Research Paper: Roleplaying the Chabahar International Airport in the Sustainable Development of Rural Areas

Mostafa Rasheki Ghalehno[1], Maryam Karimian Bostani[2*], Mahmoud Reza Anvari[2]

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.

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ABSTRACT

Purpose: Today, the location and development of airports have economic, social, visual, etc., effects on the surrounding areas. Therefore, investigating the spatial effects in different dimensions (economic, social, physical, and environmental) caused by airport activity is necessary and important for planning and development in rural areas. Therefore, the present study aims to roleplay the Chabahar international airport in the sustainable development of rural areas.

Methods: This is applied-quantitative research. Data were collected using the library (tracking notes, internet) and field studies (questionnaire). The statistical population included two parts. In the first part, the statistical society was the residents of Chabahar City. The sample size was 384 people using Cochran's Alpha formula. The second part of the statistical society was the expert people; 30 subjects in this part were selected using targeted sampling. Data were analyzed using SPSS software and the Fuzzy model of F-BMW.

Results: according to the T-test, there was a medium to high range effect of the airport on the development of rural areas in Chabahar in terms of economy, social, and environmental (except the items of environmental health with a score of 2.15, reducing the sewage smell with the score of 2.33, reducing infectious diseases with the score of 2.17), physical, and infrastructure dimensions. The highest level of effectiveness of the airport was observed in the items of purchasing power (0.072) in the economic dimension, the development opportunity (0.075) in the social dimension, the access to green spaces (0.063) in the environmental dimension, and the increasing rural tourism facilities (0.075) in the infrastructure.

Conclusion: Chabahar International Airport has had a significant impact on the growth of economic and social activities and, consequently, the rapid movement of people, goods, and services, which consider a key role in regional development.

*** Corresponding Author:**
Maryam Karimian Bostani, PhD
Address: *Department of Geography and Urban Planning, Zahedan Branch, Islamic Azad University, Zahedan, Iran.*
Tel: *+98 (915) 3415463*
E-mail: *m.karimyan@iau.zah.ac.ir*

1. Introduction

Sustainable transportation is the most effective and comfortable way to move people and vehicles, concerning the lowest energy consumption (Sajadi & Taghvaee, 2016: 1). Transportation infrastructures undeniably achieve development objectives. Sustainable transportation systems can play a considerable role in reducing poverty, making social justice, economic development, etc. (Rasouli et al., 2015: 1). Air transportation also grows in parallel with the advancements of science and technology concerning the social and political needs; so air transportation has played a vital role in the development of societies (Memarmontazerin et al., 2019: 77). The aviation industry is growing rapidly. The latest estimates indicate a 3% increase in the demand for air transportation yearly until the next 20 years. If the estimated growth process continues and expands through 2036s, the aviation industry will contribute $15.5 million in direct jobs and $1.5 trillion in GDP to the global economy. Air transportation plays a critical role in the relations between different countries of the world, culture exchange, display of economic and military powers, and acceleration of vital affairs of a country (Majidi Zanjani et al., 2019: 1). On the other hand, the air transportation development is one of the bases in development and is of great importance (Kordi Guderzi, 2017: 3). So, the airports are vital for the air transportation system and are considered the basic part of the aviation industry (Majidi Zanjani et al., 2019: 1) with a significant effect on the development of peripheral areas. It is of theoretical and practical importance in recognizing and explaining the governing influences on the relationships between airports and regional development (Anvari et al., 2020: 51). The airport has profound impacts on its surrounding uses and activities (Ajzashkohi & Ghafari, 2013: 2). Therefore, a comprehensive examination of the airport functioning is necessary to analyze the current situation and plan to achieve the favorable situation (Koç & Durmaz, 2015: 23). So, the airport cities were created considering the expansion of airports and the development of their activities. Airport cities have been able to play an important role in the process of economic and social development by creating necessary facilities for human societies. Iran also has many advantages due to its privileged location in the Middle East region. In recent years, it has made efforts in Iran to establish new airports. Despite the considerable capabilities, we can see the adverse consequences, such as the lack of development, deprivation, and marginality of these areas due to distance from the center of Iran in terms of incorrect development policies and non-targeted programs in rural areas of Chabahar City in the south of Sistan & Balochistan. The geographical location of Chabahar at the entrance of the North-South Corridor has made it the best, most affordable, and most reliable route to connect the international markets of the two population centers of the world, including 21 countries in the ocean basin with 2 billion population and the countries of Central Asia, the Caucasus, and Eastern Europe with 800 million population (Statistical Yearbook of Sistan & Baluchistan Governorate, 2020). Therefore, it's necessary to establishment of a suitable airport for Chabahar. The airport's existence is a necessary step for the development of Chabahar. The main obstacle to the development of the coastal cities of Makran is the lack of an air border, the distance of Chabahar from the administrative center of the capital and the economic centers of the world. In recent years, one of the concerns of the residents and the officials of this region concerning the lack of development has been obtaining permission to build the airport. The construction operation of Chabahar International Airport started in December 2018 in a region with an area of 2815 hectares, and it has been proposed as an inflection point in the development of urban and rural areas of the region. The construction of Chabahar International Airport within the free zone can become the basis for tourism and investment and the development of business, economic, and trade relations and acceleration of the movement of goods and passengers in the region. In this regard, the construction of Chabahar International Airport is vital for planning and mobilizing facilities to improve the condition of rural areas.

