businesses, tourists and local peoples. Therefore, the purpose of this study is to Prioritize tourism destination waterfall in Lorestan province for tourism investment and development and answer the following questions:

1. What are the potentials of tourism development in Lorestan with emphasis on the tourism destination waterfalls?
2. In terms of tourism capacity, which waterfalls have the highest priority for developing tourism in the region and attracting investors?

Nowadays, tourism is considered as one of the important tools and components of development and reduction of deprivation within the framework of spatial development plans at different national, regional and local levels (Garrigos et al., 2005). Tourism is one of the most important factors in regional development. It is an activity that promotes economic and social development especially equitable distribution of income and increasing employment (Badri et al., 2013). So in recent decades, in many countries investment in the tourism sector is considered. Estimates show that investment in travel and tourism in the United States accounted for 9.4 percent of global investment (OECD, 2010). Also in countries, investment in hotels, travel agencies and restaurants accounted for 6% of GDP in Germany and 32% in Portugal Investing in tourism has attracted labor, especially young people, women, and migrant workers in this part of the economy. The industry has, directly and indirectly, created more than 230 million jobs, accounting for 8% of the global workforce. Between 60 and 70 percent of the workforce are women and 25 percent is youth (ILO, 2008). Accordingly, such investment has increased in developing countries, which impacts improving tourism components and attracting more tourists and so on creating direct and indirect jobs in both the cultural and

environmental sectors for the poor population and finally realizes the sustainable development goals in all dimensions including economic. Social and environmental (Cooper et al., 2008; Mitchell, 2009). From this perspective, tourism is considered as one of the most important factors of regional development, a balancing activity that promotes economic and social development and equitable distribution of income and employment opportunities (Tolai, 2006). In the words of (Friedel et al., 2008), it is a process of integration of physical space and human society whose new forms are the result of changes in the values and attitudes of human life, technology advancement, the explosion of information and political. Its importance is as much as it is called a social phenomenon in the presentation of places and cultures (Hultman and Hall, 2011). Tourism is multi-dimensional in nature and plays a major role in empowering and socio-economic changes of a comprehensive system (Dwyer et al., 2009; Cawley, 2007) And it is a platform for the activities of small tourism companies (Maes et al., 2007). Therefore, given the importance of tourism, on the one hand, as a new financial source, the industry can improve the economic status of local people and serve as a resource for poverty alleviation and thus a tool for rural development with specific tourist attractions (Lee and Cheng, 2008). On the other hand, it is an important factor in resolving agricultural problems, increasing employment and income for people in rural and urban areas (Sebele, 2010). In this regard, (Eliot and Maine, 2005) believe that the role of tourism in development has evolved significantly and, in addition to economic growth, currency production, and employment, provides an opportunity for the host community to participate in biodiversity conservation, urban development, Infrastructure Development, Rural Development, Environment Preservation, Restoration and Preservation of Cultural Heritage (Rosli et al., 2007). So tourism is the emphasis as a complex and hopefully industry that what the Third World is facing with that and has the most potential to succeed in other income-generating industries (Lee, 2008). Shapley believes that tourism development causes to increase the role of women in traditional and remote societies (Sharpley, 2001), for example changing the traditional patterns of rising Childs, creating job opportunities, improving social status, independency and self-sufficiency and, etc. (Burt, 2001). Tourism can be a tool for achieving economic development in the peripheral regions through the travel of wealthy tourists from urban centers to the periphery, foreign exchange, and job creation. According to (Boukas and Ziakas, 2013), the creation of a tourist class in the process of economic development leads to a positive power in improving infrastructure and spreading economic activity in remote areas. (Djeri et al., 2018) Describe the potential role of tourism and its related activities in achieving an automatic regional development in European countries (Caruntu et al., 2014). Because of the importance of waterfalls as a tourism attraction in Iran and Lorestan Province some study focus on this issue. In the study entitled "Assessment and priority Natural Waterfalls to Ecotourism Development (A case study of seven waterfalls in the Lorestan province)" 7 famous waterfalls of lorestan includings Bisheh, Gerit, Absefid, Nojian, Varak, Chekan and Afrineh were selected and prioritizing with AHP methods. besed on the results of this research Bishe and Nojian situated in 1th and 2nd priorities (Ajzae Shokouhi et al, 2014). The result of M.Sc thesis about "Analysis and Planning of Ecotourism Development with Emphasis on Lorestan Province Waterfalls" using SWOT model showed that there is a significant relationship between the two variables of impacts of waterfalls and natural attractions of the province and the emergence of the province as an ecotourism hub of the country and also the development of tourism and ecotourism can pave the way for socio-economic development of local communities in the province (Maghsoudi Hoseinabadi, 2104). Fatahi Ardakani (2014) in an article entitled Estimating Economic Value of Margoon Waterfall in Fars Province from the Aspect of Recreational Functions concluded that 78 percents of visitors tended to pay fee for using Margoon waterfall. Also age, interest rates, monthly income and price have significant effect on probability of individual tendency to pay the price. Asadpourian et al. (2019) in a study entitled "Identification of Criteria and Assessment of the Level of Sustainable Ecotourism Development (SED) in Tourism Poles of Lorestan Province" conclude that seven criteria for measuring SED,

