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# Using SWOT Analysis of Ecotourism to Unlock its Potential for Sustainability. Case study of Urgut, Samarkand

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**Abstract:** An Ecotourism SWOT analysis will be helpful as tourism industry is experiencing rapid growth in Samarkand. The purpose of the study is not only to analyze current facts but also to outline what needs to be done to use ecotourism as one of the most efficient drivers of sustainable development. Expert opinions from 15 specialists were used to analyze the situation. AHP (Analytic Hierarchy Process) model was used to enhance SWOT analysis. The result of the analysis showed that the area has a variety of distinctive cultural expressions, as well as natural and cultural amenities. However, the problems in the interdisciplinary of the institutions and lack of a wide variety of service forms impede the effective promotion of ecotourism in the area.

**Keywords:** Ecotourism, SWOT Analysis, Natural Resources, Sustainable Development

## 1. Introduction

The ecological crisis is caused by the wrong use of the natural resources. This scenario creates obstacles for the sustainable development processes. The economic and social effects of both of them are really outstanding, having perfect comprehension of all available resources, as well as their intelligent consumption. If you do not research the deficiencies in the use of natural resources measuring and analyze their availability, it can result in spending large amount of money, but there is no expected result, wasting time, loss of nature is very difficult to replenish. This occupied an important part of the process of sustainable development as ecological tourism today and the countries of the world are trying to promote this field of tourism even more. The outcome is to reach the expected result measuring the development of each field.

## Literature review

In a country's income tourism can be one of the important industrial activities. Being one of the newly emerging and rapidly growing directions of tourism ecotourism can have potential factors for the industry development and nature conservation (Alimin et al., 2024). Abiding interest in ecotourism let destinations to promote their special offerings in an effective way (Soimin, 2023). Ecotourism respects local culture and their sociocultural and natural environment (Jafari, 2005). It is believed to be one of the most effective strategies for promoting conservation, creating employment opportunities and generating income for local communities (Holland et. al., 2022). Moreover, ecotourism effects a tourist perception, experience, and knowledge about nature, local landscape, and wildlife of an area (Kiper, 2013). In order to demonstrate their capabilities governments develop a suitable plan. As tourism has multidisciplinary nature intersectoral condition is crucial in

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a strategic planning (Nikolau et al., 2011). Economic benefit from ecotourism stimulates risk management among stakeholders and income diversification (Lapeyre, 2010). If ecotourism is properly planned and effectively organized it will harmonize travel industry, nature conservation and local livelihood (Angessa et al., 2022). Ecotourism might have side effects unless it is properly planned. It is developed based on ecological, social, economic and institutional aspects (Sobhani et al., 2023). Positive results are often due to well-organized management and the best training. Due to the huge positive relationship between nature and society of ecological tourism, efforts to develop this sector are rapidly gaining popularity. Another important aspect of the industry is that it encourages not only representatives of the tourism industry, but also representatives of a number of other industries to establish serious cooperation. (Hosseinaliza S & Haghlesan S., 2018) The development of ecotourism can have threat to rare ecosystems. Thus, effective ecotourism management must have special strategic planning. It can use the SWOT analysis (strengths, weaknesses, opportunities and threats) which can determine external threats and opportunities, and internal weaknesses and strengths (Hong & Chan, 2010). The management of eco-tourism destinations and the method of identifying opportunities for eco-tourism in the development of the sector in the region are important. This is a method that allows you to see the level of achievement of the intended goals and measures to eliminate problems that may be encountered in the future. The method of determining the possibilities of ecotourism is a mechanism for clarifying the perceptions and understandings of tourists about the area, and forming their respect for the nature and inhabitants of the area. The probability of occurrence through this method is characterized by the ability to inform about existing crises in advance. Identifying these ecotourism opportunities helps to better understand the mechanisms of tourism planning, management and development (Sahariri M. et al., 2023)

Internal and external environments are needed thoroughly analyzed to have systematic approach for a decision making (Yuksel I & Dagdeviren M., 2007). Applying SWOT analysis in decision making process helps to implement an effective strategy (Kangas J. et al., 2001). In this paper the factors influencing the development of ecotourism in Urgut, Samarkand were evaluated by using the SWOT analysis. This provided a good basis for a strategy formulation and AHP (Analytic Hierarchy Process) model is used to establish relative priorities on absolute scales through discrete and continuous comparison in multilevel framework.

