

Elaboration and Presentation of a Model for the Sustainable Development of Tourism Destinations with a Focus on Peri-Urban Spaces (Case Study: Mashhad's Countryside)

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Abstract

Today, the tourism industry, as an economic driver and engine of societal development, experiences high mobility in economic, political, social, urban, and environmental changes. This research aims to clarify and present a model for the sustainable development of tourist destinations with a focus on the peri-urban spaces of Mashhad City. Fourteen indicators were used to assess the spatial planning for sustainable tourism development among peri-urban spaces to present the research model. The necessary data was collected through field visits using questionnaires. The research results show that the spatial planning dimensions and indicators are effective in explaining the sustainable development of tourist destinations. The selected indicators, considering the conditions and requirements of the regions, can be tested and implemented in similar villages. Therefore, the most important factor in the process of spatial planning for sustainable development of peri-urban tourist destinations is, first, identifying the location's (environmental and physical) potential, including a variety of natural attractions, the quality of attractions, the location of attractions, the human dimension (socio-cultural) including cultural and political, community participation and education, the activity dimension (functions) including accommodation, hospitality, service distribution, and information, investment, employment, and income generation.

Keywords: Sustainable development, Spatial planning, Tourism, Peri-urban

Introduction

Iran has extensive capabilities for tourism development (Darvishi et al., 2023). This activity is recognized as one of the most important economic axes for promoting employment and income. Besides its economic and social effects, tourism also has cultural implications that directly and indirectly impact local communities. In the contemporary world, tourism has evolved beyond an economic activity. It has always been a complex phenomenon, recognized as a social and dynamic phenomenon (Iilito, 2008). Spatial Planning as a Tool for Sustainable Development One of the approaches to change and transformation in sustainable development, which has received attention in most countries worldwide, is spatial planning (Nastaran et al., 2023). Therefore, spatial planning is a key tool in establishing frameworks for sustainable economic, social, and regional development, both within and between countries (Saraei et al., 2022). Due to the challenges arising from economic, social, and political development at local, regional, national, and international scales, and the consequences of underdeveloped rural areas, such as widespread poverty, growing inequality, rapid population growth, unemployment, migration, environmental degradation, excessive exploitation of natural resources, and marginalization of rural areas, the need for new planning models for sustainable rural development has become

increasingly imperative (Eshraqi Oskoei et al., 2023). Tourism in Peri-Urban Villages as a Source of Employment and Income Tourism in peri-urban villages can be used by local managers as a new source of employment and income for residents to improve their quality of life (Movahedi et al., 2022). However, before that, improving the quality of life depends on a systematic plan to create and develop the liveability index of peri-urban villages. Therefore, the present study aims to investigate the relationship between rural management and the economic, social, and environmental liveability of villages with peri-urban tourism potential (Movahedi et al., 2023). This tendency is so strong that in some countries, tourism has even been promoted as a unique alternative to the economy, receiving significant encouragement and support from the government. This helps the local economy but also improves the situation of households (Fleischer, 1997). At the same time, tourism relies on environmental sustainability and protection, economic revival and stability, and the development of small-scale tourism businesses as a *modus operandi* for achieving its goals (Getz, 1998). Unplanned tourism growth in peri-urban areas and ignoring the demands and opinions of local people, which ultimately leads to the centralization of programs, can cause serious damage to villages (Dadrou et al., 2019). Peri-urban tourism has emerged over the past decade as a tool for economic revitalization. It is also considered a way to preserve and celebrate local culture and resources (Hanaei et al., 2021). The instability of the agricultural sector and the risks and threats faced by this sector, which not only threaten the income of villagers and farmers but also jeopardize the lives of part of the community, have doubled the growing need for new sources of income in peri-urban areas. Therefore, finding new sources of income based on the intrinsic characteristics of societies and planning to reduce the negative aspects of such activities is one of the top priorities for development officials in countries (Bahadorinejad et al., 2020). Therefore, in the past two decades, peri-urban communities and development managers and policymakers have been involved in strengthening and diversifying income sources for residents of these areas and planning to organize activities and programs that are largely unplanned in peri-urban areas. (Alavi et al., 2020). Research results show that planned tourism development pursues goals such as sustainable local employment, economic growth, and increased income, increased costs associated with infrastructure development, promoting development for other economic sectors, community participation in environmental and local cultural protection, and increased cultural exchange between tourists and local residents (Keshvari Hamdani et al., 2022). The development of tourism has had many effects on local residents, which are often categorized into three categories: the first category includes economic factors such as income, employment, and prices; the second category includes socio-cultural factors such as international communication, revival of traditions and local culture; and the third category includes environmental protection of natural areas and wildlife and increased knowledge about nature (Amini et al., 2023). Other positive effects of peri-urban tourism include increased income and living standards, improved local economy, and increased employment opportunities (Anbari et al., 2021). On the other hand, negative effects of tourism include increased prices for goods and services such as land and houses, increased noise pollution, traffic and congestion, and destruction of landscapes and historical sites (Parizadi et al., 2023). Explaining and analyzing the development model and its review and the lack of spatial planning in peri-urban areas form the basis of this research problem. Thus, in addition to reducing the negative effects of the development of the tourism industry in these areas, it is possible to create conditions that return the benefits of tourism activities in tourist destinations to peri-urban communities. Therefore, to pursue and investigate sustainable tourism development, research in the field of sustainable tourism with a peri-urban space approach has been focused, because on the one hand, the villages of the country are considered natural heritage due to their natural resources, natural landscapes, geographical and environmental conditions, climate, topography, and hydrology, and their protection along with proper economic use is essential. On the other hand, the link between sustainable tourism development and spatial planning finds a more tangible manifestation. This is especially emphasized in rural and peri-urban areas located within the environmental protection zones of target tourism villages since outside these areas, despite the tourism potential, due to the weakness of laws and supporting policies, tourism in these areas has weak sustainability.

Study Area:

The Binalood (Torghabe and Shandiz) County, with an area of 1200 square kilometers, is located at latitude and longitude — 35.9808421, 59.3619026, in the northern half of Razavi Khorasan Province, west and northwest of Mashhad County. This county, after Mashhad city, is considered the most important tourist area and the gem of

tourism in Razavi Khorasan Province. The regions of Torghabe and Shandiz have numerous recreational, hospitality, accommodation, and welfare centers. This county, with its unique regions from the past to the present, has provided an important base for attracting domestic and foreign tourists. This county, due to its location on the northern slopes of the Binalood Mountain Range and enjoying a moderate climate, abundant water, vast orchards, and beautiful natural landscapes, is one of the major centers for travelers and tourists from Mashhad City and all over Iran. This county currently consists of two districts, Torghabe and Shandiz, which became a county in the country's divisions in late 2008. The maximum altitude from sea level in this county is 3059 meters in Jaghargh, and the minimum altitude from sea level is 1170 meters in the Torghabe Dam basin. The average annual rainfall in the county is 360 mm, and the average temperature is 11.3 degrees. The average dry months of the year are 4 months. The average altitude of the county is 2132 meters. The geographical length of this county is 59°3'10" to 59°36'59" N and the geographical width is 36°30'37" to 36°04'18" E (Razavi Khorasan Province Cultural Heritage and Tourism Organization, 2023).

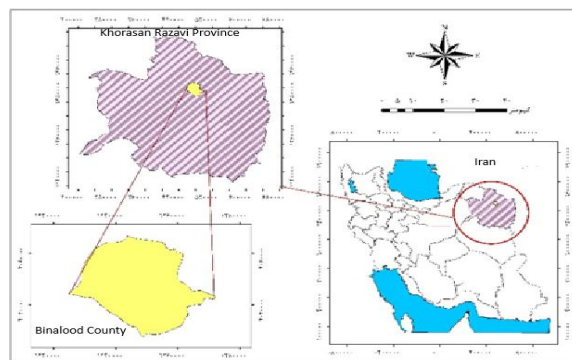


Fig. 1: Study area geographical location (Source: The author, 2024)

