

Research Paper: Investigating the Role of Border Location on the Economic Stability of Rural Settlements (Case Study: Rural Areas of Sistan, Southeast of Iran)

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ABSTRACT

Purpose: Today, the rural areas located in the border regions have experienced unequal access to opportunities and benefits of growth and development, which has been made some problems and disturbances such as migration, smuggling of goods, rebellion, and insecurity. In this regard, special attention should be paid to border villages and the effect of locating some settlements in border regions on economic, social, and ecological dimensions. This study aimed to analyze the role of the border regions in the sustainability of the economy of rural areas of Sistan & Baluchestan in the southeast of Iran.

Methods: The research method in the current research is of qualitative-quantitative type, and based on the purpose, it is of applied type. The statistical population includes elites, experts, managers, councils, and villagers of the border villages of Sistan (Zahak, Hirmand and Nimrooz). Based on targeted sampling, the number of 50 people was determined. SWOT model and Delphi method were used to analyze the information

Results: The results of the SWOT analysis showed that the sum of the strengths and opportunities is more than the weaknesses and threats ($WT < SO$). Therefore, the strategy is to stabilize the economy of rural settlements with an emphasis on the border (competitive) position. In the following, the proposed strategy extracted from the SWOT model was measured and confirmed using the Delphi method in three rounds.

Conclusion: Providing the proper strategies according to the competitive strategy (long-term performance plan emphasizing the capabilities of border regions) and considering the potential and actual abilities of the villages of Sistan are effective in developing and reducing immigration, unemployment, and goods smuggling of the study area.

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1. Introduction

Due to the potential disabilities, border regions are considered isolated and deprived areas. Therefore, the cities and villages located in these areas have experienced less development (Rigi et al., 2020: 364; Mohammadi Barzili & Pishgar, 2018: 40). Scientific organizing of border settlements as the strategic areas can minimize the problems and challenges in these areas. Knowing the potential of border areas can be considered the best approach concerning the spatial development of border areas. Appropriate action in geographical, cultural, and economic dimensions will lead to the economic prosperity of the border areas, and the physical development will be practical in the border areas, which will prevent disturbance planning so that the development will appear in the bottom-up approach (Sadeghi et al., 2014: 125).

At the borders of most developing countries, a significant level of people's needs is provided through cross-border transactions. Such informal and local exchanges play a considerable role between neighboring countries and improve the lives of the residents. These interactions will lead to the development of mutual economic cooperation, expansion of local border markets, creation of peace, stability, security, and improvement of infrastructure and services in the border areas (Kamalian et al., 2012: 1). Nowadays, according to global relations, the economic function is considered one of the important roles and functions of the border areas (Saadati Jafarabadi, 2012: 3). The dynamism of the economy is regarded as a main indicator to established communication between the neighbor countries and improving the livelihood of the border people. This means that people living in the border areas can share opportunities and resources, leading to diplomacy, security, economic prosperity, development, job opportunities, and relative advantage in the border areas. Trade and dynamic economy in border regions can have a critical role in sustainable development, improving people's living standards, reducing poverty, properly distributing income diplomacy, and more cooperation between border areas (Rigi et al., 2021: 101). The role of the rural settlements in border areas in national development is one of the challenges of planners (Badri et al., 2018: 44). Today, the rural areas located in the border regions have experienced unequal conditions in terms of access to opportunities and benefits of growth and development. The main attributes of the border villages are lack of industry development and low production in the agricultural sector, unfavorable

conditions of resources, and improper security, which cause the problems and disturbances such as migration, smuggling goods, rebellion, and insecurity. So, due to the mentioned problems, attention has been paid to the border regions and their economic impacts on the development level; because of the idea that these particular geographical areas cause compatibility, economic homogeneity, stabilization of security, and stability of the population (Niebuhr & Stiller, 2002: 64).