Therefore, the main aim of this research was to investigate the effects of Chabahar International Airport on sustainable rural development. Knowing the impact of Chabahar International Airport on social, economic, physical, and environmental development, rural designers and planners will be better able to find criteria that will guide them in determining the sustainability of development in different dimensions. Therefore, this study aimed to analyze the role of the Chabahar International Airport in the sustainable development of rural areas.

2. Literature Review

Transportation is one of the basic human needs, which has gained a wider scope with economic and social development and is considered one of the manifestations of civilization. The transportation sector, as the infrastructure sector of every society, not only affects the development process but also changes during development (Pahlavani et al., 2014: 99). Meanwhile, airports, as a

complex and dynamic system, have long been the focus of those involved in the operation and development of airports, managers, and planners (Lahijanian & Mohammadi Shalamani, 2019: 113). Airports, like other transportation exchange centers, have always been a place to attract commercial development. This attraction has increased with the increase in the number of passengers, the passage of cargo and goods, and the expansion of the surrounding areas (Kasarda, 2012: 19). Undoubtedly, the site selection and development of airports have economic, social, and visual effects on cities and villages (Ghafari, 2013: 1). Therefore, investigating the spatial effects in different activities dimensions (economic, social, physical, and environmental) is necessary for the surrounding areas to create a deep understanding and planning for the future (Memarmontazerin et al., 2019: 75). The development of regional infrastructure create the basis of balanced rural development (Sladkowski & Pamula, 2015: 22). Such development includes providing effective and modern transportation infrastructure and guarantees the quality of life of rural communities concerning the increase of regional commercial potential (Schmitz & Fuller, 1995: 99). Rural and urban development are different and should be planned differently. The focus of any type of infrastructure development, such as transport, is business (Gharehbaghi & Georgy, 2015: 10). As cities are always expanding, rural areas begin to merge and create more dynamic economic centers (Gharehbaghi et al., 2020: 4004). Therefore, it is necessary to pay attention to the fact that rural areas can act as important economic centers (Ghosh & Lee, 2012: 72). On the other hand, factors such as proper lands provide opportunities for regional development due to the expanding transportation through the growth of rural areas (Thekdi & Lambert, 2012: 1256). A few studies have investigated the airport's role in sustainable rural development. For example, Lahijanian & Mohammadi Shalamani (2019) evaluated land use management and planning around airports (case study: Mehrabad Airport). The analysis showed that 95.5% of the subjects believed a significant relationship between the area around the airport and flight safety. Only 4.8% of the subjects believed that this relationship was at a low level. On the other hand, 4.8% of the subjects have expressed this relationship at a high level. Foladchi et al. (2018) investigated the economic effects of Imam Khomeini International Airport (RA) on the development of rural settlements in Robat Karim City. Using the MOris Davis Model, they found that, among the 22 studied villages, the villages of Yakeh and Hakim Abad had the most stability compared to other villages. Also, the results of the one-sample T-test showed that the average of all indicators was lower than the median. So, according to Fouladchi et al. (2018), the Imam Khomeini international airport had a low effect on the development of studied rural. However, a significant effect was observed on the willingness of people to invest in the villages. Fouladchi et al. (2018) the direct and indirect effects of Imam Khomeini Airport (RA) on the economic development of the studied villages using path analysis. They found the direct effect of the airport location on the indicators of mechanization of agricultural activity, product diversity, and people's willingness to invest in the village and the indirect effect on other indicators. Eskandari and Borjui Roshanpour (2017) studied the impact of air transportation and airport on free trade zones. They found the positive and direct effect of the air transportation zones on the economy, environment, urban development, tourism industry, job creation, and the transit of goods and people in the free-trade zones. Ghafari (2013) studied the socio-economic effects of Mashhad Airport on the surrounding area and excluded sleep disorders, nervous state, stress, mental illness, and speech interference among the factors affected by airplane noise pollution in three regions, regardless of their different priorities. The noise pollution at Mashhad airport harms property prices in the region. Chen et al. (2021) studied the spatial effects of airports on economic development in China and concluded that air passenger traffic, air cargo transportation, etc. have positive economic effects on the city where the airport is located compared to neighboring cities. Also, they found a considerable effect of the airport location on the GDP of the cities. Wang and Song (2020) investigated the sustainable development of the airport by predicting performance evaluation in 12 airports in China. Their results showed that mainland China's airports balance the economic, social, and environmental aspects for sustainable development. By evaluating the current and near-future conditions affecting sustainability, the study by Wang and Song (2020) helps airport management to evaluate sustainable development strategies. Tveter (2017) investigated the impact of airports on regional development in Norway and found that the airport's construction has a positive and significant effect on the population and employment. Also, a point estimate showed that the population of municipalities near the constructed airports increased by 5% from 1970 to 1980. Koç and Durmaz (2015) investigated the sustainability of the airport company: an analysis of the indicators in the sustainability of regions. The results showed that airports impact the dimensions of sustainable development, and the results of the sustainability dimensions (economic, social, and environmental) of airports should be checked every year to assess the needs.