Theoretical Framework: The sectoral approach to development, especially in the first few decades and the establishment of the development planning system in the country, was influenced by the prevailing views in various dimensions (Jalali et al., 2020). This is evident from the current situation in the country, where the over-centralization and dominance of the sectoral approach in planning have disrupted the development process of the country and rendered planning ineffective (Naderianfar et al., 2021). Therefore, unlike the sectoral approach, spatial planning with its holistic approach within the framework of spatial development seeks to address the phenomenon of regional imbalance and offer suitable solutions for achieving balanced, comprehensive, and sustainable development across the territory. Hence, in the spatial planning of any country, one of the spatial capabilities under consideration is the tourism potential of each region, which, by identifying it within a sustainable framework, provides a platform for spatial development (Hazrati et al., 2023). Spatial planning in the field of tourism in any region is carried out through the feasibility of tourism development to identify the potential for tourism development (Pearce, 2000, p. 36). Hence, the development of the tourism industry is an essential and indispensable strategy for reducing regional and territorial imbalances and adjusting the disparity between rural and urban areas in terms of opportunities, resources, and benefits. This should be considered as one of the axes of land management and comprehensively reviewed and implemented (Allah Yari et al., 2023). Therefore, developing such a new vision in the field of tourism industry development in spatial planning requires considering many different issues and matters. Neglecting any of them and focusing too much on the existing situation will not lead to a desirable outcome. This is especially true when it comes to the subject of urban and rural communities and the interaction between humans and nature, as it will add to the importance and complexity of the relationship between spatial planning and tourism (Rahimi et al., 2023). In this regard, tourism studies with an emphasis on the planning approach in rural sustainable development, although not prescribing a single mechanism for all spatial areas in the country, show the diversity of natural environments in terms of geomorphology with varying intensities in different locations and the superiority of diverse natural characteristics or cultural and historical

factors with tourism approach and strategies. In this regard, with this approach, comprehensive development can be achieved while preserving natural characteristics and maintaining human groups in rural areas (Molaei, 2020). In analyzing the problems, concentration, and density of population and human activity, and the accumulation of service demands in urban networks, rural areas are introduced as suitable areas. In this way, it is possible to reduce the tendency and movement towards cities. By distributing jobs and stabilizing activities in rural functions, the level and size of migration can be reduced and the depth and size of income gaps can be limited (Badri et al., 2017). Therefore, on the one hand, spatial planning of rural tourism, with its orientation towards sustainable development, will pave the way for regional development and the formation of local tourism. On the other hand, it will play a balancing role and necessarily pursue and implement social justice in income distribution, and geographical and regional justice (Rayejian Asli et al., 2023). To elaborate on the subject of the research, as mentioned earlier, the theoretical framework addressed the importance of the subject matter and, ultimately, focused on the relationship between sustainable tourism development and spatial planning. The combination of the information gathered led to a definition of spatial planning in tourism. It is a set of organized, purposeful, and systematic factors and conditions for regulating and coordinating the triangle of human, place, and activity in various economic, socio-cultural, and environmental programs for tourism development, according to local needs and capabilities, ensuring the well-being of stakeholders, and achieving social justice in spatial and geographical dimensions for sustainable tourism development and maintaining the capabilities of the regional geography. Conceptual Model of Spatial Planning in Tourism Based on the theoretical conceptual model and the definition provided, the crucial issue in spatial planning for sustainable tourism development is identifying the factors influencing spatial planning. By studying the components and elements of spatial planning for sustainable tourism development, which were generally discussed and examined in the theoretical framework, the optimal empirical model for the development of sustainable tourism destinations is presented in Fig. 2.

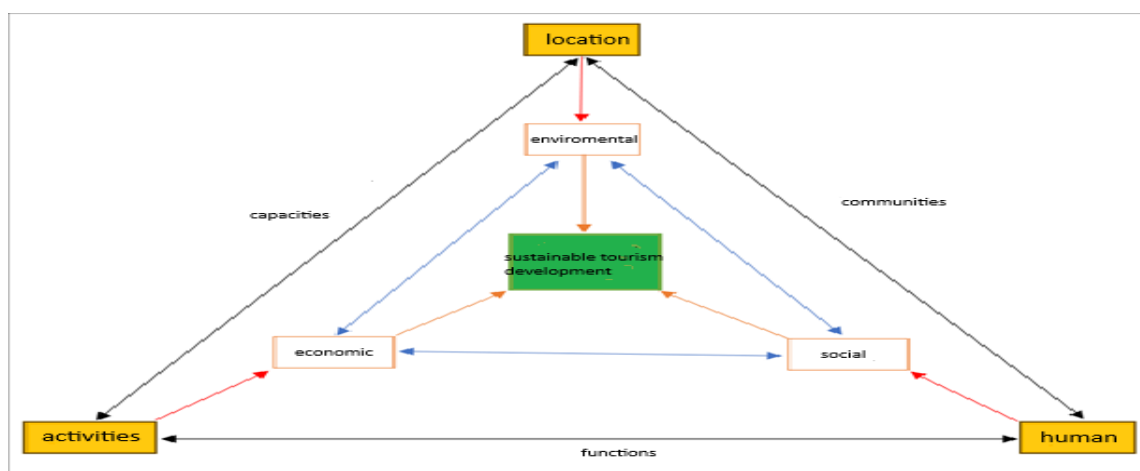


Fig.2: Conceptual model of spatial planning for sustainable development of pre-urban tourism (Source: The authors, 2024)

Considering the definition and the optimal conceptual model of spatial planning for sustainable tourism development, we can point to three essential steps in the proposed model: Step 1: Considering the location factor (environmental potential) as model input, which plays the role of basic elements in the model, the human dimension (social and cultural) as a background dimension, and the activity dimension (functional dimension). At this stage, the primary focus is on the management and planning procedures that facilitate and encourage stakeholders in areas with tourism potential and capacity, including government regulations, and institutional and political planning. In the environmental conditions domain, it focuses on primary factors including human-made attractions, natural, historical-cultural, cultural-social, geographical-environmental attractions, and secondary factors including economic, socio-cultural, institutional (managerial), infrastructural (physical), and environmental factors. Therefore, based on the theoretical discussions, spatial planning analyses, tourism, and the three mentioned dimensions, the final components and variables affecting spatial planning for sustainable tourism

development have been developed and presented (Table 1) (Yang & Fik, 2014; Dede et al., 2012; Mukwada & Manatsa, 2013; Sarrion-Gavilan et al., 2015; Guedes & Jimenez, 2015).

Tab. 1: Dimensions, components, and variables effective in spatial planning of sustainable tourism

Dimensions	Components	Variables
Location	Capacities	Natural attractions
		Historical-cultural attractions
		Special-type attractions
		Position of attractions
		Quality of attractions
Human	Social-cultural	Tourists
		Local people participation
		Institutional-political
		Local social norms
		Reduction of tendency to migration
Activities	Economic-functional	Destination spatial range
		Welfare services
		Safety and security services
		Health services
		Electronic services
		Residential services
		Hospitality services
		Distribution and information services
		Investment attraction
		Income sources
		Job creation

Source: The authors (2024)

The second step indicates the outcome of sustainable tourism development manifested in three forms: a) economic, b) socio-cultural, and c) environmental and physical.

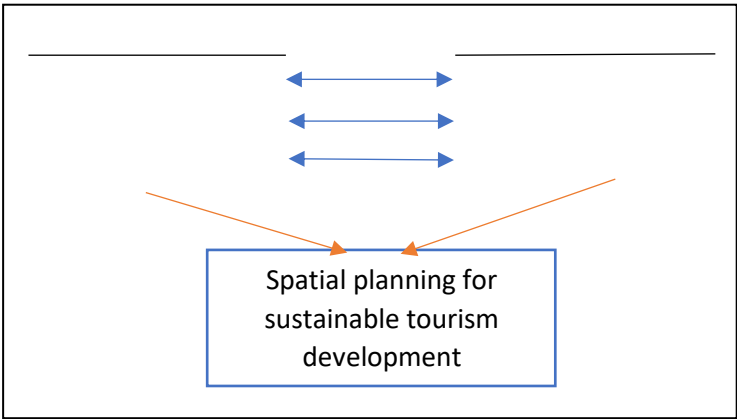


Fig. 3: Dimensions of spatial planning and its combination with sustainable tourism development (Source: The authors, 2024)

Spatial planning is a vital tool for achieving sustainability in tourism through which indicators such as potential (location), socio-cultural (human dimension), and functions (activity dimension) can be assessed. However, it should be noted that there is no consensus among researchers regarding the complexity of tourism spatial planning development. The factors influencing spatial planning development in tourism and the manner and extent of application of each planning process depend on several essential factors, including the difference in the mode of application and its effects, the location of planning, the time of planning, the policies and procedures of laws in the geographical, social, political, and cultural dimensions. It is worth noting that the experiences of countries worldwide, particularly the components for the questionnaire, were used to present the spatial planning model for sustainable tourism development, leading to the final model. Therefore, as mentioned earlier, the crucial issue regarding the relationship between spatial planning and sustainable tourism development and the factors influencing it is how these steps and factors affect each other and connect. Based on the above analyses in the context of the various dimensions of the issue, a model can be designed that combines and integrates the theoretical and empirical conceptual models. This model explains the relationship between the process of spatial planning and sustainable tourism development based on the theoretical model of the research (Fig. 4). In this framework, the combination of the four mentioned components, activity, social, environmental, and physical conditions, and sustainable tourism development, shapes the spatial planning of sustainable tourism development.