## 2. Materials and Methods

Study area: Urgut district is located 50 km southeast of Samarkand city. Geographic coordinates of the district are 39.4188031, 67.2490344. The district with an area of 1120.3 km<sup>2</sup> is surrounded by Zarafshan mountain. The district occupies a leading position in the production of agricultural products. Most of the cultivated areas are planted with grain and rice crops. 1.4 thousand hectares of land of the district consists of parks and 4608 thousand hectares of pastures. Although the territory of the district is small, it consists of plains, mountains and sub-mountains.

Data collection: 15 experts who had experience on tourism management were selected and the data collected. The data were collected from March to April 2024. In an open-ended questionnaire they were asked to point out strength, weaknesses, opportunities and threats of the area. Finally, their answers were compared.

## 3. Results and Discussion

Today people's attitude towards nature has changed dramatically, and in developed countries, specially protected areas have been expanded, and ecological tourism has been effectively launched. In this regard, the competition has become quite significant. It is for this reason that new directions and innovative methods are used in the organization of ecological tourism. In our country, expanding the flow of tourists is considered as an

urgent issue, and in the process of finding ways to use tourism opportunities wisely, finding ways to use the tourist opportunities of the district as much as possible is, in our opinion, one of the positive solutions in the implementation of the goals set forward in the field of tourism. can be one. We used the method of SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis to determine the ecotourism potential of the district. This type of analysis helped us get a complete picture of the internal (strengths and weaknesses) and external (opportunities and threats) environment of the district.

Based on the primary and secondary data collected during our research, the district's strengths, weaknesses, opportunities, and threats were determined as follows:

**Table1**  
**Results of SWOT analysis of Urgut district**

	USEFUL	HARMFUL
<b>INTERNAL</b>	<b>S</b>	<b>W</b>
<b>TE</b>	Rich in natural and cultural resources	High unemployment
<b>RN</b>	Many places of pilgrimage	Lack of information resources
<b>AL</b>	The existence of a national park	Deficiencies in cooperation between organizations
<b>EN</b>	Well-preserved features of unique culture	Lack of qualified personnel
<b>VI</b>		
<b>RO</b>		
<b>N</b>		
<b>ME</b>	The state's attention to the region	Bad infrastructure
<b>NT</b>		
<b>EXTERNAL</b>	<b>O</b>	<b>T</b>
<b>TE</b>	Material income of the local population	Uneven distribution of profits
<b>RN</b>	Growth of national craft products	Further deterioration of flora and fauna
<b>AL</b>		
<b>EN</b>	Attracting foreign investors	Temporary jobs
<b>VI</b>	An effective solution for nature conservation	Narrow scope of services
<b>RO</b>	Improvement of the standard of living of the local population	Dense population in the area
<b>N</b>		
<b>ME</b>		
<b>NT</b>		

The collected data were numerically analyzed based on the AHP (Analytic Hierarchy Process) evaluation factor, and the current situation was concluded. We considered the AHP method to be the most effective method to prioritize the elements of the SWOT analysis and took each aspect into consideration.

AHP is a multi-criteria decision-making method that solves existing common problems through alternatives by dividing them into certain parts. In order to determine the relative importance, a pairwise comparison is made, the most alternative options are selected from among them, and a decision is made. AHP is very effective in finding

solutions for sub-groups of problems with subjectivity. The AHP method was developed by Saaty in 1980, and his calculation method highlights the importance of calculating pairwise comparisons of factors. The following numbers are involved in the even counting method. One of the most important aspects of this method is that as a result of it, we can have a clear idea about the organizational and economic aspects of organizing the use of natural resources in the region.