3. Methodology

The current study is applied-quantitative research. Data were collected using the library (tracking notes, internet) and field studies (questionnaire). The statistical population included two parts. In the first part, the statistical society was the residents of Chabahar City. The sample size was 384 people using Cochran's Alpha formula. The second part of the statistical society was the expert people; 30 subjects in this part were selected using targeted sampling. Data were analyzed using SPSS software and the Fuzzy model of F-BMW. The research tool was a researcher-made questionnaire. Since the mentioned questionnaire was prepared based on the identified indicators (Table 1) and the opinions of experts; therefore, the face validity of the questionnaire was confirmed. Also, the reliability of the questionnaire was confirmed using Cronbach's Alpha statistic (0.81), which indicates high and acceptable reliability.

Table 1. Research dimensions and indicators

Dimension	Indicators	Dimension	Indicators
Environmental-ecological	Access to clean water	Economic	Income security
	Environmental Health		Job security
	Reducing the smell of sewage		Purchasing power
	Reduction of infectious diseases		People's willingness to invest in the village
	Access to green spaces		Government investment in the village
Sociocultural	Increasing recreational facilities		Mechanization of agricultural activity
	social justice		Variety of agricultural products
	Satisfaction with life in the village		Variety of non-rural job opportunities
	Participation in the village		Diversity and number of rural jobs
	Satisfaction with security		Increase in land prices.
	Belonging to the village		Income from tourism
	Opportunity for advancement		Increasing income in the service sector
	Improving the social interaction of rural residents		Occupations of rural dwellers
	Increasing the communal trust of rural residents		Improving the business environment and rural entrepreneurs
	Reducing crime in rural areas		Attracting and stimulating capital and economic revitalization of the village
	Access to educational centers		Productivity and economic prosperity of the surrounding areas
	Increasing educational facilities		Improving the employment status of women
	Access to health centers		Reduction of seasonal unemployment
Physical	Improvement and renovation of rural houses	Infrastructure	Asphalt development
	Electricity supply network to villages		Rural tourism facilities
	Improving the condition of village roads		Availability of drinking water in the village
	Street lighting		Access to public transportation
	Quality of building materials		Increasing the number of rural households receiving Internet services
	Cleanliness of the village environment		Increasing banking services in the village
			Increasing the number of ATMs
			Access to shopping centers
	road quality		The level of women's participation in the executive affairs of guidance plans
			Government investment in rural infrastructure