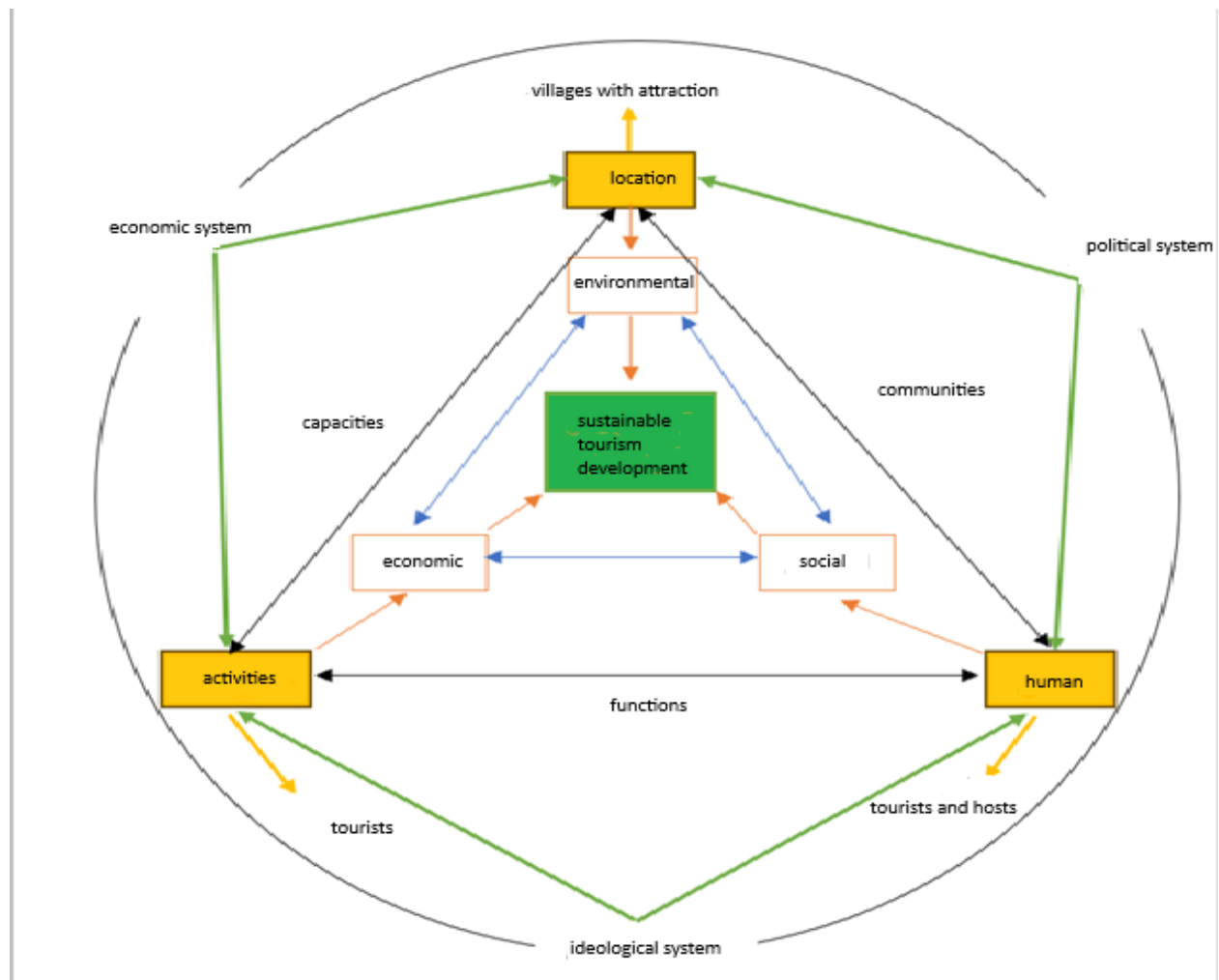


Fig. 4: Optical theoretical model for explanation of spatial planning for sustainable tourism development
(Source: The authors, 2024)

Method:

The present study is applied, and the research method is descriptive-analytical. To collect data and information, documentary and survey methods (observation and questionnaire) were used. By visiting the district offices and the Cultural Heritage, Handicrafts, and Tourism Organization of the county and obtaining complete information from the experts of the Provincial Cultural Heritage, Handicrafts, and Tourism Organization, the areas of Torghabe, Shandiz, and Jaghargh were selected as the statistical population of this research. To investigate this issue, the population and sample were divided into three groups. The first group consists of experts in this field (experts from the Cultural Heritage, Handicrafts, and Tourism Organization and responsible officials of the regions), who were chosen using total population sampling (26 people). The second group was composed of tourists who visited these areas, who, according to the statements of the managers of each region, were estimated to number 272,000 tourists between 2016 and 2017. Therefore, to determine the number of tourist questionnaires, the Cochran formula was used with a margin of error of 0.07%. A total of 196 questionnaires were calculated and randomly distributed among tourists. According to the 2016 census, the population of the tourist destination areas has been calculated to be 69,640 individuals. Based on the Cochran formula and a margin of error of 0.07, 195 questionnaires were distributed among the local residents. Ultimately, the sample size for each of the specified areas has been determined. Three types of questionnaires were designed for this research, including questionnaires for local people (hosts), tourists, and experts. Each questionnaire was validated separately, and reliability was calculated. To validate the questionnaires, resources reviewed and the opinions of the consultant and supervisor professors were used, and necessary corrections were made to the questionnaires. Additionally, for reliability assessment, 30 questionnaires were prepared and distributed to each group, and the questionnaires were completed by professors and experts. Reliability Analysis As shown, the reliability coefficient obtained from the Cronbach's alpha test is high. Therefore, the questionnaires are highly reliable. The results of this test are shown in Tab. 2.

Tab. 2: Cronbach's alpha for independent and dependent variables

Approach	Type of variable	Variable name	Indicator	Cronbach's alpha	Alpha
Local people	Independent	Spatial planning	Location	0.843	0.629
			Human	0.919	
			Activity	0.748	
	Dependent	Sustainable tourism development	Natural-environmental	0.604	0.768
			Physical	0.601	
			Social-cultural	0.666	
			Economic	0.703	
Tourists	Independent	Spatial planning	Location	0.617	0.625
			Human	0.635	
			Activity	0.702	
	Dependent	Sustainable tourism development	Natural-environmental	0.646	0.694
			Physical	0.655	
			Social-cultural	0.799	
			Economic	0.649	

Source: The authors (2024)

Given the Cronbach's alpha coefficient obtained, it can be confidently stated that the questionnaire questions have high internal consistency and are therefore reliable. Thus, it can be said that the research has the necessary reliability. To address the stated objective, three groups of local people, tourists, and experts were used. The main reason for designing three questionnaires was to identify areas of difference between the perspectives of local people, tourists, and experts on the issue of sustainable tourism development and spatial planning in the villages of the region. It also aimed to strengthen aspects where the three groups converged in their views on sustainable

tourism development and spatial planning, reduce areas with significant differences, and create convergence among these three groups as internal and external forces influencing sustainable tourism development and spatial planning. Data Analysis In the next step, the completed questionnaires were coded, and the coded data were transferred to the SPSS software for analysis. In other words, they were first examined using inferential statistics (multiple regression, correlation).

Findings:

The objectives under consideration were examined from the perspective of the three groups under consideration to determine the contribution of each group. After the categorization of the three dimensions of spatial planning, its effects on sustainable tourism development were investigated. To analyze the relationship between independent variables (spatial planning) and dependent variables (sustainable tourism development) and the effect of variables in the villages under study, the correlation test, regression analysis, and coefficient of determination R² were used. According to Table 3, from the perspective of local people, there is a significant relationship between the variables under consideration. Also, the examination of the fit of the regression model shows that 52% of the changes are related to the spatial planning variable.

Tab. 3: Regression determination coefficient for effects of spatial planning on sustainable tourism development (local people's perspective)

Multiple-regression coefficient	Determination coefficient	Adjusted coefficient of determination	Standard deviation
0.721	0.520	0.513	0.369

Source: The authors (2024)

The F-statistic (146.69) indicates that the effect of spatial planning on sustainable tourism development is significant. The findings in Tab. 4 show a significant relationship between the variables.

Tab. 4: Regression analysis for effects of spatial planning on sustainable tourism development (local people's perspective)

Components	Sum squares	Degree of freedom	Mean squares	F-Statistic	Significance level
Regression effect	28.235	3.000	9.412	69.146	0.000
Remainder	26.035	191.000	0.136		
Total	54.271	000194			

Source: The authors (2024)

The results obtained from the perspective of local people indicate that among the three dimensions of spatial planning examined in the studied villages, the location dimension (0.394) has the most significant impact, while the activity dimension (0.254) has the least impact on sustainable tourism development (Tab. 5).

