Research Paper: The Pattern of Driving Forces Affecting the Poverty Trap in Rural Areas (Study Case: Rural Area of Birjand in the East of Iran)

Mahmood Fallsoleyman¹, Mohammad Hajipour^{2*}, Ali Shokhmgar³

1. Associate Professor, Department of Geography, Faculty of Literature and Humanities, University of Birjand, Birjand, Iran.

2. Assistant Professor, Department of Geography, Faculty of Literature and Humanities, University of Birjand, Birjand, Iran.

3. MSc., Department of Geography, Faculty of Literature and Humanities, University of Birjand, Birjand, Iran.



Citation: Fallsoleyman, M., Hajipour, M., & Shokhmgar, A. (2022). The Pattern of Driving Forces Affecting the Poverty Trap in Rural Areas (Study Case: Rural Area of Birjand in the East of Iran). *Journal of Sustainable Rural Development, 6*(2), 213-224. https://dorl.net/dor/20.1001.1.25383876.2022.6.2.5.8

(C): https://dorl.net/dor/20.1001.1.25383876.2022.6.2.5.8

Article info: Received: 10 Jan. 2022 Accepted: 04 July 2022

Keywords:

Poverty, Deprivation, Inequality, Poverty Trap, Rural Development, Birjand, East of Iran

ABSTRACT

Purpose: One of the main issues facing rural development planners is eradicating poverty in rural communities. From 2011-2021 due to various factors, Iran's poverty and deprivation trap has grown more significant in recent years, ensnaring a sizable portion of both the rural and urban populations. The effective causes and motivators of the poverty trap in each area must be understood to plan the transition out of poverty and deprivation; this research attempted to do so in the rural communities of Birjand County.

Methods: The research uses a survey approach and a descriptive-analytical methodology. 12,854 households in 61 villages surrounding Birjand City made up the statistical population for the study, and 372 homes were chosen using Cochran's method as the size of the sample population. SPSS and PLS software were used to analyze statistical data.

Results: 88% of households in the rural areas under study are caught in the poverty trap. The critical point is that not all of the trap's elements play the same part; as a result, the literacy factor has the highest average (approaching the ideal level), while the savings index has the lowest average (toward the unfavorable level). The economic aspect, with an impact factor of 0.31, the geographical aspect, with an impact factor of 0.29, and the individual aspect, with an impact factor of 0.25, were investigated, and they all significantly impacted the poverty trap in the rural area under study.

Conclusion: Economic remedies and the restoration of indicators, such as bettering employment prospects, promoting agricultural products, raising the productivity of manufacturing and human resources, and boosting access to affordable financing, are the ways to end poverty in rural areas.

* Corresponding Author: Mohammad Hajipour, PhD Address: Department of Geography, Faculty of Literature and Humanities, University of Birjand, Birjand, Iran. Tel: +98 (915) 5623603 E-mail: mhajipour@birjand.ac.ir

1. Introduction

ne of the most significant effects of unfair and unequal income distribution among members of society is poverty, a negative socioeconomic phenomenon. The prevalence of this phenomenon in any civilization demonstrates the improper performance of wealth and income distribution within that society's socioeconomic structure, which has negative implications for that structure. Serious socioeconomic tensions arise as a result of the continuation of this process (Mohammedzadeh et al., 2010: 42). Hence, from the late 1970s and particularly since the start of the 1980s, many nations around the world have taken poverty and assistance for vulnerable people into consideration (Allen, 2017). Identifying structures and elements causing poverty is the first step in a long-term and ongoing program to eradicate it (Francis et al., 2019).

In this instance, rural poverty is regarded as one of the most significant issues that have captured the attention of many administrators, policymakers, and intellectuals. It is clear from looking at poor households and their surroundings that some elements -poverty, physical weakness, fragility, isolation, and powerlessness- are interconnected. The "vicious loop of poverty," "the disease of poverty," "the trap of deprivation," and "the trap of poverty" are terms used to characterize these traits (Jamshidi et al., 2013: 114).

A scenario where people are trapped in poverty is one where they cannot escape it. Poverty traps generate and maintain the circumstances of poverty, causing the economy to be mired in a never-ending cycle of underdevelopment. If no action disrupts the loop, the trap perpetuates itself. Not all forms of poverty are traps. Although poverty may be transient and people might emerge from it, poverty also carries a trap when the "vicious cycle of poverty" undermines their efforts; in this circumstance, poverty is fostered, and a more conducive environment is made for its occurrence (Mousavi & Azari, 2016: 137).

Although at least 40 years of community needs meeting and aiding the poor and vulnerable in Iran's rural communities and across its many geographical regions, the programs' successes in lowering poverty and income vulnerability are not particularly noteworthy. Conducting thorough research to identify and assess poverty is a fundamental requirement for the success of programs aiming at reducing it (Zahedi-Mazandarani, 2005: 436). Following the Islamic Revolution in Iran (1987), the nation's propensity for development was accompanied by social justice. In addition to the five-year development plans, various other assistance measures were developed and implemented to address poverty. Among them, we can include the provision of villages with construction services, telecommunications, electricity, and facilities for health care, education, and safe drinking water. Despite all efforts to end poverty and income inequality, numerous studies reveal that Iranian households have experienced severe financial strain over the past 20 years. As a result, poverty and income inequality are currently among Iran's most significant economic, social, and political challenges (Sardarshahraki et al., 2018: 32).

