

# Research Paper: Investigating the Impact of Creativity Indicators on the Sustainable Development of Rural Areas Around Cities (Case Study: Zahedan in Southeast Iran)

Mehdi Rigi Motlagh<sup>1</sup>, Gholamreza Miri<sup>2\*</sup>, Masoumeh Hafez Rezazadeh<sup>2</sup>

1. PhD Student, Department of Geography and Urban Planning, Zahedan Branch, Islamic Azad University, Zahedan, Iran.

2. Assistant Professor, Department of Geography and Urban Planning, Zahedan Branch, Islamic Azad University, Zahedan, Iran.



**Citation:** Rigi Motlagh, M., Miri, Gh., & Hafez Rezazadeh, M. (2024). Investigating the Impact of Creativity Indicators on the Sustainable Development of Rural Areas Around Cities (Case Study: Zahedan in Southeast Iran). *Journal of Sustainable Rural Development*, 8(1), 53-82. <https://doi.org/10.22034/jsrd.2024.429065.1173>

**doi:** <https://doi.org/10.22034/jsrd.2024.429065.1173>

## Article info:

Received: 20 Oct. 2023

Accepted: 16 Feb. 2024

## Keywords:

Creativity, Sustainable development, Rural areas, Surrounding villages, Zahedan

## ABSTRACT

**Purpose:** Nowadays, according to the conditions and characteristics of the global community, residents of rural communities around cities should recognize that their society is changing, and if they are interested in development, they should be prepared to make some changes using creative processes; therefore, it is necessary to improve the driving engine of sustainable rural development by modifying the past methods and setting new criteria and indicators. In this regard, this study aims to investigate the effect of creativity indices on the sustainable development of rural areas around cities (Case study: Zahedan in South East of Iran).

**Methods:** The research method is descriptive-analytical and based on collecting survey data. The primary tool of data collection was a questionnaire. The structural and content validity of the questionnaire was confirmed through elite, and its reliability was confirmed by Cronbach's alpha, which was more than 0.70. The study's statistical population was residents of Hajiabad and Dai Abad villages in the northern zone of Zahedan (13452 people). The sample size was 384 using the Cochran formula. Data were analyzed using SPSS and AMOS software.

**Results:** The results showed that eight indicators, including participation, efficiency and effectiveness, technology, innovation and initiative, creative class (human capital), creative attractions, creative services, and diversity, could be effective in realizing the creativity approach in rural and suburban areas. The total effect of these indicators is 0.75, which can explain 75% of the role and positive impact on the realization of the creativity approach in rural areas of Zahedan City. According to the model results, the highest impact was related to the participation index, which had 0.92, and then the technology index, which had 0.87 explanation. Also, correlation analysis indicates the relationship between creativity and sustainable development in rural areas at a level less than 0.05, and the correlation is calculated to be 0.869, which is a solid relationship.

**Conclusion:** Indicators (participation, technology, innovation, and initiative) have the most significant impact on the realization of a creative approach to the sustainable development of rural areas around Zahedan.

## \* Corresponding Author:

**Gholamreza Miri, PhD**

Address: Department of Geography and Urban Planning, Zahedan Branch, Islamic Azad University, Zahedan, Iran.

Tel: +98 (915) 1430967

E-mail: [gholam\\_reza\\_miri@yahoo.com](mailto:gholam_reza_miri@yahoo.com)

## 1. Introduction

**C**reativity is a concept that can emerge without any constraints in all areas of life and by revising or even abandoning existing preconceptions, create new, more adaptable, and desirable conditions; moreover, by accepting and implementing the principles of creativity while benefiting in the present, we can have better leadership and management about the future, so that focusing on new ideas and thoughts It will lead to a more sustainable, flexible and economical environment (Yasuri & Sujudi, 2017: 2). The 21st century is the century of ideas and creativity. In this century, man's creativity and talent are the main drivers of economic, social, and cultural development. Increasingly the competition of regions and countries will depend on nurturing, preserving, and assimilating (Goldberg-Miller, 2019: 27). The creative city, focusing on cultural planning in cities, tries to develop an urban with a focus on attracting the creative class, developing creative industries and cultural industries, and finally the growth of the economy based on creative (Asadi & Sami, 2018: 15). The 21st century is the century of cities, ideas, and creativity (Margarida & Mario, 2019: 15). In this century, human creativity and talent are the main drivers of economic, social and cultural development, with increasing competition for cities, regions, and countries increasingly dependent on nurturing, preserving and attracting (Nkula-Wenz, 2019: 583). Meanwhile, the uneven urban expansion that occurred in most countries in the second half of the 20th century has caused urban areas to grow with pressure within rural areas and integrate rural settlements into their own, and this issue has a significant impact on economic, social, cultural, spatial and physical aspects of rural-urban centers; in many cases, due to the wave of these currents, those villages that are in the lowest The distance between the cities is the most impactful. One of these effects was creativity in urban areas and its impact on these areas. The development of creative activities is considered one of the influential factors in rural development. Rural creativity was proposed as a way for sustainable development of rural communities, especially in less developed societies (Einali et al., 2019: 33).