Due to the trade or storage of goods, the border areas of Iran are essential. Whereas these areas, especially in the southeastern regions of Iran, face problems such as distance from the center of Iran, geographical isolation, instability of settlements, external threats, and border exchanges (Akhgari & Barzegar, 2016: 1). The southeastern borders of Iran, have power generating functions concerning the extraordinary geopolitical capacities such as economic, security, national unity, and regional and international communications. In this regard, the country's future development depends on the design and planning of efficient policies and the optimal use of the functions of the country's southeast region. The location of Sistan in the southeast borders of Iran and on the north of Sistan & Balouchestan created difficult livelihood situations for its people due to the geomorphological characteristics, distance from the center of Iran, and lack of economic diversity. The villages located in the border areas experienced severe problems due to the successive droughts, the drying up of Hamon Lake, the blocking of the Afghan border, unfavorable weather, dusty winds caused by Hamon Lake drying, and lack thereof of occupation for young people. The population of rural settlements in the border cities of Sistan (Zahak, Hirmand and Nimrooz) due to problems such as drought and the blocking of the border has not only not increased but has gone through a downward trend in the past few years. However, the only factor affecting this region's development and population stability is its location. The location of Milk and Gomshad markets with various economic goals has had significant physical, economic, and social impacts on the lives of the rural residents in the border areas. It has become a primary stimulus to strengthen life indicators and improve the quality of life in these areas. Therefore, this study aimed to analyze the role of border location on the economic stability of rural settlements in Sistan (Zahak, Hirmand and Nimrooz). In other words, the central question of this study was as follows:

What is the proper strategy for economic stability in rural settlements on the border of Sistan?

2. Literature Review

Today, investigating the situation of border regions is very important in regional planning and spatial arrangement (Darban Astane, 2015: 130). The function and role of borders are vital factors in the development of these regions (Rafiyan et al., 2014: 46). Borders can also be an obstacle to the development and integration of border areas, and as a communication bridge, provide the field of interaction and connection between the two sides of the border. Understanding the deterrent effect or the communicative role of borders depends on the interpretation of the borders and their function (Chen, 2006: 25). In general, there are two dominant views about the role of borders (especially in the literature on the development of border areas): First, the border as a separating line and the second, the border as a contact area (Wu, 1998: 189; Barry & Dajani-Daoudi, 2000: 4-6). From the first point of view, borders as a barrier can cause a lot of transaction and exchange costs. In other words, a border that is a legitimate obstacle to forming institutional, political, and social systems in the border region is an obstacle to the free flow of information and the intensification of market complexities (Wu, 1998: 191). A dynamic economy in the border areas will create employment, provide a livelihood for the residents, and control the smuggling of goods. In addition, it may be a strategy to make security in the border areas while creating economic mobility and providing employment for people. They create cultural and political security. Residents of border areas engage in smuggling and similar activities due to unemployment, which leads to cultural issues and a fatal blow to the country's economy (Rigi et al., 2021: 101).

Several studies have examined the economic impacts of the borders on rural areas. Tayebnia & Khosrobigi Bozcheloei (2021), in a study entitled "Analysis of effective factors on economic diversification in border villages of western Iran (Case study: Marivan city)," found that social, economic, environmental abilities and the location of border areas affect the diversification of economic activities. Out of the mentioned factors, the ecological abilities and the site had the highest effect on the diversification of the rural economy. Jalaliyan & Naimabadi (2020), investigated the economic development of villages located on the borders emphasizing the Bashmagh border market of Marivan City. They found a significant relationship between the independent variables (economic growth) and the Bashmagh border market, with a significance level of 99%. Motaghi et al. (2020) investigated the relationship of the space economy with the political organization of space in the border villages of Sistan and Baluchestan. Their findings

showed a weak correlation between the village's area and the population. This weak correlation indicates that the spatial distribution of economic-welfare facilities in the villages of Sistan and Baluchestan province is not consistent with the population needs. Heydari Sarban & Yari Hisar (2019) explained the relationship between the sustainable economy with strengthening the border security of rural areas in Gerami County. They found a significant relationship between the variables of economic sustainability (eliminating poverty, adapting to the environment, reducing vulnerability, and productivity) with strengthening border security, except the diversification and functioning. Esfaram et al. (2018) studied the impact of border markets on the quality of life of villages in Piranshahr City. Their findings showed the low quality of life in the Shinabad and Badabad villages located in the border areas of Tamarchin in Piranshahr. Tayebnia & Manoochehri (2016) studied "the role of border markets on rural social and economic development (case study: villages of Khaw region and Mirabad in Marivan city). They concluded the positive effect of border markets on security, decreasing smuggling and increasing the job security of villagers. Hogarth et al. (2023) investigated the role of forest-related incomes in household economies and rural livelihoods in the border areas of south china. Results show average forest-related income shares of 31.5%, predominantly derived from cultivated non-timber sources. Forest-related income was essential to all households, although lower-income families were more dependent due to a lack of other sources. Higher-income households monopolized off-farm income and had more land than low-income households. Forest-related income could be increased by making forest land accessible to low-income people, improving productivity, and removing constraints to smallholder engagement in timber marketing. EddaH-jaltadóttir et al. (2020) studied the interregional innovation cooperation and structural heterogeneity in border and non-border villages, which included 203 villages in 15 Europe countries in 2010. They found weak collaboration in terms of innovation between the border areas. Also, Xiang & Chery Xiaoning (2014) investigated the Cultural border, administrative border, and regional economic development in Chinese cities. Their findings showed a negative effect of the incompatibility of cultural and administrative borders with local protectionism on economic development.