Reference: Moradi Masihi & Talebi, 2016; Foladchi et al., 2018

The port city of Chabahar is located at an altitude of seven meters above sea level in Sistan and Baluchestan province. Chabahar is the only ocean port of Iran situated near Oman Sea and has the closest distance to the international water (Indian Ocean). This city is bounded by Iranshahr and Nikshahr counties and Kerman and Hormozgan provinces as well as Pakistan. Chabahar has a moderate tropical climate with rather humidity, the hottest spot in the country in winter and the coldest southern harbor of Iran in summer. The climate of this city and its surroundings is always mild and vernal. Due to this reason, it is called Chabahar (four springs: four seasons are spring). The port of Chabahar is significant thanks to its strategic location, where it is the closest area to international water for the landlocked countries of Central Asia (Afghanistan, Turkmenistan, Uzbekistan, Tajikistan, Kyrgyzstan, and Kazakhstan). The situation of the Persian Gulf in this port and the presence of deep waters, firths, and wharves have provided favorable anchorage coordinates for mooring huge ships. Chabahar City is also one of the free zone areas in Iran. In addition to the airport and railway to Central Asia, this port is one of the most critical crossroads of the North-South corridor of world trade and a strategic area of the transit industry in the eastern region of Iran. Chabahar Port has commercial, service and industrial land uses, heavy industries, marine industries, and natural and historical tourist-recreational attractions (Statistical Yearbook of Sistan & Baluchistan Governorate, 2020).

4. Findings

The normality of sustainable rural development dimensions was investigated. For this purpose, the attribute distribution in the target sample is compared with the distribution assumed for the society. In this regard, if the data has a normal distribution, it is possible to use the parametric test. Otherwise, the non-parametric test should be used.

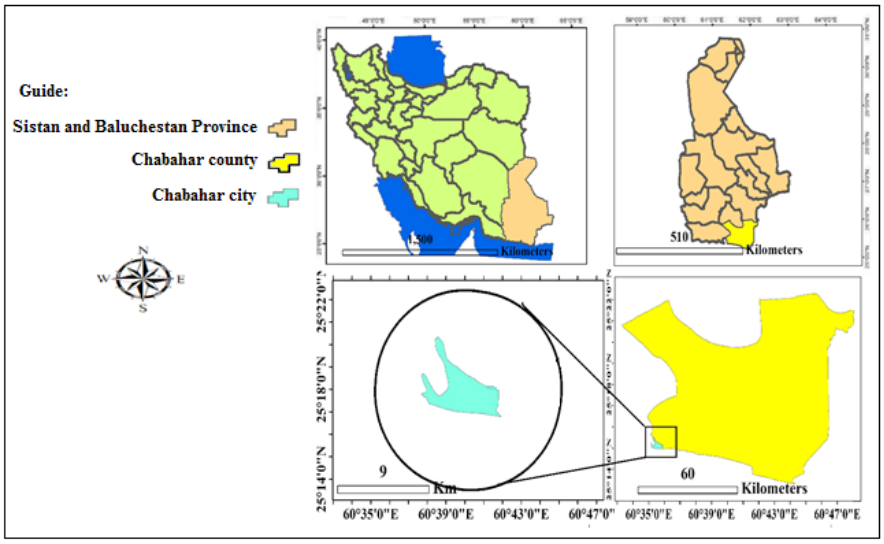

Figure 1. The location of the study area

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Table 2. Kolmogorov-Smirnov test results of rural development dimensions

Result	Kolmogorov-Smirnov measure	Error rate	sig	Dimensions of rural development
Normal	1.213	0.05	0.312	Economic
Normal	1.207	0.05	0.308	Sociocultural
Normal	1.211	0.05	0.305	Environmental-ecological
Normal	1.254	0.05	0.324	Physical
Normal	1.211	0.05	0.311	Infrastructure

Reference: Research findings, 2022

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According to Table 2, the results of the Kolmogorov-Smironov test indicated the normal distribution of the dimensions of rural development. The significance level in all dimensions was greater than the error value (0.05), and the sample distribution was normal at a significance level of 95%. Therefore, parametric analysis can be used.

After determining the normality of the dimensions of sustainable rural development, a one-sample T-test was used to determine the effectiveness of each of the studied items in the dimensions of sustainable rural development of Chabahar International Airport. The results for each dimension were described in Tables 3, 5, 7, 9, and 11.

According to Table 3, the effectiveness of each economic item in the rural areas of Chabahar was at a high level, with an average higher than 3. In this regard, the F-BMW model was used to rank and rate the effectiveness of each of the economic items of Chabahar International Airport. The results have been showed in Table 4.