Tab. 5: Impact-coefficients of spatial planning indicators on sustainable tourism development (local people's perspective)

Variable name	Non-standard coefficients		Standardized coefficients	t-statistic	Significance level
	B	B error	Beta (β)		
y-intercept	0.964	0.149	--	6.466	0.000
Activity	0.188	0.048	0.254	3.962	0.000
Human	0.192	0.035	0.302	5.443	0.000
Location	0.287	0.043	0.394	6.669	0.000

Source: The authors (2024)

Following the above points, considering that regression analysis only examines the direct effects of independent variables on dependent variables and does not address indirect effects, the path analysis method was used to obtain better results. This method calculates the direct, indirect, and overall effects of independent variables on dependent variables. As shown in Tab. 6 and Fig. 5, from the perspective of local people, both location and activity dimensions have an indirect effect on sustainable tourism development.

Tab. 6: Calculation of indirect effects of independent variables on the main dependent variable

Variables	Direct effects on the dependent variable
Activity	$0.422 \times 0.302 = 0.127$
Human	$0.533 \times 0.254 = 0.070$
Location	$0.140 + 0.070 = 0.210$

Source: The authors (2024)

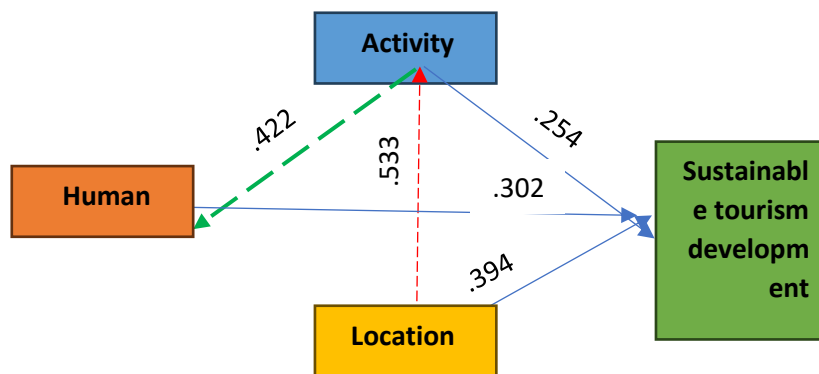


Fig. 5: The impact of spatial planning dimensions on sustainable tourism development (local people's perspective), Source: Authors: 2024

Tab. 7 shows that among the dimensions of spatial planning, the location dimension has the most significant direct effect (0.394) on sustainable tourism development from the perspective of local people. At the same time, only the human dimension has no indirect effect on sustainable tourism development.

Tab. 7: Direct and indirect effects of research variables

	Direct effects	Indirect effects	Total
Activity	0.254	0.127	0.381
Human	0.302	-	0.302
Location	0.394	0.210	0.604

Source: The authors (2024)

Fig. 6 shows the optimal model of sustainable tourism development with a spatial planning approach from the perspective of local people in the study area. As shown in Figure 5, Pearson's correlation and multiple regression were used to examine the relationship and impact of spatial planning dimensions on sustainable tourism development. The following relationships were obtained from Pearson's correlation: 1. (Location - Human = 0.167); 2. (Location - Activity = 0.525); 3. (Activity - Human = 0.422); 4. (Economic - Environmental - Physical = 0.498); 5. (Social - Environmental - Physical = 0.577); 6. (Economic - Social = 0.515). Conclusion To examine the effects of spatial dimensions on the dimensions of sustainable tourism development in the peri-urban area under study, the following relationships were obtained according to the regression model: 1. (Location - Environment - Physical = 0.543); 2. (Human - Social = 0.472); 3. (Activity - Economic = 0.541). Finally, to investigate the effect of spatial planning dimensions on sustainable tourism development, the following relationships were obtained according to the regression model: 1. (Human - Sustainable Tourism Development = 0.302); 2. (Location - Sustainable Tourism Development = 0.394); 3. (Activity - Sustainable Tourism

Development = 0.254). Therefore, considering the examination of the effects and relationship between the dimensions of spatial planning and sustainable tourism development, it can be concluded that, from the perspective of local people, the impact of spatial planning dimensions on sustainable development is evident. However, from the perspective of local people, location and activity have a more significant impact.

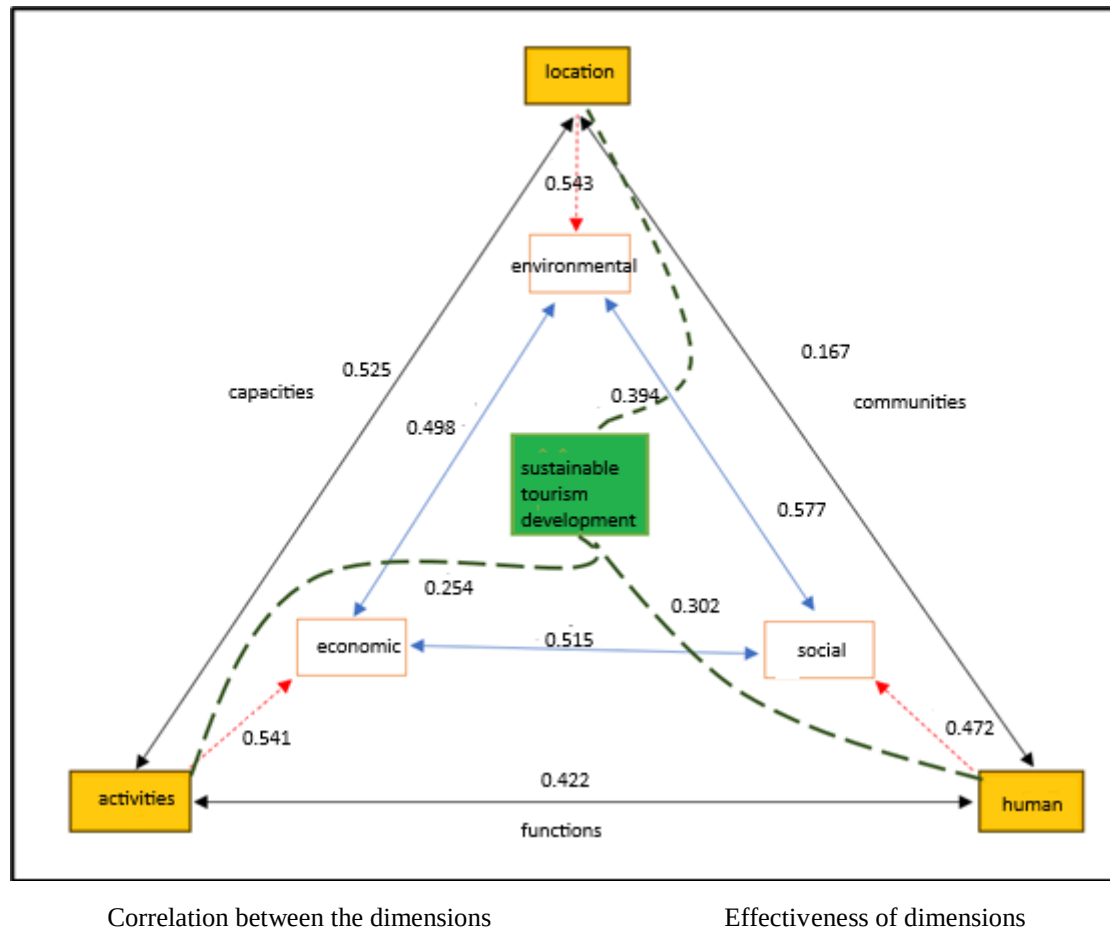


Fig. 6: Empirical conceptual model of the spatial planning pattern for sustainable tourism development in the studied area (local people), Source: Authors: 2024

The objectives under consideration were analyzed from the perspective of tourists, and the fit of the regression model for the factors influencing the impact of spatial planning dimensions on sustainable tourism development shows a coefficient of 0.52 in the villages under consideration (Tab. 8).

Table 8: Regression coefficient of the effect of spatial planning dimensions on sustainable tourism development (tourist perspective)

Multiple-correlation coefficient	Determination coefficient	Adjusted coefficient	determination	Standard deviation
0.723	0.523	0.515		0.417

Source: Authors (2024)

The F-statistic (141.70) at the significance level confirms the application of the regression model for evaluating the impact of independent variables (spatial planning) on the dependent variable of sustainable tourism development (Tab. 9).

Tab. 9: Regression analysis of the impact of spatial planning on sustainable tourism development (tourists' perspective)

Components	Sum squares	of Degree freedom	of Mean squares	F-statistic	Significance level
Regression impact	36.621	3.000	12.207	70.141	0.000
Remainder	24.415	000192	0.174		
Total	70.036	000195			

Source: Authors (2024)

The values of the beta coefficient (B) from the perspective of tourists show that the human dimension, activity, and location have an impact on sustainable tourism development with coefficients of 0.226, 0.169, and 0.508, respectively. Also, the highest beta coefficient belongs to the two dimensions of location and human. Therefore, strengthening the two dimensions of human and location, especially the participation and cooperation of local people with tourists, and improving public spaces and the environment for sustainable tourism development are necessary (Tab. 10).