Including security of tourists (relative weight of 0.255), natural condition (0.169), recreational attraction (0.163), social acceptance and participation of local people (0.133), the existence of tourism infrastructure (0.110), governmental support of the region (0.087) and creation of economic opportunities for the region (0.083) were important respectively. Also, based on the sum of criteria, the most suitable area for SED were Gahar Lake, Bisheh Waterfall, Absefid Waterfall, Nozhian Waterfall, Grit Waterfall, Vark Waterfall and canyon of Shirz.

2. Material and Methods

This is a descriptive-analytical research that documentary and field study method were used to collect the required data. According to the purpose, the 10 tourism destination waterfalls of Lorestan province were selected and their capacities to investment to tourism development evaluate by using 10 indicators including Residential tourism Infrastructure, Roadside accommodation, Travel agencies, Passenger Transport corporations, Distance from the nearest town, Distance from the capital city of the province, Access to tourism Facilities Near Attractions, Access to the gas station, Access to medical centers, and the Number of Attractions.

Data related to each index were collected based on information from the Tourism, Cultural Heritage and handcrafts administration of Lorestan and the indicators were weighted by some experts of the administration. they were selected by purposive snowball sampling method. To prioritize the alternatives waterfalls based on the indicators, Multi-criteria decision-making methods including ELECTRE were used.

ELECTRE Method:

Step 1: the first step of the ELECTRE method, decision-making matrix is created. In this matrix x*ij* show the ith alternative in relation with jth index (Eq. 1):

$$X=\begin{bmatrix} x_{11} & \cdots & x_{1n} \\ \vdots & \ldots & \vdots \\ x_{m1} & \cdots & x_{mn} \end{bmatrix} \quad (1)$$

Step 2: Forming the standard matrix (R matrix) by the following equation 2:

$$R_{ij}=\frac{x_{ij}}{\sqrt{\sum_{i=1}^{m} x_{ij}^2}}$$

$$R=\begin{bmatrix} r_{11} & \cdots & r_{1n} \\ \vdots & \ldots & \vdots \\ r_{m1} & \cdots & r_{mn} \end{bmatrix} \quad (2)$$

Step 3: At this stage, considering the coefficient of importance of different criteria in decision making, the matrix is defined as follows (Eq. 3):

$$W=\begin{bmatrix} w_1 & \cdots & 0 \\ \vdots & w_2 \ldots & \vdots \\ 0 & \cdots & w_n \end{bmatrix} \quad (3)$$

Step 4: Determination of Normalized Weighted Matrix by multiplying the R and W matrix (Eq. 4):

$$V=R\times W=\begin{bmatrix} v_{11} & \cdots & v_{1n} \\ \vdots & \ldots & \vdots \\ v_{m1} & \cdots & v_{mn} \end{bmatrix} \quad (4)$$

Step 5: Forming a set of agreeable and disagreeable criteria: For each pair of alternatives (k, e = 1, 2… m, k ≠ e) e, k, the set of criteria j = {1, 2…, m} is divided into two subsets including agreeable and disagreeable. The agreeable set (S_{ke}) is a set of criteria in which k alternative is preferred than e and its complement set is opposed (I_{ke}) (Eq. 5):

$S_{ke}=\{j|v_{kj} \geq v_{ej}\}$

$I_{ke}=\{j|v_{kj} < v_{ej}\}$ (5)