Despite this, identifying factors related to rural creativity paves the way for developing these areas. It creates the necessary ground for maintaining, attracting, and cultivating creative people. Also, this minimizes the negative results from previous rural development experiences and creates a promising future for these areas. Therefore, rural environments should develop their capacities to nur-

ture people and creative ideas, as well as an innovative environment that is compatible with the current conditions. In this case, they can play their decisive roles better and achieve sustainable development in the future, Like the rural economy, whose effects are understood beyond the village's borders (Yasuri & Sujudi, 2017: 2).

With the conditions and characteristics of today's global society, the residents of rural communities around cities must recognize that their society is changing. They must be ready to make changes using creative processes if they want to develop. Therefore, it is necessary to strengthen the driver of rural development by modifying past methods and determining new criteria and indicators (Jahantigh et al., 2021: 98).

Meanwhile, in the vision of the development of Zahedan City, concepts of creativity have been considered, which are related to the concepts and indicators of creativity that have also affected the surrounding rural areas in the past years. However, environmental problems, reduction of biological diversity, social inequality, social anomalies, wide and long bureaucracy, complex business laws, and such problems are essential obstacles for creative and talented human capital as drivers and engines for achieving goals. Development documents prevent creativity and innovation from coming to fruition. However, Zahedan city has high natural and cultural assets due to its historical and cultural background and diverse geographical background. These capitals and natural and geographical bases can play an essential role in artistic development and, ultimately, the realization of creativity. Thus, in the urban system of Iran, the city of Zahedan is the location of medical centers and academic and research centers. It plays a unique role and position in the national (southeast of the country) and international arenas, and it plays a significant role in the emergence of activities. It has an innovative and creative economy. In addition, the city of Zahedan has essential urban elements such as cultural places and attractive tourist centers connecting Iran with Afghanistan, which can receive many people from the eastern countries of Iran every day. Therefore, by considering and identifying these strengths and limitations, it is possible to lay the groundwork for the movement of this city and the surrounding rural areas toward creativity in a changing and evolving world. Therefore, it is necessary to study and investigate different and effective indicators to realize the creative approach and its impact on sustainable development in rural areas around Zahedan.

## 2. Literature Review

Villages are the centers of national engine and economic and social growth and provide the ground for achieving national goals in economic, social, political, and cultural fields. One of the main problems of developing countries is the stagnation and deterioration of villages. The village has been influential in nature as a place for life and production for centuries. Nevertheless, in today's conditions and due to the events and intervention of governments and lifestyle changes in the transition period from production, many villages, instead of benefiting from the content of sustainable development, face regression and lose their population in the process of migration. They are also involved with the phenomenon of population evacuation and physical destruction (Kalantari et al., 2013: 18). Therefore, it is necessary to provide suitable and efficient approaches to prevent inappropriate changes and deviations from the current trend of urban and rural settlements (Rastghalam et al., 2016: 316). Various solutions and strategies have been presented to overcome these challenges and develop villages, including creativity. Creativity in the village can be seen as one of the new rural development approaches for production and life and preventing the collapse of rural areas. Today, one of the most successful ways to transform a village into a village with a booming economy is by using creative village components. The creativity of the villages has an essential role in the development of the villages, and in this regard, it will provide sustainable income generation for the rural communities. Although the concept of creativity has been investigated more in the urban area and less in the rural area, the approach of the creative village as a new concept can be considered in the post-modern environment against meeting the demands of the city in fields such as handicrafts, tourism, and music. Rural areas need creativity and its approach more than cities (Hajarian, 2021: 174).