3. Methodology

The present study is qualitative-quantitative research and applied in terms of objectives. The statistical popu-

lation was the society of the elites, managers, experts, councils, and villagers who live in the border areas of Sistan (Zahak, Hirmand and Nimrooz) and was selected by purposive sampling [N=50]. The method of this study was carried out in two parts: in the first part, the strengths, weaknesses points, opportunities, and threats of the border areas on the economic stability of the villages were investigated using the SWOT model. In the second part, the Delphi method was used due to the lack of statistical generalizability of the SWOT model.

Sistan is a vast region of Iran and Afghanistan, divided between these countries. A small part belongs to Iran, and a significant portion is to Afghanistan. The geographical range of this region is limited between 30 degrees and 7 minutes to 31 degrees and 29 minutes north latitude and 59 degrees and 58 minutes to 61 degrees and 50 minutes east longitude. It is adjacent to the border of Afghanistan from the north, east, and southeast, from the southwest to the Baluchistan region, and from the west and northwest to the South Khorasan province. For this reason, the Sistan region has particular importance and sensitivity. According to the latest country divisions, Sistan has 5 cities (Zabol, Zahak, Hirmand, Nimrooz and Hamoon). The three towns of Zahak, Hirmand, and Nimrooz border Afghanistan (*Statistical Yearbook of Sistan and Baluchistan Governorate, 2021*).

4. Findings

Internal factors were investigated to identify the strengths, weaknesses, opportunities, and threats of establishing the border location on the economic stability of rural settlements. In this regard, the main strengths and weaknesses were listed. The factors were scored by

a coefficient from zero (not important) to one (very important) so that the sum of these coefficients equals one. Also, the status of each factor was determined by scoring between 1 and 5 (very good, above average, average, below average, poor). The minimum and maximum weights are 1 and 3, respectively. An IFE lower than 3 showed the weak economic stability of rural settlements in the border areas and an IFE of more than 3 showed the economy's strength in the rural settlements in the border areas.

According to *Tables 3 and 4*, the steps of the EFE matrix are the same as those performed in the IFE matrix. However, in the EFE matrix, instead of weaknesses and strengths (internal factors), external factors were investigated (threats and opportunities resulting from the role of the establishment in border locations on the economic stability of rural settlements in Sistan).

The SWOT analysis showed that the internal matrix set of the role of border location on the economic stability of rural settlements in Sistan includes 18 strengths and 10 weaknesses. The high weight of strength points was observed in the increased service jobs. The high weight of weakness points was kept in the low level of economic security and creating tension and disorder in rural market competitions. The total point of internal factors (strengths=2.796; weaknesses=1.743) was 4.539. Based on the findings, out of the opportunities, local planning emphasizing endogenous development and sustainable livelihood strategy have the highest weight. Among the weak points, the increase in foreign nationals has the highest weight. The average total point of external factors (opportunities=1.77; threats=1.472) was 3.24.

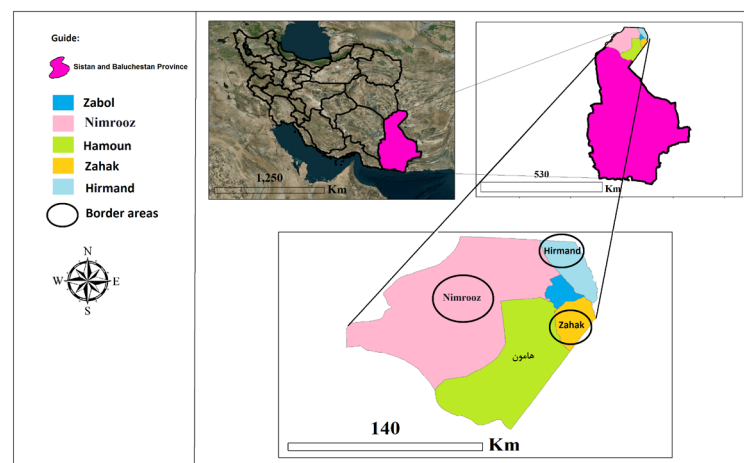


Figure 1. The location of the study area

Regarding providing macro strategies based on the usual rule, if the total mean of threats and weaknesses is lower than the total average of opportunities and strengths (SO>WT), macro strategy will be a competitive strategy type. Based on this, the desired strategy is competitive because the average score of opportunities and strengths based on SWOT analysis is higher than the

average score of threats and weaknesses. Considering the effects of the border location's strengths, weaknesses, opportunities, and threats on the economic stability of the rural settlements of Sistan, the suggested strategies are as follows.