Among the economic items, purchasing power, with a 0.072 score, and the diversity of agricultural products, with a 0.043 score, had the highest and lowest level of affectability from the Chabahar airport location, respectively (Table 4).

The results showed the high affectability of the social dimension from Chabahar airport (Table 5).

The items of development opportunity, with a score of 0.075, and access to the health centers, with a score of 0.060, showed the highest and lowest affectability from the location of the International Chabahar Airport, respectively (Table 6).

Based on the T-test results, the mean of all indicators was higher than the determined mean value of 3 (Table 7). Therefore, the location of Chabahar International Airport has a considerable effect in the medium to high range on the physical development of rural areas.

Table 3. The effectiveness of each economic Indicators in rural areas with a focus on Chabahar International Airport

Dimension	Indicators	Average	T	Significance (2 domains)	The confidence interval of difference 0.95	
					High	Low
Economic	Income security	3.00	21.200	0.000	3.11	2.89
	Job security	3.02	21.217	0.000	3.14	2.83
	Purchasing power	3.03	21.221	0.000	3.12	2.76
	People's willingness to invest in the village	3.04	21.323	0.000	3.11	2.89
	Government investment in the village	3.11	21.345	0.000	3.22	3.00
	Mechanization of agricultural activity	3.21	21.443	0.000	3.34	3.13
	Variety of agricultural products	3.04	21.221	0.000	3.13	2.80
	Variety of non-rural job opportunities	3.11	21.345	0.000	3.21	3.00
	Diversity and number of rural jobs	3.04	21.323	0.000	3.11	2.89
	Increase in land prices	3.11	21.345	0.000	3.21	3.00
	Income from tourism	3.06	21.224	0.000	3.15	2.83
	Increasing income in the service sector	3.12	21.274	0.000	3.22	3.01
	Occupations of rural dwellers	3.22	21.445	0.000	3.34	3.03
	Improving the business environment and rural entrepreneurs	3.14	21.350	0.000	3.21	3.00
	Attracting and stimulating capital and economic revitalization of the village	3.06	21.230	0.000	3.15	2.095
	Productivity and economic prosperity of the surrounding areas	3.16	21.240	0.000	3.025	3.03
	Improving the employment status of women	3.11	21.345	0.000	3.21	3.01
	Reduction of seasonal unemployment	3.10	21.340	0.000	3.20	3.00

Reference: Research findings, 2022

Table 4. Ranking and effectiveness of each economic Indicator in rural areas from Chabahar International Airport

Indicators	Final weight	rank
Income security	0.065	7
Job security	0.071	2
Purchasing power	0.072	1
People's willingness to invest in the village	0.066	6
Government investment in the village	0.061	9
Mechanization of agricultural activity	0.054	13
Variety of agricultural products	0.043	14
Variety of non-rural job opportunities	0.066	6
Diversity and number of rural jobs	0.070	3
Increase in land prices	0.057	11
Income from tourism	0.071	2
Increasing income in the service sector	0.069	4
Occupations of rural dwellers	0.070	3
Improving the business environment and rural entrepreneurs	0.068	5
Attracting and stimulating capital and economic revitalization of the village	0.063	8
Productivity and economic prosperity of the surrounding areas	0.056	12
Improving the employment status of women	0.061	9
Reduction of seasonal unemployment	0.058	10

Reference: Research findings, 2022

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Table 5. The effectiveness of each of the Sociocultural Indicators in rural areas with a focus on Chabahar International Airport

Dimension	Indicators	Average	T	Significance (2 domains)	The confidence interval of difference is 0.95	
					High	Low
Sociocultural	Increasing recreational facilities	3.03	21.220	0.000	3.12	2.90
	social justice	3.00	21.200	0.000	3.10	2.79
	Satisfaction with life in the village	3.00	21.200	0.000	3.10	2.79
	Participation in the village	3.11	21.240	0.000	3.21	2.80
	Satisfaction with security	3.14	21.244	0.000	3.15	2.95
	Belonging to the village	3.15	21.245	0.000	3.17	2.97
	Opportunity for advancement	3.33	21.300	0.000	3.45	3.23
	Improving the social interaction of rural residents	3.13	21.233	0.000	3.12	2.81
	Increasing the communal trust of rural residents	3.11	21.223	0.000	3.21	2.80
	Reducing crime in rural areas	3.14	21.244	0.000	3.20	3.00
	Access to educational centers	3.10	21.224	0.000	3.20	2.82
	Increasing educational facilities	3.11	21.225	0.000	3.40	3.21
	Access to health centers	3.14	21.244	0.000	3.20	3.00