Table2

## A pairwise comparison measure

Significance level	Definition
1	Both criteria are equally important in achieving the goal
3	Experience and judgment have a slight advantage over each other
5	Experience and judgment have a significant advantage when compared to each other
7	The extremely important importance of the criterion has been confirmed in practice
9	The importance of one criterion over another is overestimated
2,4,6,8	It is used to maintain a balance between the advantages mentioned above

In the analysis, we identified 4 aspects (strengths, weaknesses, opportunities and threats of the district) based on the initially collected data. We gave 5 criteria for each of them. The criteria were compared according to the calculation method. In doing so, their scope of influence was taken into account and based on a 9-level rating scale.

If  $C = \{C_j \mid j=1, 2, \dots, n\}$  denotes a set of criteria, the result of the comparison measure is that each element of the matrix  $A$  is equal to a matrix of size  $a_{ij}$  ( $i, j=1, 2, \dots, n$ )  $n \times n$ . It will look like this:

$$A = (a_{ij})_{nm} = \begin{bmatrix} a_{11} & a_{12} & \dots & a_{1n} \\ a_{21} & a_{22} & \dots & a_{2n} \\ - & - & - & - \\ - & - & - & - \\ - & - & - & - \\ a_{n1} & a_{n2} & \dots & a_{nn} \end{bmatrix}$$

In the last step each matrix is normalized and its relative dimensions are found. Relative measurements are determined based on the eigenvector equal to the largest eigenvalue, where the eigenvalue ( $\lambda_{\max}$ )

$$A w = \lambda_{\max} w$$

If the matrix  $A$  is equal to 1, then the pairwise comparison index is consistent. The result of calculations in the AHP calculation program depends on the consistency of pairwise comparisons. The consistency index is found by the following formula:

$$CI = \frac{\lambda_{max} - n}{n - 1}$$

The last level of consistency determines the effectiveness of the obtained results.

$$CR = \frac{CI}{RI}$$

Here:

CI=consistency index

RI=random index

CR(consistency rate) is equal to 0.1. The random index has the following indicators:

n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
RI	0.00	0.00	0.58	0.90	1.12	1.24	1.32	1.41	1.45	1.49	1.51	1.48	1.56	1.57	1.59

**Table3**  
**Analysis of SWOT groups**

SWOT groups	S	W	O	T	The importance level of SWOT groups
S	1	3	1	3	0,37
W	0,33	1	0,25	2	0,16
O	1	4	1	2	0,37
T	0,33	0,50	0,50	1	0,11
CR=	0,08				

**Strengths Comparison Matrix**

	S1	S2	S3	S4	S5	Total	Eigenvector
Rich in natural and cultural resources	1	4	3	0,25	2	10,25	0,2860
Many places of pilgrimage	0,25	1	2	0,33	0,50	4,08	0,1140
The existence of a national park	0,33	0,50	1	0,33	0,33	2,50	0,0698
Well-preserved features of unique culture	4	3,00	2	1	2,00	12,00	0,3349
The state's attention to the region	0,50	2,00	3,00	1/2	1	7,00	0,1953
CR=	0,1						

**Weaknesses Comparison Matrix**

	W1	W2	W3	W4	W5	Total	Eigenvector
High unemployment	1	0,50	0,33	0,50	0,33	2,67	0,08
Lack of information resources	2	1	0,25	2	0,25	5,50	0,17

Deficiencies in cooperation between organizations	3,00	4	1	2	0,50	10,50	0,32
Lack of qualified personnel	2	0,50	0,33	1	2	5,83	0,18
Bad infrastructure	3	2	2	0,50	1	8,50	0,26
CR=	0,1						

#### Opportunities Comparison Matrix

	O1	O2	O3	O4	O5	Total	Eigenvector
Material income of the local population	1	0,20	4	0,20	2	7,40	0,17
Growth of national craft products	2	1	5	0,50	3	11,5	0,27
Attracting foreign investors	0,25	0,20	1	0,20	0,33	1,98	0,05
An effective solution for nature conservation	5	2	5	1	4	17	0,39
Improvement of the standard of living of the local population	0,50	0,50	3	0,25	1	5,25	0,12
CR=	0,06						

#### Threats Comparison Matrix

	T1	T2	T3	T4	T5	Total	Eigenvector
Uneven distribution of profits	1	3	3	0,50	4	11,5	0,31
Further deterioration of flora and fauna	0,33	1	3	0,33	0,50	5,17	0,14
Temporary jobs	0,33	0,33	1	0,25	0,50	2,4	0,06
Narrow scope of services	2	3	3	1	4	13	0,35
Dense population in the area	0,25	2	2	0,25	1	5,5	0,15
CR=	0,08						