Tab. 10: Impact coefficients of spatial planning indicators on sustainable tourism development (tourists' perspective)

Variable name	Non-standard coefficients		Standardized coefficients	t-statistic	Significance level
	B	B error	β)beta (		
y-intercept	0.612	0.190	--	3.213	0.000
Activity	0.183	0.071	0.169	2.590	0.000
Human	0.143	0.035	0.508	8.427	0.000
Location	0.474	0.056	0.226	4.068	0.000

Source: Authors (2024)

Next, to reach a better result, path analysis was used, which calculates the direct, indirect, and overall effects of independent variables on the dependent variable. According to Tab. 11 and Fig. 7, from the perspective of tourists, both location and activity dimensions have an indirect impact on sustainable tourism development.

Tab. 11: Calculation of indirect effects of independent variables and overall effects of independent variables on the main dependent variable

Variables	Indirect effects on the dependent variable
Activity	$0.440 \times 0.226 = 0.099$
Human	-
Location	$0.566 \times 0.226 = 0.127$

Source: Authors (2024)

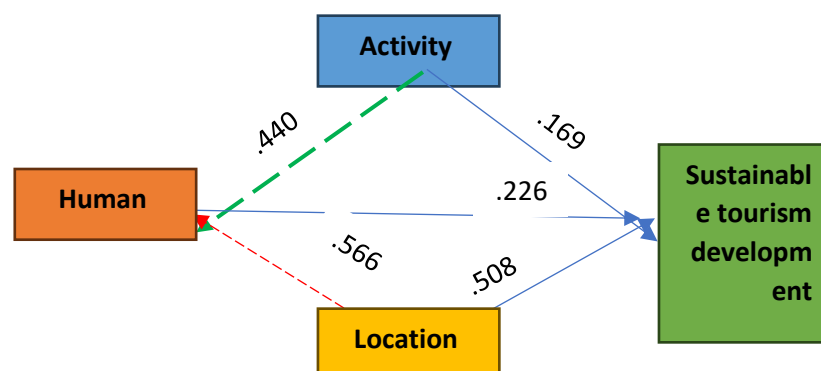


Fig. 7: The impact of spatial planning dimensions on sustainable tourism development (tourist perspective),
Source: Authors (2024)

Tab. 12 examines the effects of spatial planning dimensions from the perspective of tourists. According to the results, the location dimension has the highest direct impact (0.508) on sustainable tourism development. The human dimension has no indirect effect on sustainable tourism development; however, overall, from the perspective of tourists, the location dimension has the greatest impact on sustainable tourism development.

	Direct effects	Indirect effects	Total
Activity	0.169	0.099	0.268
Human	0.226	-	0.226
Location	0.508	0.127	0.635

Source: Authors (2024)

Fig. 8 shows the optimal model of sustainable tourism development with a spatial planning approach from the perspective of tourists in the study area. Therefore, the following relationships were obtained based on Pearson's correlation: (Human-Location = 0.241), 2. (Human-Activity = 0.440), 3. (Activity-Location = 0.562), 4. (Economic-Environmental-Physical = 0.194), 5. (Social-Environmental-Physical = 0.434), 6. (Economic-Social = 0.680).

To investigate the effects of spatial dimensions on the dimensions of sustainable tourism development in the region under study, the following relationships were obtained according to the regression model: 1. (Location-Environment-Physical = 0.355), 2. (Human-Social = 0.334), 3. (Activity-Economic = 0.479). Finally, to investigate the effect of spatial planning dimensions on sustainable tourism development, the following relationships were obtained:

1.(Location-Sustainable Tourism Development = 0.508), 2. (Human-Sustainable Tourism Development = 0.226), 3. (Activity-Sustainable Tourism Development = 0.169). Therefore, considering the examination of the effects and relationship between spatial planning dimensions and sustainable tourism development, it can be concluded that from the perspective of locals, the impact of spatial planning dimensions on sustainable development is evident. However, in the opinion of tourists, location is more important.

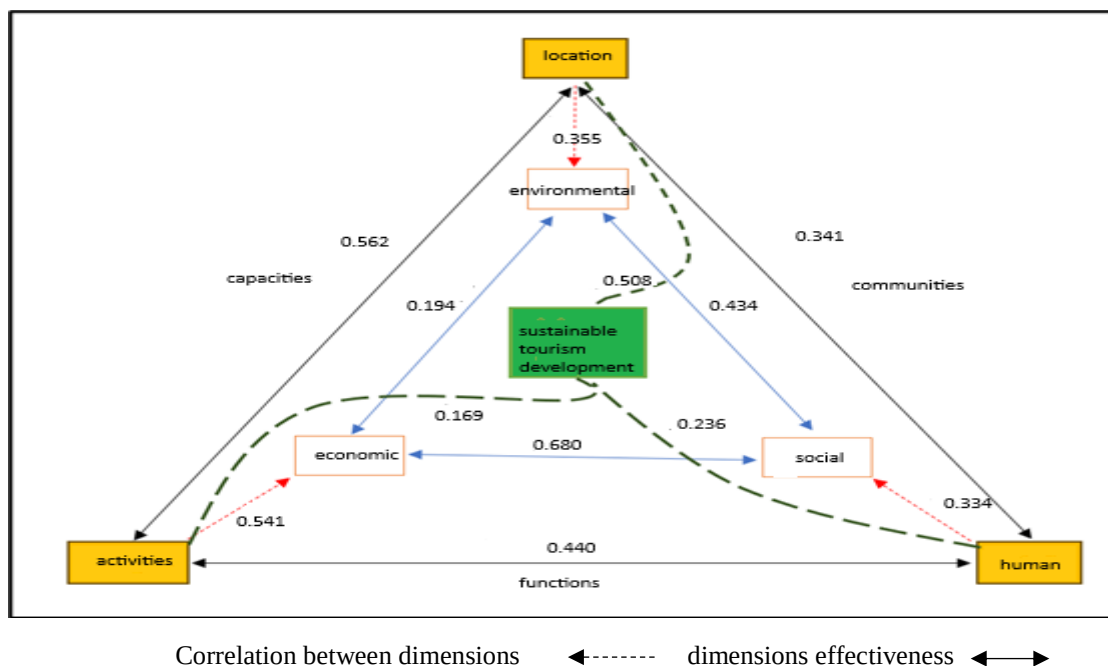


Fig. 8: Empirical conceptual model of the spatial planning pattern for sustainable tourism development in the studied area (tourists), Source: Authors: 2024

In the third step, the objective under consideration was examined from the perspective of the third group (experts). The results show that there is a significant relationship between the variables under consideration. The examination of the regression model fit indicates that 76% of the changes in sustainable tourism development in the villages under consideration are تابع (dependent variable) of the dimensions of spatial planning (Tab. 13).

Tab. 13: Coefficient of determination of regression of spatial planning dimensions on development

Multiple-correlation coefficient	Coefficient of determination	Adjusted coefficient of determination	Standard deviation
0.873	0.762	0.730	0.387

Source: Authors (2024)

The effect of spatial planning on sustainable tourism development is significant and notable from the perspective of experts based on the F-statistic (479.23).

Tab. 14: Regression analysis of the impact of spatial planning on sustainable tourism development (experts' perspective)

Components	Sum of squares	Degree of freedom	Mean squares	F-statistic	Significance level
Regression impact	10.536	3.000	3.512	23.479	0.000
Remainder	3.291	22.000	0.150		
Total	13.827	25.000			

Source: Authors (2024)

According to the values in Tab. 15, among the three dimensions of spatial planning examined in the areas under consideration and from the perspective of experts, the location (0.460), activity (0.351), and human (0.316) dimensions have a significant impact on sustainable tourism development.

Tab. 15: Impact coefficients of spatial planning indicators on sustainable tourism development (experts' perspective)

Variable name	Non-standard coefficients		Standardized coefficients	t-statistic	Significance level
	B	B error	β)beta (		
y-intercept	-1.185	0.565	--	-2.099	0.048
Activity	0.503	0.175	0.351	2.874	0.009
Human	0.278	0.100	0.316	2.783	0.011
Location	0.643	0.168	0.460	3.820	0.001

Source: Authors (2024)

Next, to assess the direct and indirect effects of spatial planning dimensions from the perspective of experts, path analysis was used. Based on Tab. 16 and Fig. 8, the location dimension has an indirect effect on sustainable tourism development.