Step 5: Creating the matrix of agreement by computing the index of agreement(C_{ke}). The index is obtained by summing the weight of the criteria set in the agreement. It is between k and e (Eq. 6):

$$C_{ke}=\frac{\sum_{f\in s_{ke}} w_j}{\sum_{j=1} w_j} \quad (6)$$

In this formula, For the set of normalized weights ΣWj is equal to one (Eq. 7): so:$C_{ke}=\sum_{j\in s_{ke}} w_j$ (7)

The agreement index shows the preference of k alternative over than e, which varies from zero to one. The matrix of agreement is a m * m matrix. It can be subdivided by computing the

agreement index for all pairs of alternatives. In general, this matrix is not symmetric (Eq. 8):

$$X=\begin{bmatrix} - & c_{12} & \cdots & c_{1m} \\ c_{21} & - & \cdots & c_{2m} \\ \vdots & \vdots & - & \vdots \\ c_{m1} & \cdots & c_{m(m-1)} & - \end{bmatrix} \quad (8)$$

Step 6: Determine the disagreeable matrix; The value of the disagreement index varies from zero to one. By computing the disagreement index for all the pairs of alternatives, we can define the disagreement matrix as a m * m matrix, which is generally not symmetric (Eq. 9):

$$D=\begin{bmatrix} - & d_{12} & \cdots & d_{1m} \\ d_{21} & - & \cdots & d_{2m} \\ \vdots & \vdots & - & \vdots \\ d_{m1} & \cdots & d_{m(m-1)} & - \end{bmatrix} \quad (9)$$

Step 7: formation the agreeable dominance matrix; In Step 5 has been described how to calculate the C_{ke} agreement index. In This step a certain value of agreement which is called the threshold of agreement ($\bar{c}$) calculate. If C_{ke} is greater than $\bar{C}$, the preference of k over than e alternative is acceptable, otherwise k has no advantage over e. The threshold value of agreement is calculated by the following relation (Eq. 10):

$$\bar{C} = \sum_{\substack{k=1 \\ k\neq e}}^{m} \sum_{\substack{e=1 \\ e\neq k}}^{m} \frac{c_{ke}}{m(m-1)}$$

$$f_{ke}=\begin{cases} 0 & c_{ke} \geq \bar{c} \\ 1 & c_{ke} < \bar{c} \end{cases} \quad (10)$$

Step 8: formation the disagreeable dominance matrix; this matrix (g) is formed as like as agreeable mystery matrix. To this end, the threshold of disagreement($\bar{d}$) must be expressed by the decision maker, which can be, for example, the mean of disagreement indicators (Eq. 11):

$$\bar{d}=\sum_{\substack{k=1 \\ k\neq e}}^{m} \sum_{\substack{e=1 \\ e\neq k}}^{m} \frac{d_{ke}}{m(m-1)}$$

$$g_{ke}=\begin{cases} 0 & d_{ke} > \bar{d} \\ 1 & d_{ke} \leq \bar{d} \end{cases} \quad (11)$$

Step 9: The formation of the final dominance matrix: The final dominance matrix H is obtained by multiplying each of the dominance matrix symmetries by f in the opposite dominance matrix G (Eq. 12):

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$$=f_{ke}.g_{ke}h_{ke} \quad (12)$$

Remove less satisfing options and select the best option: The final dominance matrix H expresses the partial preferences of the options. For example, if the value of hke is equal to 1, it means that the preference of option k over option e is acceptable in both cases (ie, its superiority is above the threshold of agreement and its opposition or weakness is above the threshold of opposition). Less) But still k has the chance to be dominated by other options. An option must be chosen that is more dominant than defeated.

2.1. Study Area

Lorestan province, covers an area of about 28559 Km^2. It is located in the west of Iran in the Zagros Mountains. The province is bounded by Hamedan province from the north and Khuzestan from the south, and also from the east by Isfahan and the west by Kermanshah and Ilam provinces. Lorestan is the thirteenth province in terms of population which is one of the most populous provinces of Iran. Oshtorankouh is the highest point (4150 m) in the province and its lowest point(500m) is located in the southern part of the province. Plenty of water resources and springs is a great opportunity to create natural waterfalls. 12 percent of the country water resources are in this province and its rank is 3th. There are about 20 different waterfalls in Lorestan that attract many tourists each year, in different seasons.