In the field of research so far, research has been carried out inside and outside the country, which will be mentioned below: Imani et al. (2022) are The results of findings indicate that the indicators of the creative village in the four studied dimensions are not in a favorable condition. Also, the results of the Kupras technique from the stratification of 25 villages showed that 13 villages are at an average level and 12 villages are at a weak level; in between, Jamiran village is at the highest level. The level and village of Hakim Qeshlagi were at the lowest level of creativity. In a research, Salaripour et al. (2022) identified the capacities of rural creative business development through agricultural tourism in Hindekhale village. The results of the Delphi analysis showed that tak-

ing advantage of the natural potential of this village and combining it with activities such as holding local food festivals to familiarize tourists with the cooking methods of local foods and holding fishing tours in the (Selkeh) International Wetland will lead to the development of agricultural tourism and, as a result, entrepreneurship and business prosperity. It will be villagers and especially farmers. Among the other facilities that exist in Handehakhale village for tourists and can reduce the initial costs of implementing the agricultural tourism plan, we can mention suitable places for tourists to stay, such as rural houses. Of course, it should be said that this is important for proper and targeted investment, which requires proper management and cooperation of relevant institutions. In their research, Amirkardost and Shah Ebrahimi (2021) have studied the role of creativity and entrepreneurship in the sustainable development of urban and rural areas of Iran. The results showed that in Iran, according to the estimated capacities, by presenting the right suggestions, identifying effective creativity, and supporting them at the country's level, an effective improvement can be witnessed in small rural samples up to the metropolises. This case not only leads to reduced unemployment and social crimes but also to increased economic development in society. Hajarian (2021), in research, entitled "Evaluation of the causal model of the factors affecting the creative village," showed that among the four components (participation, initiative, leadership, promotion, and education) of the creative village, the participation criterion is the most effective and the initiative criterion is the most effective. They were a creative village. Also, the participation criterion was identified as the most important criterion of the creative village. The components of promotion, training, and leadership also play a mediating role in terms of effectiveness. Sadeghi (2021) analyzed creative tourism indicators in rural areas of Dezpart city in a research. The test of creative tourism indicators showed that all indicators were significant at less than 0.05. Examining the average difference equal to 0.139 confirms that the rural areas of Dezpart have significant talents and capacities in terms of creative tourism indicators. Also, the result of the test at the level of indicators shows that the indicators of education (-0.861), local participation (0.358), innovation and initiative (-0.348), communication technology (-0.960), services and facilities (-0.618) and suitable infrastructure (-1.09) have a negative average difference, and this indicates that these indicators have an unfavorable situation in the studied rural areas. The regression confirmed that more than 74% of the investigated indicators can explain the variable of creative tourism development in the studied rural areas, that the

handicraft index with 10% and the participation index with 8% have the highest amount of explanation in the creative tourism variable. [Abrishami et al. \(2020\)](#) researched the feasibility of sustainable rural development by developing creative industries in Isfahan province. Based on the research results, out of the fifty villages studied, seven villages could not achieve sustainable rural development through the development of handicrafts; also, one village had zero sustainable rural development index. Therefore, it was suggested that each village with more points be introduced as a central workshop location for production, supply of raw materials, quality control, training, and supervision of handicrafts. In a research, [Einali et al. \(2018\)](#) investigated the role of creative tourism in the sustainable development of rural areas (case study: historical-cultural villages in the northwest of the country). The results of the field studies through the researcher’s observations regarding creative tourism in the historical-cultural villages of the northwest of the country show that these villages, due to the proper development of tourism infrastructures and the promotion of the villages as a brand and tourism destination and also have From creative sources, they have a favorable situation in terms of rural creative tourism. On the other hand, based on the statistical analysis, the villages studied are in a favorable position regarding creative tourism. Also, considering the situation of sustainable rural development as a result of creative tourism development, the regression fit model examination shows that about 0.83 of the positive effect of tourism on sustainable rural development was affected by creativity in rural tourism in the study area. In research, [Lu and Qian \(2023\)](#) investigated rural creativity for community revitalization in Bishan village, China. Engaging with rural creativity literature, this study explores the vital role of creative practices in revitalizing rural mindsets and reforming social contexts in rural areas. It suggests that creative initiatives intervene and catalyze the reconstruction of local cultures and social relations. [Rogerson & Rogerson \(2021\)](#), in research titled “Creative Networks and Building the First UNES-