Tab. 16: Calculation of indirect effects of independent variables

Variables	Indirect effects on the dependent variable
Activity	-
Human	-
Location	0.413*0.351=0.144

Source: Authors (2024)

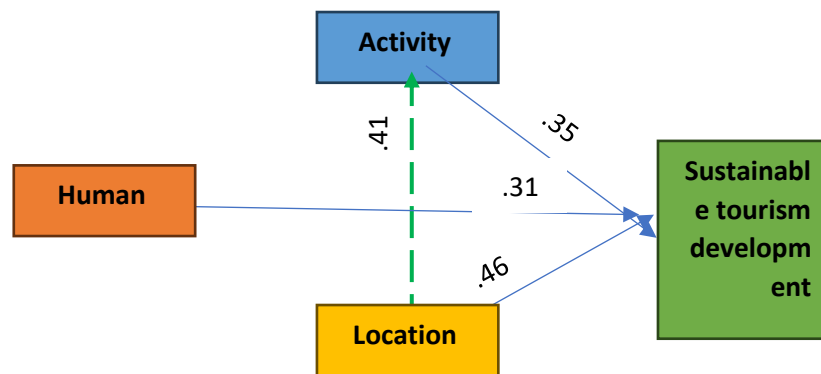


Fig. 8: The impact of spatial planning dimensions on sustainable tourism development (experts' perspective),
Source: Authors (2024)

Tab. 17 shows that among the dimensions of spatial planning, the location dimension has the highest direct impact of 0.460 on sustainable tourism development. At the same time, only the location dimension has an indirect effect on sustainable tourism development, and overall, the location dimension shows the greatest impact on sustainable tourism development from the perspective of experts.

Tab. 17: Direct and indirect effects of variables

	Direct effects	Indirect effects	Total
Activity	0.351	-	0.351
Human	0.316	-	0.316
Location	0.460	0.144	0.604

Source: Authors (2024)

Fig. 9 shows the optimal model of sustainable tourism development with a spatial planning approach from the perspective of experts in the research area. Therefore, the following relationships were obtained based on Pearson's correlation: 1. (Location-Human = 0.324), 2. (Location-Activity = 0.477), 3. (Activity-Human = 0.359), 4. (Economic-Environmental-Physical = 0.766), 5. (Social-Environmental-Physical = 0.782), 6. (Economic-Social = 0.732). To investigate the effects of spatial dimensions on the dimensions of sustainable tourism development in the research area, the following relationships were obtained according to the regression model: (Location-Environment-Physical = 0.703), 2. (Human-Social = 0.304), 3. (Activity-Economic = 0.774). Finally, to investigate the effect of spatial planning dimensions on sustainable tourism development, the following relationship was obtained: (Human-Sustainable Tourism Development = 0.316), 2. (Location-Sustainable Tourism Development = 0.460), 3. (Activity-Sustainable Tourism Development = 0.351).

Therefore, considering the examination of the effects and relationship between spatial planning dimensions and sustainable tourism development, it can be concluded that from the perspective of experts, the impact of spatial planning dimensions on sustainable development is evident. However, in the opinion of locals, location has a greater impact.

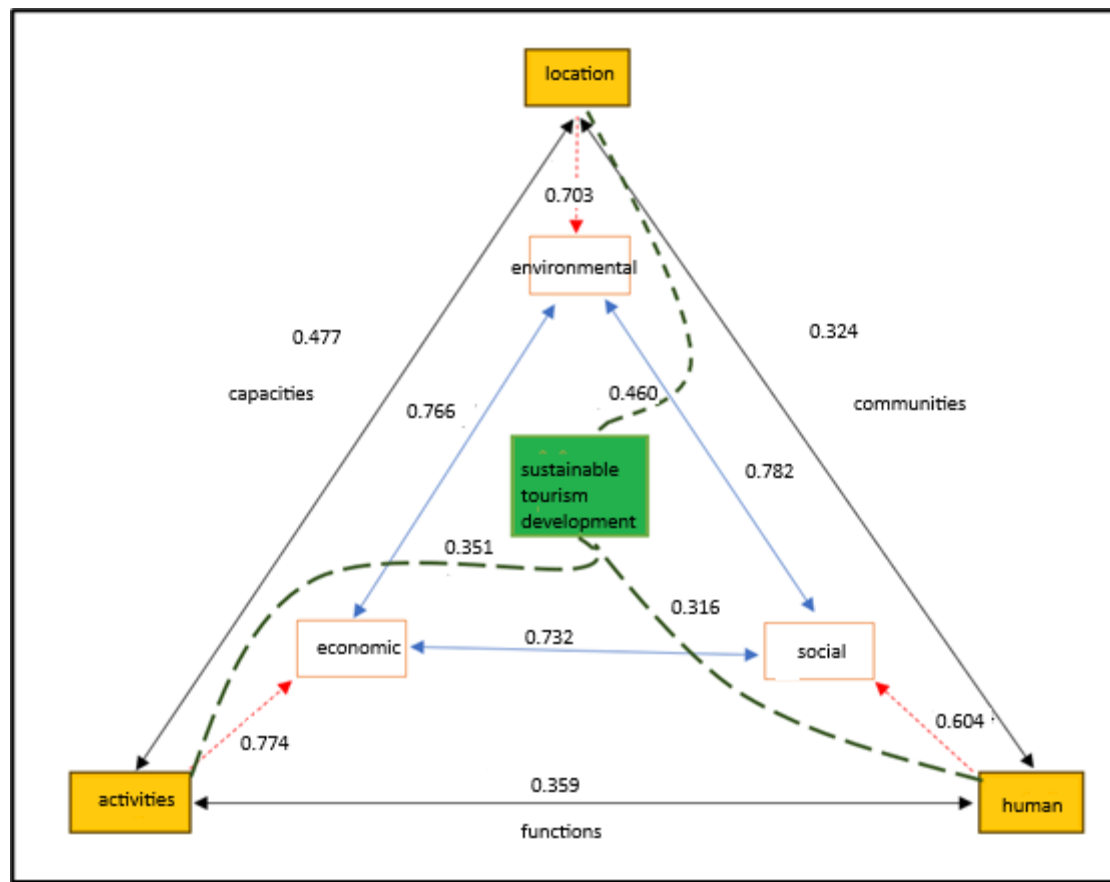


Fig. 9: Empirical conceptual model of the spatial planning pattern for sustainable tourism development in the studied area (experts' perspective), Source: Authors: 2024

Correlation between dimensions ←-----dimensions effectiveness→

To examine the hypothesis in question, the views of the three groups were combined and the results were evaluated. The fit of the regression model shows that 53% of the changes in the dependent variable are explained by the independent variable (Tab. 19).

Tab. 18: Regression coefficient of spatial planning dimensions on sustainable tourism development (groups)

Multiple-correlation coefficient	Coefficient of determination	Adjusted coefficient of determination	Standard deviation
0.73	0.53	0.52	0.41

Source: Authors (2024)

Based on the F-statistic (153.08), the effect of spatial planning on sustainable tourism development is reported to be significant (Tab. 19).

Tab. 19: Regression analysis of the impact of spatial planning on sustainable tourism development (groups)

Components	Sum of squares	Degree of freedom	Mean squares	F-statistic	Significance level
Regression impact	75.46	3.00	25.15	153.08	0.00

Remainder	67.87	413.00	0.16
Total	143.33	416.00	

Source: Authors (2024)

As shown in Tab. 20, the human, activity, and location dimensions of tourism have a significant impact on sustainable tourism development from the perspective of the three groups examined (local people, tourists, and experts), with coefficients of 0.28, 0.22, and 0.52, respectively.

Tab. 20: Impact coefficients of spatial planning indicators on sustainable tourism development (groups)

Variable name	Non-standard coefficients		Standardized coefficients	t-statistic	Significance level
	B	B error	β)beta (		
y-intercept	0.77	0.11	--	6.69	0.00
Activity	0.20	0.04	0.22	5.10	0.00
Human	0.16	0.02	0.28	7.35	0.00
Location	0.39	0.03	0.52	12.67	0.00

Source: Authors (2024)

Next, considering that in the regression test, only the direct effects of the independent variable on the dependent variable are examined and the calculation of indirect effects is excluded, path analysis was used to obtain a better result. This method calculates the direct, indirect, and overall effects of independent variables on the dependent variable. According to Tab. 21 and Fig. 10, the two dimensions of location and activity have an indirect effect on sustainable tourism development from the perspective of all three groups.

Tab. 21: Calculation of indirect effects of independent variables

Variables	Indirect effects on the dependent variable
Activity	$0.340 \times 0.28 = 0.095$
Human	-
Location	$0.267 \times 0.28 = 0.074$
	$0.587 \times 0.267 = 0.156$
	$0.587 \times 0.340 \times 0.28 = 0.055$
	$0.055 + 0.156 + 0.074 = 0.287$

Source: Authors (2024)

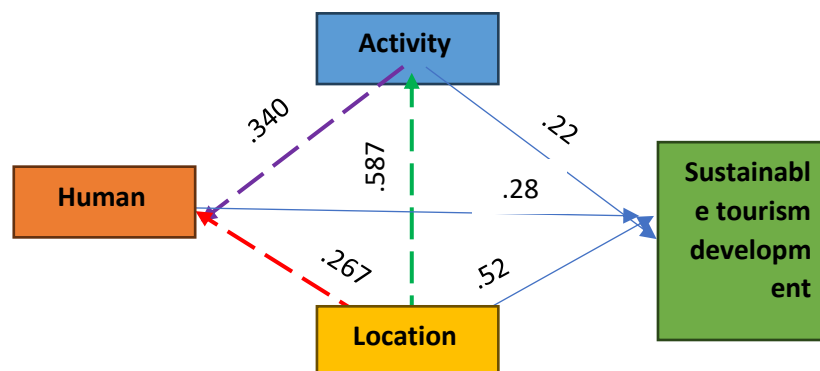


Fig. 10: The impact of spatial planning dimensions on sustainable tourism development (three groups' perspective), Source: Authors (2024)

In Table 22, among the dimensions of spatial planning, the location dimension has the highest direct impact (0.52) on sustainable tourism development from the perspective of all three groups, and overall, the location dimension has the greatest impact on sustainable tourism development from the perspective of all three groups.