Table 1. IFE matrix of the role of border location strengths in the economic stability of rural settlements in Sistan

	Effective factors of the internal environment (strengths)	secondary coefficient	rank	Final coefficient
S1	Diversity in economic activities	0.043	3	0.129
S2	Increasing household income from border activities	0.043	5	0.215
S3	Access to the border market and its economic benefits	0.057	2	0.114
S4	Increasing the employment of women	0.057	4	0.228
S5	Increasing service jobs	0.057	5	0.285
S6	Increasing the purchasing power of rural residents	0.043	2	0.086
S7	Income security of rural residents	0.057	3	0.171
S8	Increasing private investment in border villages	0.043	5	0.215
S9	Increasing government investment in border villages	0.043	2	0.086
S10	Employment of natives	0.057	4	0.022
S11	Control of fake jobs	0.043	3	0.129
S12	Job satisfaction of rural residents	0.051	4	0.204
S13	Increasing bank deposits of residents	0.044	4	0.176
S14	Improving the supply of basic goods	0.036	4	0.144
S15	Expansion of border exchanges	0.031	4	0.124
S16	Business growth	0.036	4	0.144
S17	Increasing business activities	0.041	4	0.176
S18	Creation of production units	0.037	4	0.148
Total points of internal environmental factors (strengths)			0.796	

Reference: Research findings, 2022



Table 2. IFE matrix of the role of border location weakness on the economic stability of rural settlements in Sistan

	Effective factors on the internal environment (weaknesses)	secondary coefficient	rank	Final coefficient
W1	Increasing the number of active rural people in informal business	0.043	5	0.215
W2	Increasing smuggling activities	0.043	4	0.172
W3	Using young labor for smuggling	0.057	3	0.171
W4	Increase of the income from smuggling of goods compared to the income from agriculture and animal husbandry	0.043	3	0.129
W5	Low level of economic security	0.057	5	0.285
W6	Weakening the domestic production of the village	0.057	2	0.114
W7	Creating tension and disorder in rural market competitions	0.057	5	0.285
W8	Reduction of productive job opportunities	0.043	4	0.172
W9	Weakening work culture	0.043	2	0.086
W10	The spread of the culture of the hidden economy	0.057	2	0.114
Total points of internal environment factors (weaknesses)			1.743	

Reference: Research findings, 2022



Table 3. EFE matrix of the role of border location threats on the economic stability of the rural settlements of Sistan

	Effective factors of the external environment (threats)	secondary coefficient	rank	Final coefficient
T1	The presence of extra-regional forces on the other side of the borders and its effects on the regional economy	0.059	5	0.295
T2	Increasing illegal traffic and encouraging the young forces of the village	0.059	5	0.295
T3	Increase of foreign nationals	0.044	5	0.232
T4	The increasing migration of people across borders looking for a job	0.029	2	0.058
T5	Unequal profit from the border markets for the villages of Sistan	0.029	2	0.058
T6	Reduction of agricultural activities in the villages of Sistan	0.029	4	0.116
T7	Reduction of production activities in villages	0.033	2	0.066
T8	Reduction of productivity and efficiency in agriculture and animal husbandry	0.044	3	0.132
T9	Livelihood and income problems in case of border blockage	0.055	4	0.122
	Total points of external environment factors (threats)		1.472	

Reference: Research findings, 2022



Table 4. EFE matrix of the role of border location opportunities on the economic stability of the rural settlements

	Effective factors of the external environment (opportunities)	secondary coefficient	rank	Final coefficient
O1	Recruitment of native border guards	0.059	4	0.236
O2	Creating stalls of border cooperatives in border markets	0.044	2	0.088
O3	Development of agricultural transformation industries in villages and allocating stalls in border markets to these products	0.044	2	0.088
O4	Developing tourism and increasing the income of rural residents	0.074	3	0.222
O5	Hope for the future improvement of economic conditions	0.044	2	0.088
O6	Sufficient income to meet needs and expenses	0.059	5	0.295
O7	Local planning emphasizing endogenous development and sustainable livelihood strategy	0.074	5	0.370
O8	Development of commercial cooperatives and the integration of small capitals of the villagers	0.044	2	0.088
O9	Increasing the price of land in the village	0.059	5	0.295
	Total points of external environment factors (opportunities)		1.77	