CO Creative City in the Field of African Gastronomy, “ investigated the emergence of an African creative city and its membership in a creative network. The results show that this city has a great capacity to transform into a creative city in gastronomy. The existence of human creativity in the discussion of products and food, variety of foods, cultural and ethnic diversity, and people’s participation are among the most important effective indicators in this field. [Richards \(2020\)](#), in research on the development of creative places, emphasizes the role of creative tourism. The results show that creative attraction involves considering resources, meaning, and creativity that is guided, enabling participation, and creating a space for creative expression and a coherent narrative. [O’Connor et al. \(2020\)](#) note that only after a fundamental rethinking of a modernized concept and based on a new understanding of local amenities can cities change the discourse of the creative city. [Li et al. \(2020\)](#) investigated the willingness of the new generation of farmers to participate in creative rural tourism. They found that the perceived impact of creative rural tourism on the new generation of farmers has a positive and significant effect on their willingness to participate in rural tourism development. Had. [Kamarudin et al. \(2018\)](#), in a research study on the development of creative village and rural entrepreneurship in Malaysia and Indonesia, the results of their research showed that creative villages have been able to lead to the development of entrepreneurship by using new advertising methods of YouTube, Facebook, and the market. In research, [Dani et al. \(2016\)](#) investigated the factors affecting the development of rural creative industries in Futur village in Mojokerto City. Their study showed that the factors considered in developing the shoe industry in this village as a creative industry include the basic need for a creative industry, tourism attraction, accessibility, and product development.

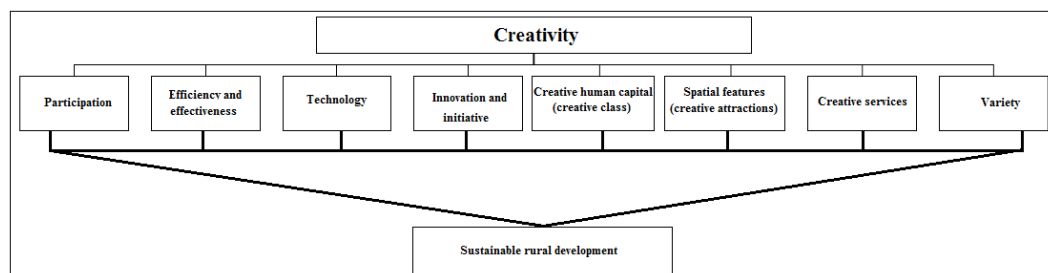


Figure 1. Conceptual model of the research. Reference: Research results, 2023

### 3. Methodology

The research method is based on a descriptive-analytical nature and, in terms of purpose, applied and quantitative research. The statistical population of the study is made up of the residents of Haji-Abad and Dai-Abad villages in the northern area of Zahedan city (13452 people). The sample size was determined using Cochran’s formula of 384 people. The primary tool of the research is a researcher-made questionnaire, whose content and structural validity were confirmed by experts. Its reliability was also confirmed through Cronbach’s alpha, calculated as 0.781 for different questionnaire sections (Table 1). The sampling method in the current research is random sampling. SPSS and AMOS software and appropriate statistical tests such as Friedman’s test, regression, correlation, and structural equation modeling were used for data analysis. Table 1 shows the indicators and Cronbach’s alpha separately for each indicator of creativity and sustainable development in rural areas.

Zahedan is the city and capital of Sistan and Baluchestan province, southeastern Iran, near the borders of Afghanistan and Pakistan. It is about 225 miles (360 km) southeast of Kerman in an arid zone at 4,435 feet. Strategically located along routes linking Central Asia and Persian Gulf ports to the south, the city has benefited from regional trade. According to the 2016 census, it has a population of 592968 people.

### 4. Findings

This section presents the state of creativity indicators in rural areas around Zahedan city. Due to the extensiveness of the content, it was limited to mention the results at level 8 of the creativity index, and the results of the variables part were avoided. The result of Friedman’s test to rank the state of creativity indicators in the rural areas around Zahedan City from the resident’s point of view shows that the indicators were significant at less than 0.05 and equal to 0.000. Therefore, the indicators are significantly different from each other. The chi-square value was 236/453.

Table 1. Indicators and reliability of the questionnaire through Cronbach’s alpha

Total coefficient	Cronbach’s alpha coefficient value	Variable	Indicator
0.781	0.79	7	Participation
	0.76	8	Efficiency and effectiveness
	0.80	8	Technology
	0.76	7	Innovation and initiative
	0.79	7	Creative human capital (creative class)
	0.75	8	Spatial features (creative attractions)
	0.77	6	Creative services
	0.81	8	Variety
0.80	18	Sustainable rural development	