Tab. 22: Direct and indirect effects of variables

	Direct effects	Indirect effects	Total
<i>Activity</i>	0.22	0.095	0.351
<i>Human</i>	0.52	0.287	0.807
<i>Location</i>	0.28	-	0.280

Source: Authors (2024)

Therefore, in general, considering the views of the three groups examined and their integration, and the findings of the regression tests, there is a significant and positive relationship between the dimensions of spatial planning and sustainable tourism development. Among these, the effect of the location dimension is greater than the others. As mentioned earlier, the developed theoretical model refers to both the relationship between the three dimensions of spatial planning and sustainable tourism development and the proposed model for the spatial planning of sustainable tourism development in the region under consideration. Therefore, in this research, a model has been designed to provide a better interpretation of the spatial planning of sustainable tourism development, which reduces the challenges of peri-urban areas. Fig. 11 shows the optimal model of sustainable tourism development with a spatial planning approach in the area under consideration.

As can be seen, to examine the impact of spatial planning dimensions on sustainable tourism development, Pearson's correlation and multiple regression were used.

Thus, to examine this, the views of the three groups studied in the regions were combined and the following results were obtained. Therefore, the following relationships were obtained based on Pearson's correlation: (Human-Location = 0.171), 2. (Human-Activity = 0.340), 3. (Activity-Location = 0.496).

The correlation between the dimensions shows that there is a positive relationship between humans and activity, indicating a trend of strong interaction between humans and activity in the region under consideration. 4. (Economic-Environmental and Physical = 0.355), 5. (Social-Environmental and Physical = 0.546), 6. (Economic-Social = 0.615). There is also a stronger relationship between the social dimension and the environmental and physical dimension, indicating a trend of change in communities for the environmental and physical dimensions in the region under consideration.

To investigate the effects of spatial dimensions on the dimensions of sustainable tourism development in the region under study, the following relationships were obtained according to the regression model: (Effect of Location Dimension on Environment and Physical = 0.479), 2. (Effect of Human Dimension on Social = 0.267), 3. (Effect of Activity Dimension on Economic = 0.508).

Finally, to investigate the effect of spatial planning dimensions on sustainable tourism development, the following relationships hold according to the regression model. (Effect of Location Dimension on Sustainable Tourism Development = 0.52), 2. (Effect of Human Dimension on Sustainable Tourism Development = 0.28), 3. (Effect of Activity Dimension on Sustainable Tourism Development = 0.22).

Therefore, considering the examination of the effects and relationship between the dimensions of spatial planning and sustainable tourism development, it can be concluded that from the perspective of the three groups (local people, tourists, and experts), the impact of spatial planning dimensions on sustainable development is evident, indicating that if the three elements of spatial planning are strengthened, we will witness sustainable tourism development.

Based on the results obtained from field studies and tests, the empirical model of research is drawn in Fig. 11.

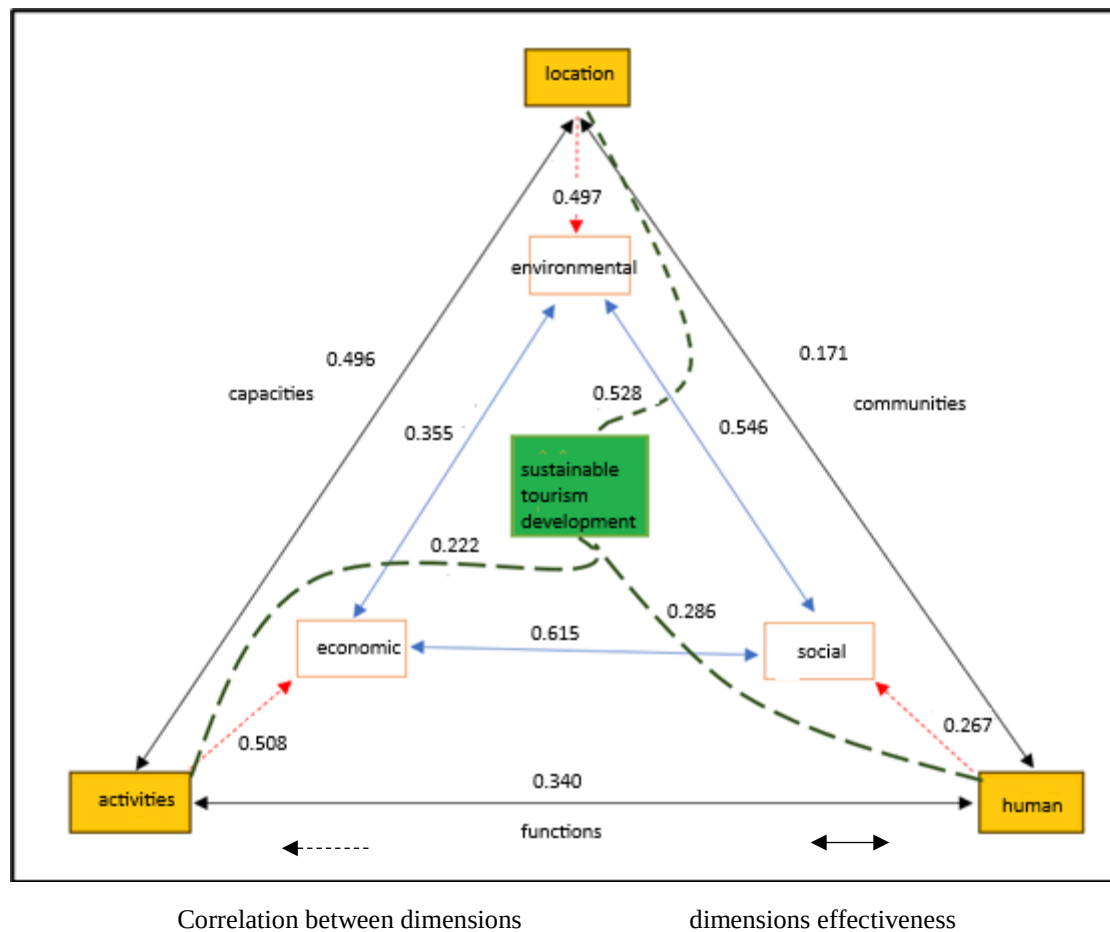


Fig. 11: Empirical conceptual model of the spatial planning pattern for sustainable tourism development in the studied area (experts' perspective), Source: Authors: 2024

In general, the results obtained from studies, observations, experiments, and field studies show that the dimensions and indicators of spatial planning are effective in explaining sustainable tourism development in peri-urban areas.

Conclusion:

Spatial planning of sustainable tourism development is a paradigm that encompasses all three dimensions of location, human, and activity, as well as economic, social, and environmental factors, in an integrated manner. Therefore, sustainable tourism and its spatial planning encompass a comprehensive set of indicators for all three of these dimensions, which forms the basis of this research. For this reason, in the first phase, within the framework of the methodology, and based on domestic and international studies, the operational definition of the indicators for evaluating the objectives was addressed, and the conditions and existing situation in the study area were adapted. The result is that 43 and 36 indicators for spatial planning and sustainable tourism development, respectively, from the perspective of local people, 50 and 32 indicators for tourists, and 40 and 32 indicators for experts are considered for the strategy of spatial planning for sustainable tourism. The results obtained from the studies, observations, experiments, and field studies also show that the indicators of spatial planning and sustainable tourism development are effective in explaining tourism development in peri-urban areas. Therefore, testing the theoretical model in the context of the research objective and question yielded new results. As stated earlier, in designing the empirical model to investigate the relationship between spatial planning and sustainable tourism development, it is necessary to consider the perspectives of all stakeholders involved in the tourism sector and be familiar with the conditioning factors and constraints of tourism development. In countries like Turkey, Portugal, Serbia, and Vietnam, spatial planning for sustainable tourism development has been implemented with proper awareness and management in tourist areas. Therefore, the success of these countries in the field of spatial planning for tourism at different national, regional, and local (rural) levels has been achieved through the