Reference: Research findings, 2022



Defensive strategies (WT)

- Formalizing trade of goods by strengthening active border markets to give priority to the villages of Sistan;
- Prioritizing Sistan’s native people to exchange facilities of Sistan’s border market to improve the economic situation of the region;
- Activating the tourism capabilities of border villages and creating exhibitions of goods and services;
- Increasing people’s participation in border markets by creating small workshops

Competitive/offensive strategies (SO)

- Planning to create small and medium industries in the region, considering the population of young people in the villages;
- Strengthening the services and infrastructure of the region to develop the employment of the villagers;
- Optimal distribution of facilities and resources to eliminate poverty and deprivation.

Diversity Strategies (ST)

- Creation of possible mechanisms in the field of increasing the participation of the residents of Sistan villages in the activities of border markets;

- Training the business methods and familiarizing with the benefits of the border markets to development of residents' employment;

- Providing special facilities to the farmers of the villages of Sistan who could not benefit from the border markets due to the lack of initial capital;

- Expansion of small production activities following the human and environmental characteristics of the region for production and export. In this case, export profits and employment in the area will be boosted, and the smuggling of goods will be reduced.

Revising Strategies (WO)

- Appropriate and executive planning for the expansion of tourism in the villages of Sistan, considering their tourism capabilities in the markets;

- Planning for rural economic development in establishing the population of rural areas and preventing the migration of the inhabitants of the villages;

- Providing credits for establishing welfare services in markets and providing sufficient capital for the villagers in the form of long-term and low-interest loans.

In the following, each strategy was examined using the Delphi method. In this regard, Kendall's coordination coefficient was used to determine the level of agreement among panel members. Kendall's correlation coefficient is a scale to assess the degree of coordination and agreement between several rating categories related to N objects or individuals. Indeed, it is possible to find the rank correlation between K rank sets using this scale.

The value of this scale in complete agreement and no agreement are equal to one and zero, respectively. The W coefficient's statistical significance is insufficient to stop the Delphi process. The numerical value of Kendall's coefficient in 3 Delphi steps has been provided in [Table 5](#).

The high growth of the W coefficient in two consecutive steps will indicate the continuation of the Delphi method ([Table 5](#)). The stability of this coefficient or its slight growth in two steps shows no increase in the members' agreement, and the polling process should be stopped.

According to [Table 5](#), the Delphi test was similar to the second and third rounds results, with a slight difference in the Kendall coefficient.

According to [Tables 6 and 7](#), in the first step of the Delphi method, a questionnaire including 4 strategies was provided to the experts. At the end of the first step, no strategy was added to or removed from the questionnaire. In the second step of the Delphi method, a questionnaire was designed using four strategies. This questionnaire was provided to the experts. At the end of the second step, the experts provided the strategy of strengthening the work culture and employment in the village through the sale of manufactured and handmade products for the villages of Sistan.

In the third step of the Delphi method, based on the results obtained from the first and second steps, the questionnaire was designed with 4 strategies, and no new strategy was added at the end of the third step.

Table 5. Numerical value of Kendall's coefficient of Delphi steps

Competitive	Diversity	Defensive	Revising	Test type	Strategies
0.711	0.708	0.716	0.711	Delphi steps	Revising
0.725	0.721	0.734	0.733	Value of Kendall's coefficient	
0.714	0.744	0.734	0.722	Delphi steps	Defensive
0.733	0.754	0.756	0.731	Value of Kendall's coefficient	
0.721	0.733	0.722	0.700	Delphi steps	Diversity
0.733	0.740	0.730	0.711	Value of Kendall's coefficient	
0.722	0.711	0.721	0.733	Delphi steps	Competitive
0.743	0.722	0.713	0.721	Value of Kendall's coefficient	

Reference: Research findings, 2022

Table 6. The results of the three Delphi rounds for defensive and competitive strategies