Reference: Research findings, 2022

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Table 6. Ranking and effectiveness of each Sociocultural indicator in rural areas from Chabahar International Airport

Indicators	Final weight	rank
Increasing recreational facilities	0.068	4
social justice	0.066	5
Satisfaction with life in the village	0.061	7
Participation in the village	0.066	5
Satisfaction with security	0.070	3
Belonging to the village	0.071	2
Opportunity for advancement	0.075	1
Improving the social interaction of rural residents	0.066	5
Increasing the communal trust of rural residents	0.065	6
Reducing crime in rural areas	0.068	4
Access to educational centers	0.061	7
Increasing educational facilities	0.061	7
Access to health centers	0.060	8

Reference: Research findings, 2022

Table 7. The effectiveness of each of the Physical Indicators in rural areas with a focus on Chabahar International Airport

Dimension	Indicators	Average	T	Significance (2 domains)	The confidence interval of difference is 0.95	
					High	Low
Physical	Improvement and renovation of rural houses	3.00	21.13	0.000	3.09	2.92
	Electricity supply network to villages	3.01	21.214	0.000	3.11	2.93
	Improving the condition of village roads	3.08	21.229	0.000	3.13	2.98
	Street lighting	3.11	21.130	0.000	3.15	3.00
	Quality of building materials	3.00	21.213	0.000	3.09	2.92
	Cleanliness of the village environment	3.00	21.213	0.000	3.09	2.92
	road quality	3.13	21.133	0.000	3.17	3.03

Reference: Research findings, 2022

Table 8. Ranking and effectiveness of each Physical Indicator in rural areas from Chabahar International Airport

Indicators	Final weight	rank
Improvement and renovation of rural houses	0.068	4
Electricity supply network to villages	0.066	5
Improving the condition of village roads	0.061	7
Street lighting	0.066	5
Quality of building materials	0.070	3
Cleanliness of the village environment	0.071	2
road quality	0.075	1

Reference: Research findings, 2022

Out of the physical dimensions, the highest and lowest effect of the airport was observed in the rural road quality, with a score of 0.075, and the condition of rural roads, with a score of 0.061, respectively (Table 8).

Out of the environmental dimensions, the Chabahar airport had the highest effect on the indicators of access to clean water and green space, whereas the lowest effect of the airport was observed in the indicators of environmental health with a score of 2.15, reducing the smell of

sewage with the score of 2.23, and decreasing the infectious diseases with the score of 2.17 (Table 9).

Also, access to green space, with a score of 0.063, and a decrease in sewage smell, with a score of 0.031, had the highest and lowest affectability from the location of Chabahar airport, respectively (Table 10).

The T-test results showed a higher mean level compared to the median level of 3) in the infrastructure indicators (Table 11). So, the location of the Chabahar International Airport has a considerable effect in the medium to high range on the development of the infrastructure dimension of the rural area.

Table 9. The effectiveness of each of the Environmental-ecological indicators in rural areas with a focus on Chabahar International Airport

Dimension	Indicators	Average	T	Significance (2 domains)	The confidence interval of difference is 0.95	
					High	Low
Environmental-ecological	Access to clean water	3.14	21.244	0.000	3.15	2.95
	Environmental Health	2.15	19.245	0.000	2.28	1.97
	Reducing the smell of sewage	2.33	19.300	0.000	2.45	2.23
	Reduction of infectious diseases	2.17	19.255	0.000	2.25	2.08
	Access to green spaces	3.16	21.240	0.000	3.25	3.03

Reference: Research findings, 2022

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Table 10. Ranking and effectiveness of each Environmental-ecological Indicator in rural areas from Chabahar International Airport

Indicators	Final weight	rank
Access to clean water	0.060	2
Environmental health	0.033	4
Reducing the smell of sewage	0.031	5
Reduction of infectious diseases	0.045	3
Access to green spaces	0.063	1

Reference: Research findings, 2022

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Table 11. The effectiveness of each of the Infrastructure Indicators in rural areas with a focus on Chabahar International Airport