adaptation of programs at the three levels by creating an institution at the local (rural) level, regional levels, and transferring decision-making power from the national level to these levels. In Serbia and Portugal, the state system, by creating convergence and participation between the spatial planning departments of tourism at different national, regional, and local (rural) levels, plays a guiding and facilitating role in tourism development and, by granting authority to the states in the legal programs and tourism development policies, considers their role to be strategic. The quantitative and qualitative results of the model show that, first and foremost, in sustainable tourism development, rural and peri-urban communities, as well as governmental and non-governmental organizations, must have a systemic perspective. This is because systemic thinking entails consideration of the spatial planning dimensions and can be a reinforcing factor so that stakeholders interested in tourism development can play their part and use their capabilities for sustainable tourism development. Therefore, merely providing natural attractions and injecting sufficient capital is not enough and is not synonymous with spatial planning for peri-urban areas. In other words, the aforementioned factors are very important in the process of spatial planning for sustainable tourism development, but they are not sufficient. Therefore, the most important factor in the process of spatial planning for sustainable tourism development is, in the first step, to identify the potential of locations (environmental and physical), including the diversity of natural attractions, the quality of the attractions, the location of the attractions, etc.; the human dimension (socio-cultural), including cultural and political, local people's participation and education, etc.; the activity dimension (functions), including accommodation services, hospitality, service distribution and information, investment, employment, and income generation, etc. Despite the understanding of the importance of spatial planning for tourism in the planning literature of the country, in general, due to the lack of clear and precise plans for the method, scale, type, and context of spatial planning for tourism, the planners' mindset in state-national institutions in this matter has not yet been clarified and operationalized. At the regional level, there are problems such as the lack of independence and legal and political authority of regional managers in tourism programs, and at the local level, there are problems such as the lack of legal authority for the local representative and the lack of strategic participation in the field of spatial planning for tourism.

References:

1. Eshraghi Oskouei, Parvin, Bani Fateme, Ebrahimpour, & Abbaszadeh. (2023). A Sociological Study of Social Development Challenges in East Azerbaijan Province. *Sociology Studies*, 500(1), 0.
2. Amiri, Garekani, Seyed Amir Hossein, Zinati Fakhrabadi, & Ghorbani. (2024). Evaluation and Explanation of Social Capital Dimensions Effective in Rural Areas Development Process (Case Study: Dasht Arzaneh District, Bakharz County). *Village and Sustainable Spatial Development*, 5(1).
3. Allahyari, Amir Aria, & Nazari. (2024). Measurement and Ranking of Tourism Capacity in Rural Areas with Land Use Approach (Case Study: Tourist Sample Villages in Kamfirouz District, Marvdasht County). *Spatial Planning and Development*, 4(1), 78-96.
4. Badri, Darban Astaneh, & Saadi. (2018). The Impact of Border Markets on Improving Economic-Social Indicators in Border Rural Areas (Case Study: Bashmagh Border in Marivan). *Spatial Planning*, 7(3), 41-62.
5. Bahadori Amjaz, Farrokh Lagha, Anabestani, & Tavakoli Nia. (2022). The Role of Main Components in Forming Smart Growth Approach in Sustainable Development of Rural Settlements (Case Study: Jiroft County). *Spatial Planning*, 12(2), 91-118.
6. Parizadi, Taher, Saeedi, Omid, Razavi, Seyed Masoumeh, & Hajian. (2024). Analysis of Tourism Effects on Economic Development of Small-Scale Cities Based on Future Research Approach (Case Study: Izeh City). *Geography and Planning*, 28(88), 282-257.
7. Jalali, Afshari, & Mazinanian. (2020). The Impact of Environmental Dimensions of Climate Change on National Security. *Environmental Science and Technology*, 22(9), 179-190.
8. Hanaei, Toktam, Seyed Al-Hosseini, Seyed Moslem, & Khalili. (2022). Prioritization of Sustainable Development Components in Ecological Park Planning (Case Study: Mashhad Mountain Park). *Sustainability, Development and Environment*, 3(1), 79-94.
9. Hazrati, Ahmadzadeh, & Panahi. (2023). Spatial Evaluation of Tourism Development Effects on Citizens' Quality of Life in Tabriz Metropolis. *Urban Tourism Journal*, 10(2), 19-35.
10. Dadvar (Khani), Fazileh, Ghanian, & Mansour. (2019). Explaining Community-Based Peri-Urban Tourism Development Strategies, Case Study of Ken-Soulaghan Region. *Urban Tourism Journal*, 5(4), 121-135.

11. Darvishi, Estelaji, & Armaghan. (2023). Analysis of the Role of Tourism Policies in Enhancing the Diplomatic Status of the Islamic Republic of Iran in the Geopolitical Realm of the Levant. *Human and Environment*, 21(1), 1-17.
12. Rahimi, Naghshbandi, & Seyed Ramin. (2023). Improving the Environmental Quality of City Entrances Considering Public Perspective: A Case Study of Saqqez City Entrances. *Geography and Environmental Planning*, 34(1), 1-24.
13. Rayejian Asli, Rahimi Nejad, Esmail, & Razm Avar Banab. (2023). Legislative Criminal Policy in the Mirror of Cultural Criminology: A Critical Approach to Some Challenges in Iran. *Criminal Law and Criminology Research*, 11(21), 259-302.
14. Saraei, Dasta, & Farzaneh. (2022). Spatial Inequality Analysis in the Distribution of Administrative-Police Services from a Spatial Justice Perspective: A Case Study of Isfahan City Neighborhoods. *Geography and Environmental Planning*, 33(1), 45-66.
15. Alavi, Pari, Sobuti, Houman, & Shahbazi. (2022). Key Factors Affecting the Revival of Inefficient Urban Spaces with a Qualitative Improvement Approach (Case Study: Bisim Neighborhood in Zanjan). *Geography and Environmental Planning*, 33(3), 69-86.
16. Anbari, & Haghi. (2021). Study of Role Transformations and Well-being of Rural Women. *Applied Sociology*, 32(1), 23-58.
17. Kashani Hamadani, Daruyi, Parastoo, Hosseini Kia, Mohammad Amin, & Zianpour. (2022). Introducing the Community Business Matching (CBM) Model for Employment Decision-Making in Local Communities (Case Study: Kahrue Village in Shahreza County). *Urban Economics*, 7(2), 83-100.
18. Movahed, Abdoli, Khazaei, & Abotorabi Zarchi. (2023). Explaining the Relationship between Rural Management and Livability Quality of Peri-Urban Tourism Villages (Case Study: Allah Abad Village, Yazd Province). *Rural and Development*, 26(2), 79-102.
19. Movahedi Reza, & Amiri Fatemeh. (2023). Investigating the Effects of Tourism on Rural Employment (Case Study: Varkane Village in Hamadan County).
20. Mollaei. (2021). Recognizing the Dimensions and Qualities of Courtyard Alleys as a Local Pattern in Iranian Villages and Cities. *Geography and Environmental Planning*, 32(1), 93-118.
21. Naderian Far, Ghanbari, & Bazrafshan. (2021). Analysis of Spatial-Temporal Changes in Rural Participatory Behavior in Implementing the Water Transfer Project from Chah-Nimeh to Agricultural Lands in Sistan. *Spatial Planning*, 11(4), 67-90.
22. Nastaran, Mahin, Salarian, & Fardis. (2024). Analysis of Spatial Development Drivers in the Isfahan Metropolitan Region. *Urban Sustainable Development*.
23. -Dede, O. M., & Ayten, A. M. (2012). "The role of spatial planning for sustainable tourism development: A theoretical model for Turkey". *Tourism: An International Interdisciplinary Journal*, 60(4), 431-445.
24. Elliott, DrSheryl. (2008) *Education and Training in Tourism: an Historical View* Tourism
25. *Policy and Planning*, pp.365-382
26. Fleischer. Aliza (1997) *Rural Tourism; Tourism Management*, Vol. 18, No. 6
27. -Getz, D. (2001). *Festivals, Special Events and Tourism*. New York: Van Nostrand Reinhold.
28. -Guedes, A. S., & Jimenez, M. I. M. (2015). "Spatial patterns of cultural tourism in Portugal". *Tourism Management Perspectives*, 16, 107-115.
29. Getz . S (1998) *The Business Of Rural Tourism ; Book Reviews ; Tourism Management* , Vol 19
31. -Mukwada, G., & Manatsa, D. (2013). "Geospatial and temporal analysis of drought years in Zimbabwe, 1940 - 1999". *Geographia Polonica*, 86(4), 313-326.
32. -Pearce, P. L. (2000). "Fundamentals of tourist motivation". In D. G. Pearce & R. W. Sutter (Eds.), *Tourism research: Critiques and challenges* (pp. 113-124). London:Routledge.
34. -Sarrion-Gavilan, M. D., Benitez-Marquez, M. D., & Mora-Rangel, E. O. (2015). "Spatial distribution of tourism supply in Andalusia". *Tourism Management Perspectives*, 15, 29-45.
35. -Yang, Y., & Fik, T. (2014). "Spatial effects in regional tourism growth. *Annals of Tourism Research*, 46, 144-162