Reference: Research results, 2023

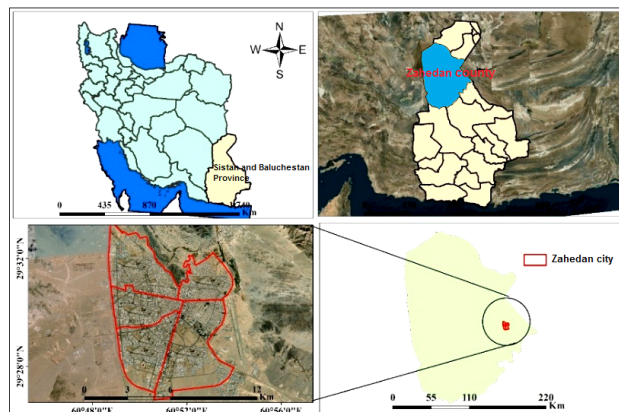


Figure 2. Study area. Reference: Authors, 2023



Examining the rank average of the Friedman test shows that the highest rank average is related to the creative class index with a value of 5.91, followed by the technology index with an average of 5.74 and the participation index with an average of 5.03. Also, the lowest rank was related to the creative services index, with an average of 3.18, and then the creative attractions index, with an average of 3.67 (Table 2).

Further, this section investigates the status of indicators and variables of sustainable development in the rural areas around Zahedan city. The result of Friedman’s test for ranking the status of sustainable development variables in the rural areas around Zahedan City shows that the sustainable development variables were significant at a level less than 0.05 and equal to 0.000. Therefore, the variables are significantly different from each other. The chi-square value was also equal to 327/627.

Examining the rank average of the Friedman test in the field of sustainable development variables shows that the highest rank average is related to the variable of villagers’ access to proper education with an average of 11.11, then the variable of quality of life with an average of 10.67 and the variable of access to medical centers. And hygiene has been good, with an average of 5/10. Also, the lowest rank was related to using clean energy, with an average of 8.10, and then the variable of poverty reduction, with an average of 8.45 (Table 3).

Also, the Pearson correlation was used to investigate the relationship between creativity indicators and sustainable development indicators in rural areas around

Zahedan City. Based on the calculated results of the test, it can be seen that there is a statistically significant relationship between creativity indicators and sustainable development indicators in rural areas around Zahedan city at a level less than 0.01 and equal to 0.000. In other words, from the point of view of the statistical community, with the improvement of each of the creativity indicators, the indicators of sustainable development can also improve, and the opposite is also true because the relationship between these two is direct and positive. The overall correlation between sustainable development and creativity indicators was equal to 0.869, considered a strong relationship and correlation.

Finally, structural equation modeling has been used to investigate and measure the importance and effectiveness of creativity indicators in realizing creativity in the rural areas around the city. In fact, by using modeling, it is determined whether these indicators can be effective in realizing creativity in the rural areas around the city and its development. Using AMOS software, a first-order confirmatory factor analysis model related to indicators was drawn, and their validation was done. Factor loadings related to the indicators of the mentioned model are higher than 0.3 and indicate the acceptable status of the indicators included in the model. Examining the fitting status of the model of the role of 8 indicators in the realization of creativity in the rural areas around the values of the mentioned model has the necessary validity and precision. It has been able to explain the role of these eight indicators in realizing creativity in rural areas (Table 5).

**Table 2.** Significance of the difference in the state of creativity in the rural areas around Zahedan City and their ranking

0.000	Sig	
453.236	Chi-square	
7	Degrees of freedom	
384	N	
Rank	Rank average	Creativity indicators
3	5.03	Participation
5	4.07	Efficiency and effectiveness
2	5.74	Technology
6	3.85	Innovation and initiative
1	5.91	Creative human capital (creative class)
7	3.67	Spatial features (creative attractions)
8	3.18	Creative services
4	4.55	Variety

Reference: Research results, 2023

**Table 3.** The significance of the difference in the status of sustainable development variables in the rural areas around Zahedan City and their ranking

0.000	Sig	
327.627	Chi-square	
17	Degrees of freedom	
384	N	
Rank	Rank average	Sustainable development indicators
2	10.67	The amount of quality of life
4	10.44	Employment
9	9.42	Decent income
10	9.01	Economic efficiency
6	9.97	Access to technology and technology
17	8.45	Poverty Reduction
1	11.11	Access to appropriate training
11	9.07	Empowerment for various activities
3	10.5	Access to appropriate medical and health centers
7	9.89	Improvement of lifestyle and consumption pattern
12	9.06	participation
18	8.10	Use of clean energy (sun, etc.)
8	9.77	Prevent excessive growth
5	10.40	Preservation of historical and cultural monuments
16	8.58	Prevent environmental degradation
15	8.66	Air pollution management
16	8.98	Appropriate distribution of land use
13	8.92	Proper distribution of services