3. Results and discussion

Based on the steps of the selected technique to prioritization the destination waterfalls of Lorestan province, decision- making matrix was created and standardized. Then the weight of each index was calculated (Table 1).

Table 1. Indicators used to prioritize cascades

Waterfall	township	Residential Infrastructures	Roadside accommodations	Tour and Travel agencies	Passenger Transport corporations	Distance from nearest town	Distance from the capital city of the province	Access to tourism Facilities Near Attractions	Access to the gas station	Access to medical centers	Number of Attractions
Nojian	Khorramabad	25	15	14	13	30	35	11	6	8	18
Ab-safid	Aligoudarz	7	8	6	7	50	135	4	2	4	12
Venae	Boroujerd	18	13	16	10	34	150	7	4	6	13
Vark	Aligoudarz	7	8	9	6	50	90	4	2	3	8
Bisheh	Doroud	8	10	10	7	35	65	6	3	6	7
chakan	Aligoudarz	6	4	8	6	45	141	4	3	3	4
ghoslgah	Delfan	3	3	6	4	34	15	2	2	3	6
Shirz	Kuhdasht	6	5	10	7	45	135	2	2	4	3
Afrine	Poldokhtar	9	10	9	8	40	80	3	2	2	4
Kakareza	Alashtar	4	7	7	6	35	65	2	0	2	2
Weight	-	0.12	0.11	0.07	0.09	0.13	0.14	0.09	0.08	0.11	0.06

Table 2. Agreeable matrix in the study areas

		1	2	3	4	5	6	7	8	9	10
	1		1	0.92	1	0.88	1	0.96	0.78	1	1
	2	0		0.14	10.92	0.14	0.79	0.73	0.79	0.34	0.65
	3	0.08	0.86		0.86	0.74	0.86	0.86	1	0.86	0.86
	4	0.63	0.63	0.14		0.06	0.79	0.87	0.6	0.42	0.73
Agreeble Matrix	5	0.94	0.94	0.37	0.94		1	0.73	1	0.92	1
	6	0.38	0.38	0.14	0.49	0.08		0.67	0.48	0.34	0.62
	7	0.43	0.43	0.27	0.46	0.27	0.44		0.5	0.52	0.61
	8	0.62	0.62	0.14	0.48	0.16	0.77	0.67		0.27	0.62
	9	0.74	0.74	0.14	0.74	0.73	0.72	0.56	0.81		0.73
	10	0.35	0.35	0.14	0.35	0.35	0.46	0.48	0.47	0.38	
Total	49.82										
	0.55										

Table 3. Disagreeable matrix in the study areas

		1	2	3	4	5	6	7	8	9	10
	1		0.06	0.22	0.06	6.89	006	0.12	0.08	0.05	0.05
	2	0.04		1	0.37	1	056	1	0.56	1	1
	3	1	0.19		0.68	1	0.1	1.18	0.04	1	0.79
	4	0.06	0.42	1		1	0.41	1	0.37	1	0.88
disagreeable matrix	5	0.15	0.04	0.24	1		0.25	0.08	0.25	0.02	0.26
	6	0.06	1	1	1	1		1	0.78	1	1
	7	1	1	085	1	1	0.2		0.19	0.96	0.68
	8	0.06	0.67	1	1	1	1	1		1	1
	9	0.05	1	1	0.77	0.77	1	1	0.68		0.35
	10	0.07	0	1	1	1	1	1	1	1	
Total	63.76										
	0.71										

AS shown in in the table 2 and table 3, agreeable and disagreeable matrix was determined.

Then the threshold of agreement was calculated by the following relation (Eq. 13):

$$\sum_{\substack{k=1 \\ k\neq e}}^{m}\sum_{\substack{e=1 \\ e\neq k}}^{m}\frac{c_{ke}}{m(m-1)} \qquad (13)$$

So, the threshold value of agreement according to the formula is (Eq. 14):

$$\bar{c} = \frac{49.82}{10(10-1)} = \frac{49.82}{90} = 0.55 \qquad (14)$$

According to the threshold value of agreement, its dominance
matrix is created (Table 4).