#### Overall dominance levels of SWOT factors

SWOT groups	Group dominance	Factors of SWOT groups	Predominance of factors in the group
Strength	0,365	Rich in natural and cultural resources	0,2860
		Many places of pilgrimage	0,1140

		The existence of a national park	0,0698
		Well-preserved features of unique culture	<b>0,3349</b>
		The state's attention to the region	0,1953
<b>Weaknesses</b>	0,163	High unemployment	0,0808
		Lack of information resources	0,1667
		Deficiencies in cooperation between organizations	<b>0,3182</b>
		Lack of qualified personnel	0,1768
		Bad infrastructure	0,2576
<b>Opportunities</b>	0,365	Material income of the local population	0,1716
		Growth of national craft products	0,2666
		Attracting foreign investors	0,0460
		An effective solution for nature conservation	<b>0,3459</b>
		Improvement of the standard of living of the local population	0,1217
<b>Threats</b>	0,106	Uneven distribution of profits	0,3060
		Further deterioration of flora and fauna	0,1375
		Temporary jobs	0,0643
		Narrow scope of services	<b>0,3459</b>
		Dense population in the area	0,1463

The well-preserved unique culture of the district is its advantage, and these factors can be effectively used in the development of ecological tourism. The unique cultural manifestations of the district are the manifestations of culture embedded in the lifestyle of the population, their values and traditions. Such cultural manifestations are the result of respect for the cultural heritage of the local population from ancient ancestors. The people of the world today are considered to be the epitome of unique cultural manifestations. It is rapidly becoming popular. Considering that cultural tourism has not yet been formed in our country, we believe that it will be useful in all respects to direct this direction to ecological tourism. Most of the population living in 120 community groups of the area are engaged in commerce, embroidery, blacksmithing, tailoring, and production of ceramics. It is natural that such activities arouse great interest among foreign guests.

According to the results of the calculations, the shortcomings in the cooperation of organizations (with an indicator of 0.3182) showed the weak side of the district. Without strong mutual cooperation of various organizations, it is obvious that there will be problems in the effective organization of ecological tourism. Following the processes in the tourism activity of the district, we witnessed that attention is mainly paid by the state. In the process, it is necessary to regularly work in cooperation with a team of non-state ecologically knowledgeable staff, a representative from the local administration, a representative from the people working in the national park, and scientists working in higher education institutions. In addition, infrastructure (0.2576) is one of the subtle



aspects of the district. In the field of tourism, infrastructure is one of the most important conditions, especially if it is not harmful to nature, its importance increases even more.

The indicator of 0.3459 showed that it can be an effective solution for nature conservation in the factor of opportunities in the organization and development of ecological tourism. This opportunity is very important not only for the district, but also for the Samarkand region at a time when environmental problems are escalating. Based on our calculations, the organization and development of ecological tourism in the region creates the possibility of further growth (0.2666) of the national handicraft products of Urgut district.

The narrow range of services can be an obstacle to the development of this direction of tourism in the district. In addition, the uneven distribution of profits can also hinder the development of the sector. According to the analysis of SWOT factors, the area has high strengths (S) and opportunities (O). This, in turn, indicates that there is an effective solution for the development of tourism in the district.

#### 4. Conclusion

Urgut is rich in natural and cultural resources, and located in a convenient geographical location which plays a significant role in developing ecotourism activities in the area. Unique cultural heritage forms have always been the cause of people's interest. Lack in cooperation among key players of ecotourism is hindering the development of ecotourism. This situation is one of the most important aspects of the field and requires a serious approach to this problem taking in to account that the future long-term effective operation of ecotourism depends on strong cooperation.

The expansion of opportunity to protect the environment and positive changes in the standard of living of the local population means the fulfillment of the requirements of sustainability. SWOT analysis can provide accurate information about all spheres of influence of the area in the development of ecotourism and provide vital information for the planning process. In this regard, we can highlight SWOT analysis as one of the most effective methods.

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