Reference: Research results, 2023



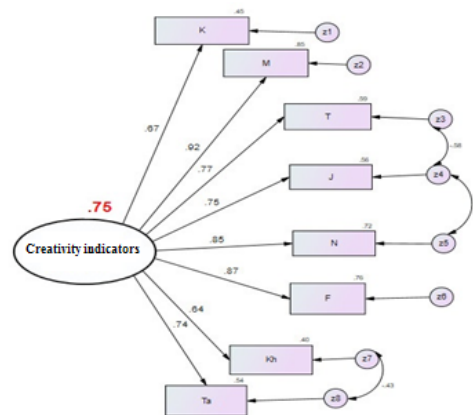
**Table 4.** Investigating the relationship between creativity indicators and sustainable development indicators in rural areas around Zahedan (Pearson correlation)

Sustainable development dimensions	Creativity indicators	The correlation	Sig
Social	Participation	0.535	0.000
	Efficiency and effectiveness	0.644	0.000
	Technology	0.566	0.000
	Innovation and initiative	0.776	0.000
	Creative human capital (creative class)	0.91	0.000
	Spatial features (creative attractions)	0.758	0.000
	Creative services	0.748	0.000
	Variety	0.744	0.000
Economic	Participation	0.602	0.000
	Efficiency and effectiveness	0.696	0.000
	Technology	0.547	0.000
	Innovation and initiative	0.695	0.000
	Creative human capital (creative class)	0.513	0.000
	Spatial features (creative attractions)	0.613	0.000
	Creative services	0.743	0.000
	Variety	0.686	0.000

**Table 4.** Investigating the relationship between creativity indicators and sustainable development indicators in rural areas around Zahedan (Pearson correlation)

Sustainable development dimensions	Creativity indicators	The correlation	Sig
Environmental and physical	Participation	0.540	0.000
	Efficiency and effectiveness	0.639	0.000
	Technology	0.551	0.000
	Innovation and initiative	0.603	0.000
	Creative human capital (creative class)	0.456	0.000
	Spatial features (creative attractions)	0.728	0.000
	Creative services	0.728	0.000
	Variety	0.670	0.000

Reference: Research results, 2023



**Figure 3.** The final structural equation model of the role of creativity indicators in the realization of creativity in rural areas around Zahedan city, Reference: Research results, 2023



**Table 5.** Evaluation indicators of the model's generality

PRATIO	NFI	GFI	RMR	HOELTER	RMSEA	CFI	CMIN/DF	DF	CMIN	Indicator
0.307	0.969	0.965	0.041	132	0.070	0.954	3.765	7	18.435	The final model
0-1	0.9 <	0.9 <	75 <	0.08 >	0.9 <	-	-	-	-	Suggested values

Reference: Research results, 2023



All indicators correspond to the recommended and standard values. The factor load of the eight investigated indicators is equal to 0.75 (Figure 3), and this is due to the influence and role of the indicators of participation, efficiency and effectiveness, technology, innovation, and initiative, creative class (human capital), creative attractions, creative services, and diversity refers to the realization of the creativity approach in the rural areas around the city and its development. In other words, these indicators can help to realize the creativity approach in the rural areas around the city.

After examining the overall fit of the model of the role of various indicators in the realization of creativity in the

rural areas around Zahedan City, the independent variable's effect on the research's dependent variable was examined.

As can be seen (Table 6), the role of the mentioned indicators in realizing the creativity approach in the rural areas around Zahedan City among the respondents is significant at the 99% confidence level. In general, it can be said that the eight examined indicators, including participation, efficiency and effectiveness, technology, innovation and initiative, creative class (human capital), creative attractions, creative services, and diversity, can help in realizing the creativity approach in the rural areas around the city of Zahedan should be adequate. Exam-

ining the role of 8 indicators in realizing the creativity approach in the rural areas around Zahedan City shows that the total effect value is 0.75, and in total, the investigated indicators can be about 0.75 units of variance, role-making and effects. To explain positively the realization of the creativity approach in the rural areas around the city of Zahedan. According to the results of this model, the most effective is related to the participation index with an explanation of 0.92. The technology index can be explained at 0.87, innovation and initiative can be explained at 0.85, the creative class can be explained at 0.77, creative attractions can be explained at 0.75, the diversity index can be explained at 0.74, efficiency and effectiveness index can be explained 67 0.0. The index of creative services has an explanatory power of 0.64 in the context of realizing the creativity approach in the rural areas around Zahedan City. Therefore, the most effective in recognizing the creativity approach in the rural areas around Zahedan city, among the analyzed indicators, is related to the index of participation and then technology, and the least effective is related to the indicators of creative services, efficiency, and effectiveness.