Dimension	Indicators	Average	T	Significance (2 domains)	The confidence interval of difference is 0.95	
					High	Low
Infrastructure	Asphalt development	3.11	21.245	0.000	3.21	3.00
	Rural tourism facilities	3.17	21.377	0.000	3.26	3.04
	Availability of drinking water in the village	3.03	21.214	0.000	3.11	2.89
	Access to public transportation	3.12	21.221	0.000	3.23	2.97
	Increasing the number of rural households receiving Internet services	3.23	21.415	0.000	3.45	3.11
	Increasing banking services in the village	3.34	21.554	0.000	3.45	3.22
	Increasing the number of ATM machines	3.11	21.245	0.000	3.23	3.00
	Access to shopping centers	3.11	21.345	0.000	3.21	3.00
	The level of women's participation in the executive affairs of guidance plans	3.22	21.445	0.000	3.34	3.03
	Government investment in rural infrastructure	3.14	21.350	0.000	3.21	3.00

Reference: Research findings, 2022

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Table 12. Ranking and effectiveness of each Infrastructure Indicator in rural areas from Chabahar International Airport

Indicators	Final weight	rank
Asphalt development	0.070	3
Rural tourism facilities	0.075	1
Availability of drinking water in the village	0.061	8
Access to public transportation	0.066	7
Increasing the number of rural households receiving Internet services	0.061	8
Increasing banking services in the village	0.071	2
Increasing the number of ATM machines	0.071	2
Access to shopping centers	0.068	4
The level of women's participation in the executive affairs of guidance plans	0.070	3
Government investment in rural infrastructure	0.061	8

Reference: Research findings, 2022

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Among the infrastructure dimension, the highest effect of the airport location was observed in the rural tourism facilities with a score of 0.075, whereas the lowest effect was observed in the availability of drinking water in the village, increasing the number of rural households receiving internet services, and access to health, sports and entertainment centers with the score of 0.061 (Table 12).

5. Discussion

This study aimed to analyze the role of the Chabahar International Airport in the sustainable development of rural areas. According to the T-test, the Chabahar international airport had a medium to high-level effect on the economic dimension of the rural areas. Considering the location of the airport in the vicinity of the villages, part of the villager's motivation to stay is due to the economic security and increasing income level affected by the airport's location. However, there was a positive effect of the Chabahar airport on the economic dimensions of the rural area. Due to the new establishment, the airport capabilities have not properly been used for the economic prosperity of the villages. The government will incentivize domestic or foreign investors to invest in the region and its villages by creating facilities in the airport. So, in this way, a suitable business environment has been provided to create the possibility of attracting capital (foreign and domestic) for economic prosperity and the development of rural areas.

The proper effect of the airport location was observed on the social dimension so that a sense of belonging to a place, participation, social capital, and a sense of trust was created among the people of the villages. Also, security has been established among rural residents by improving the lighting system. In the physical aspect, the highest and lowest effect of the airport location was observed on the quality of rural roads and the condition of village roads, respectively. In the infrastructural aspect, the airport has had favorable effects on the development of rural areas, so it has the most influence on rural tourism facilities.

In the environmental dimension, the airport location had a high impact on access to clean water and access to green spaces and the lowest impact on environmental health, reducing the smell of sewage and reducing infectious diseases. From the residents' point of view, the airport has had adverse effects on the health of the surrounding villages in such a way that the lack of health in the environment has led to infectious diseases among the rural residents. Therefore, despite the favorable effects of the airport on the development of rural areas of Chabahar, it is expected that the relevant authorities will benefit from the advantage of the numerous capabilities and potentials of the aviation industry and try to make a development in the rural areas. The findings of this study followed the findings of Foladchi et al. (2018), Eskandari & Borjui Roshanpour (2017), Chen et al. (2021), Wang & Song (2020), and Koç & Durmaz (2015).

Considering the results, the following strategies were suggested:

- Creating employment and income for job seekers and educated youth by managers and related officials to create people's willingness to invest in the rural area;

- Changing the occupation structure and economic activities related to the airport to improve the standard of living and increase the income security of the rural residents of Chabahar;

- Identifying the weak points related to the role of the airport location on the environmental dimensions and recognizing its destructive effects in the rural areas of Chabahar to improve the environmental health of rural settlements.

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Conflict of Interest

The authors declared no conflicts of interest.

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