Table 4. dominance agreeable matrix in the study areas

		1	2	3	4	5	6	7	8	9	10
	1		1	1	1	1	1	1	1	1	1
	2	0		0	1	0	1	1	1	0	1
	3	0	1		1	1	1	1	1	1	1
	4	0	1	0		0	1	1	1	0	1
dominance agreeable matrix	5	0	1	0	1		1	1	1	1	1
	6	0	0	0	0	0		1	0	0	1
	7	0	0	0	0	0	0		0	0	1
	8	0	1	0	0	0	1	1		0	1
	9	0	1	0	1	1	1	1	1		1
	10	0	0	0	0	0	0	0	0	0	

At the next step, the dominance disagreeable matrix is formed (table 5). Due to this, as mentioned following, the value of disagreeable threshold was calculated (Eq. 15):

$$\bar{d} = \frac{63.76}{10(10-1)} = \frac{63.76}{90} = 0.71 \qquad (15)$$

Table 5. dominance disagreeable matrix in the study area

		1	2	3	4	5	6	7	8	9	10
dominance disagreeable matrix	1		1	1	1	0	1	1	1	1	1
	2	1		0	1	0	1	0	1	0	0
	3	0	1		1	0	1	1	1	0	0
	4	1	1	0		0	1	0	1	0	0
	5	1	1	1	1		1	1	1	1	1
	6	1	0	0	0	0		0	1	0	0
	7	0	0	0	0	0	1		1	0	1
	8	1	0	0	0	0	0	0		0	0
	9	1	1	0	0	1	1	0	1		1
	10	1	0	0	0	0	0	0	0	0	

Also, the final dominance matrix was calculated by multiplying the dominance agreeable and disagreeable matrix. Table 6 shows this matrix. At last step, the less satisfied alternatives were deleted and the best of them selected (Table 7).

Table 6. Final Dominance Matrix in the study area

		1	2	3	4	5	6	7	8	9	10
The final matrix	1		1	1	1	0	1	1	1	1	1
	2	0		0	1	0	1	0	1	0	0
	3	0	1		1	0	1	1	1	0	0
	4	0	1	0		0	1	0	0	0	0
	5	0	1	0	1		1	1	1	1	1
	6	0	0	0	0	0		0	0	0	0
	7	0	0	0	0	0	0		0	0	0
	8	0	0	0	0	0	0	0		0	0
	9	0	1	0	0	1	1	0	1		1
	10	0	0	0	0	0	0	0	0	0	

Table 7. Number of dominating and defeating alternatives and selecting the best alternative in the study areas

Ab safid	The final score	Lose	win
Nojian	8	0	8
Ab safid	-2	5	3
Venae	4	1	5
Vark	1	1	2
Bisheh	6	1	7
chakan	-6	6	0
ghoslgah	-3	3	0
Shirz	-5	5	0
Afrineh	3	2	5
Kakareza	-3	3	0

According to the finding that is shown in Table 7, the final score of Absefid, Chakan, Ghasalgah, Shiraz, and Kakarza waterfalls are negative, so they deleted among the alternatives. On the contrary, the scores of the Nojian, Bishe, Vanae, Afrineh, and vark waterfalls are in the best situation respectively. The results of this study about the importance of Nojain and Bisheh to tourism investment and development are confirmed by the results of Asadpourian et al. (2019) and Ajzae Shokouhi et al. (2014) but with the different priorities because of the different criteria and their weights that depending on the point of view of experts. Also, in the paper of AjzaeShokouhi et al. (2014) only 7 waterfalls were evaluated.

4. Conclusion

One of the important tasks of development planners is to evaluate and identify the potentials and capabilities of geographical areas especially the tourism destination. These findings and results can help them to improve their plans and activities to develop the areas. Waterfalls and cascades are some of the most important capabilities of an area to develop the tourism industry. According to the natural capacities of Lorestan Province as a famous

area because of having numerous waterfalls, this study purposed to evaluate and identify the priorities of the waterfall tourism destination in Lorestan to investments. To this end, 10 out of 16 waterfalls was selected as a tourism destination and prioritizing. The results showed that Nojian, Vanaei, and Vark waterfalls are in the best situation to investment and development of tourism development in Lorestan. According to the finding of ELECTRE methods, among all alternatives, the Nojian waterfall are in the first rank to investment.

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