### 5. Discussion

This research aims to investigate the impact of creativity indicators on the sustainable development of rural areas around cities (case study: Zahedan). The research results show that in the field of creativity indicators in the rural areas around Zahedan, the best situation is related

to the creative class index and then the technology index. Of course, the participation index is ranked third in importance. In addition, the lowest rank was related to the index of creative services and then the index of creative attractions. Therefore, according to the results, the rural areas around Zahedan should adopt appropriate planning to provide innovative services and exploit the existing attractions. Also, platforms that can expand participation and technology in this region should be placed in the framework of the city and region’s planning system. Also, the status of indicators and variables of sustainable development in the rural areas around Zahedan showed that the variable of access to proper education, the variable of quality of life, and then the variable of access to appropriate medical and health centers are among the most important indicators of sustainable development that have They are essential. Also, the lowest rank is assigned to the variable of using clean energy and the variable of poverty reduction. Therefore, the indicators of sustainable development in the rural areas around Zahedan City are unfavorable, and the need to review the policies and planning system to ensure they align with these areas’ sustainable development is critical. Also, other results showed a significant and robust relationship between creativity indicators and sustainable development indicators in rural areas around Zahedan city in such a way that by improving each of the creativity indicators, sustainable development indicators can also improve, and the opposite is also true.

**Table 6.** Estimates of standard, non-standard, and the role of different indicators in realizing the creativity approach in rural areas around Zahedan city

Independent variable	Dependent variable	Estimation		Critical ratio	Total effect	The coefficient of determination (R2)	Sig
		standard	non-standard				
Participation	Realization of creative approach in rural areas around Zahedan City	0.672	0.932	8.546	0.92	0.39	0.001
Efficiency and effectiveness		0.591	0.862	8.098	0.67	0.45	0.000
Technology		0.689	0.765	9.387	0.87	0.49	0.000
Innovation and initiative		0.456	0.657	7.657	0.85	0.41	0.000
Creative human capital (creative class)		0.612	0.971	7.213	0.77	0.45	0.000
Spatial features (creative attractions)		0.654	0.965	8.654	0.75	0.34	0.004
Creative services		0.698	0.698	6.765	0.64	0.35	0.000
Variety		0.657	0.453	9.098	0.74	0.39	0.003

Reference: Research results, 2023



Considering this situation, several suggestions can be made. 1- The planning and policy system should be set based on integrated indicators of creativity and a sustainable development approach. 2- Considering the importance of the participation index in realizing the creativity approach, the proposal it is possible to provide a platform for the participation of villagers through non-governmental organizations. 3- Provision of the necessary conditions by government officials to realize the conditions of a creative village; 4- creating context for training people in self-employment activities; 5- Trusting the decisions of elites and educated people in the formation of the creative village; 6- Financial support by providing loans for the development of creative activities.

## Acknowledgements

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

## Conflict of Interest

The authors declared no conflicts of interest.