Strategies		Mean	First-round agreement percentage	Mean	second round agreement percentage	Mean	Third-round agreement percentage
Defensive strategies (WT)	Formalizing trade of goods by strengthening active border markets to give priority to the villages of Sistan	3.11	0.66	3.15	0.47	3.22	0.86
	Prioritizing Sistan’s native people to exchange facilities of Sistan’s border market to improve the economic situation of the region	3.00	0.59	3.11	0.66	3.15	0.75
	Activating the tourism capabilities of border villages and creating exhibitions of goods and services;	3.14	0.79	3.19	0.82	3.24	0.90
	Increasing people’s participation in border markets by creating small workshops	3.15	0.77	3.15	0.81	3.17	0.82
Competitive strategies (SO)	Planning to create small and medium industries in the region, considering the population of young people in the villages	3.15	0.69	3.19	0.78	3.23	0.87
	Strengthening the services and infrastructure of the region in order to develop the employment of the villagers	3.12	0.67	3.12	0.67	3.15	0.77
	Optimal distribution of facilities and resources in order to eliminate poverty and deprivation	3.17	0.70	3.21	0.80	3.25	0.88

Reference: Research findings, 2022



Table 7. The results of three Delphi rounds for diversity and revision strategies

Strategies		Mean	First round agreement percentage	Mean	second round agreement percentage	Mean	Third round agreement percentage
Diversity Strategies (ST)	Creation of possible mechanisms in the field of increasing the participation of the residents of Sistan villages in the activities of border markets;	3.13	0.68	3.17	0.77	3.21	0.83
	Training the business methods and familiarizing with the benefits of the border markets to development of residents’ employment;	3.21	0.84	3.25	0.89	3.28	0.90
	Providing special facilities to the farmers of the villages of Sistan who could not benefit from the border markets due to the lack of initial capital;	3.14	0.69	3.17	0.77	3.19	0.78
	Expansion of small production activities following the human and environmental characteristics of the region for production and export. In this case, both the profits from exports and the creation of employment in the area will be boosted, and the smuggling of goods will be reduced.	3.15	0.69	3.19	0.78	3.23	0.87
Revising Strategies (WO)	Appropriate and executive planning for the expansion of tourism in the villages of Sistan, considering their tourism capabilities in the markets;	3.17	0.77	3.19	0.78	3.20	0.88
	Planning for rural economic development in establishing the population of rural areas and preventing the migration of the inhabitants of the villages;	3.11	0.65	3.15	0.75	3.16	0.70
	Providing credits for establishing welfare services in markets, as well as providing sufficient capital for the villagers in the form of long-term and low-interest loans.	3.15	0.69	3.21	0.80	3.24	0.88
	strengthening the work culture and employment in the village through the sale of manufactured and handmade products for the villages of Sistan	-	-	3.11	0.65	3.19	0.78

Reference: Research findings, 2022



5. Discussion

This study analyzed the role of establishing the border locations on the economic stability of rural areas of Sistan & Baluchestan, southeast of Iran. The SWOT analysis results to identify the strengths, weaknesses, opportunities, and threats of the border areas in the economic stability of rural settlements in Sistan showed that the internal matrix set included 18 strength points and 10 weakness points. The total average of internal factors (strengths=2.796; weaknesses=1.743) was obtained as 4.539. Also, the external matrix analysis results showed that 18 opportunity and threat points were identified, and the total average was obtained to be 3.24. Considering that the sum of strengths and opportunities is more than weaknesses and threats, the macro strategy will be competitive. The 4 provided strategies were explored using the Delphi method. In the second step, during the revising, the experts provided the strategy of strengthening the culture of work and employment in the village by selling manufactured and handmade products for the villages of Sistan. Sistan and its villages have the potential and capabilities in different fields, including the recruitment of native border guards, the creation of stalls of border cooperatives in border markets, the development of agricultural transformation industries, the development of tourism, and the increasing income of rural residents, and development of commercial cooperatives and the integration of small capitals of the villagers, etc. Although, despite the potential, the villages of this region still have fundamental problems for growth and development, and comparing the other villages, they didn't profit from the advantages of border markets. Besides the economic and weather conditions, this statue, including draughts, caused illegal trade. This problem is mainly due to unfavorable employment of the residents. Therefore, the need to plan for the economy, income, and employment of the border residents is necessary to aim at reducing poverty and preventing population migration of the villagers to achieve sustainable economic development. Suppose appropriate strategies are presented in the competitive strategy, taking into account the potential and actual abilities of the villages and making it actual. In that case, we will observe the reduction of the problem of smuggling goods and the sustainable development of these areas. The findings of this study agree with the conclusions from Jalaliyan & Naimabadi (2020) and Tayebnia & Manoochehri (2016), explaining the effect of border markets on the economic development of rural areas.

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Conflict of Interest

The authors declared no conflicts of interest.

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