## References

- Amirshahi, H., Bidram, R., Majed, V., & Bakhshayesh, E. (2020). The Feasibility Study of Sustainable Rural Development through the Development of Creative Industries: A Case Study of Handicrafts in Selected Villages of Isfahan Province. *Village and Development*, 22(4), 51-69. doi: 10.30490/rvt.2020.289507.1069
- Amirkardost, A.A., Shah Ebrahimi, S.S. (2021). The role of creativity and entrepreneurship in the sustainable development of urban and rural areas of Iran, the first national conference on marginal environmental crises, Islamshahr. <https://civilica.com/doc/1378094>
- Asadi, A., Sami, A. (2018). Evaluation of Qain city compliance with the creative city indicators, *New Attitudes in Human Geography*, 10(4), pp. 13-26. 20.1001.1.66972251.1397.10.4.2.6
- Dani A. A., Santoso E, B., Sulistyarso, H. (2016). Influence Factors on the Development of Creative Industries as Tourism Destination (Case Study: Footwear Village in Mojokerto City), *Social and Behavioral Sciences*, no 227, pp 671 - 679. <https://doi.org/10.1016/j.sbspro.2016.06.131>
- Einali, J., Mohammadi Yeganeh, B., Ghasemlou, H. (2019). The role of creative tourism in the sustainable development of rural areas (case study: historic-cultural villages in the north-west of Iran). *Journal of research and rural planning*, 8(2), PP 19-39. sid. <https://sid.ir/paper/236469/en>
- Goldberg-Miller, S. (2019). Creative city strategies on the municipal agenda in New York, City, Culture and Society, 17 (2): 26-37. <https://doi.org/10.1016/j.ccs.2018.08.004>
- Hajarian, A. (2021). Evaluation of the causal pattern of criteria affecting the creative village. *Journal of community development (rural and urban communities) (to see roster)*, 13(1), pp 173-196. 10.22059/jrd.2021.323853.668651
- Imani, B., Rashid, H., & Ebrahimian, M. (2022). Evaluation and measurement of the feasibility of a creative village in the Central District of Ardabil. *Geography and Human Relationships*, 5(3), pp 373-388. doi: 10.22034/gahr.2022.336735.1693
- Jahantigh, H. A., Anabestani, A. A., Mir Lotfi, M. R., & Kharazmi, O. A. (2021). Analysis of the Effect of Creative Village Indicators on the Sustainability of Rural Settlements (Case Study: Sistan Region). *Geography and Territorial Spatial Arrangement*, 11(38), 91-122. doi: 10.22111/gajj.2021.6110
- Kalantari, Kh., Varmazyari, H., Askari Nodoushan, A. (2013). The Future Perspective of Rural Population and Challenges of Sustainable Development Management in Iran, *Journal of Village and Development*, 16(2), pp 1-23. [magiran.com/p1194064](http://magiran.com/p1194064)
- Kamarudin, K.H., Untari, R., Ngah, I. (2018). Development of Creative Village and Rural Entrepreneurship in Malaysia and Indonesia: An Exploratory Study, *Rural Research & Planning Group International Conference 2018*, Denpasar, Bali. <https://www.academia.edu>
- Li, B., Mi, Z., Zhang, Z. (2020). The willingness of the new generation of farmers to participate in rural tourism: The role of perceived impacts and sense of place, *Sustainability*, 12(3), pp 766-775. <https://doi.org/10.3390/su12030766>
- Lu, Y., Qian, J. (2023). Rural creativity for community revitalization in Bishan Village, China: The nexus of creative practices, cultural revival, and social resilience, *Journal of Rural Studies*, Volume 97, January 2023, PP 255-268. <https://doi.org/10.1016/j.jrurstud.2022.12.017>
- Margarida, R., Mário, F. (2019). Networks and performance of creative cities: A bibliometric analysis, *City, Culture and Society*, Vol. 6. pp 12- 24. <https://doi.org/10.1016/j.ccs.2019.100326>
- Nkula-Wenz, L. (2019). Worlding Cape Town by design: Encounters with creative cities. *Environment and Planning A: Economy and Space*, 51(3): 581-597. <https://doi.org/10.1177/0308518X187965>
- O'Connor, J., Gu, X., & Lim, M. K. (2020). Creative cities, creative classes, and the global modern. *City, Culture and Society*, 21, 100344. <https://doi.org/10.1016/j.ccs.2020.100344>
- Rastghalam, M., Seydaei, S.E, & Nouri, H. (2016). Determination of the key drivers of the creative village approach by using Micmac software. *Journal of rural research*, 7(2), pp 316-329. sid. <https://sid.ir/paper/180861/en>
- Richards, G. (2020). Designing creative places: The role of creative tourism, *Annals of Tourism Research*, Volume 85, November 2020, 102922. <https://doi.org/10.1016/j.annals.2020.102922>

Rogerson, C. M., & Rogerson, J. M. (2021). Creative networks and making Africa's first UNESCO Creative City of Gastronomy. In *Urban Tourism in the Global South* (pp. 239-266). Springer, Cham. DOI:10.1007/978-3-030-71547-2\_11

Sadeghi, H. O. (2021). Evaluate the capacity of creative tourism indicators in rural areas as a case study in the villages of Dezpart County. *Village and Space Sustainable Development*, 2(2), pp 55-68. doi: 10.22077/vssd.2021.4709.1038

Salaripour, A. A., Alizadeh Jorkouyeh, F., Faridi Foshtomi, A., & Yoosefi Matak, H. R. (2022). Identify the Capacity to Develop Rural Business and Creative Work through Agrotourism (Case Study: Hendekhaleh Village). *Tourism and Leisure Time*, 7(13), 21-36. doi: 10.22133/tlj.2022.336228.1041

Yasuri, M., Sujudi, M. (2018). Rural entrepreneurship is a way to realize a creative village, the first conference of new ideas and technologies in geographical sciences. September 2018, Zanzan University. [https://www.civilica.com/Paper-GEO-GRAPHIC01-GEOGRAPHIC01\\_172.html](https://www.civilica.com/Paper-GEO-GRAPHIC01-GEOGRAPHIC01_172.html)