There are 57,688 individuals living in rural areas in Birjand City, and 18,088 of them are adults. Of these adults, 92% are employed, and 8% are unemployed (Iranian Statistics Center, 2016). Meanwhile, the Islamic Revolution Housing Foundation of South Khorasan's analysis found that throughout the late 1390s (2011), marginalization in the city's center increased by a factor of ten (Avaye Khorasan Jonubi, 2022). In other words, whereas population growth in Birjand was 2%, the surrounding villages have grown seven times in the last 20 years, with growth rates reaching 12% in places like "Amirabad" and "Hajiabad." As mentioned above, the villagers are dealing with severe issues like helplessness, isolation, lack of resources, illiteracy, and ignorance. As a result, the issues gradually become more complex and affect many people. Thus, this study examines and assesses the variables influencing the occurrence and growth of the poverty trap in the rural communities of Birjand City.

Today, one of the main concerns of planners and managers is the issue of reducing poverty in various parts of Iran, mainly rural settlements. The availability of various natural, economic, social, and infrastructural resources and opportunities affects how poor a village is. Therefore, it is clear that to address poverty and stop its spread, it is first essential to understand the key contributing factors, followed by the design and implementation of policies and programs to reduce it. Such studies are fundamentally necessary and significant given that the villagers in South Khorasan, Iran (particularly those in the Birjand district) have few facilities and infrastructures and a severe lack of environmental resources that serve as their primary sources of livelihood.

2. Literature Review

December 2022, Volume 6, Number 2

The history of previous studies, which includes the following, demonstrates that research in understanding and recognizing poverty, the poverty trap, and its consequences have been widely carried out. The poverty trap is among the most significant issues in the field of managing and preventing the emergence of the phenomenon of poverty in today's world. Yet, this type of research, which looks at the significant variables bolstering the poverty trap, is rarely seen.

In their paper, "Pollution-induced Poverty through Bifurcations in the Minimum Economic-Environmental Model," Liuzzi and Venture (2021) concluded that lowincome people fall into pollution-induced poverty traps. The periodic behavior of environmental and economic factors serves as the first indication of the impending threat of becoming stuck at a poor level of financial performance. If income is not distributed equally among all people, the poor have a tough time adapting to the rate of change in their economic condition.

According to Ding et al. (2020), who authored "Rural Households, Livelihood Reaction to Poverty Reduction Industry as a Sustainable Road from Poverty," a more robust livelihood response brought on by industry programs that aim to reduce poverty on multiple fronts results in this. Poverty can be significantly reduced through "people-industry-land" synergy. After "investigating the trend of poverty in rural areas of Iran," Bahramian and Karami (2018) concluded that to reduce poverty permanently, one must increase employment, support agricultural products and guarantee their prices, establish medical and health facilities, and provide social security. In the villages of the nation, it may be helpful. Hendizadeh et al. (2017) discuss factors like wasteful use of natural resources, wasteful livestock grazing, and changes in forest land use. Wasteful use of chemical fertilizers appears and ends up causing the destruction of the foundations of life in the global ecosystem in their study, "Spatial Analysis of Factors Affecting Rural Poverty and its Relationship with Environmental Degradation." Given that most people work in agriculture, this problem can be solved by expanding the agricultural sector

The difference between rural and urban education in terms of differing educational investments, children's education, and school is examined by Zhang (2017) in the paper "Opportunity or Poverty Trap: Differential between Rural Education and Internal Migration in China." The findings demonstrated that the poverty trap and poverty alleviation in immigrant children are shown through survival analysis, which is made possible by institutional restraints and hierarchies in children's schooling.

In their study "Poverty Trap, Convergence, and the Dynamics of Household Income," Arunachalam et al. (2017) conclude that income volatility is significant and that most Indian households have a yearly income rise of more than 2%. Rich people see income growth at a rate roughly three times that of a low-income family. A significant portion of the poverty trap can be avoided by income equality.

Konecny (2016), in the article "Modern life cycle as a tool to solve technological unemployment and get rid of poverty," explores the connections between technological unemployment and the modern life cycle and also proves that technological unemployment is not only a threat but also a way out of poverty.

Canidio (2015), in the article "Concentration effect and the poverty trap," concludes that the incentive to save may increase with the initial level of wealth, and a timebased poverty trap may exist, which can be prevented mainly by promoting savings and frugality culture.

Zhang's (2014) article, "Education Poverty Trap: Poverty and Education Connections in Western China," emphasizes the poverty trap for families who invest heavily in education without receiving returns. The results in this article show that, in the case of the educational poverty trap, the burden of heavy educational expenses as a factor of poverty and deprivation is more significant for low-income families.

In their article, "Effective factors on the spatial distribution of poverty in rural areas with an emphasis on socioeconomic characteristics," Mohammadi-Yeganeh et al. (2014) found that the problem of poverty is one of the main factors causing the decline and inefficiency of production and life in rural areas.

In their study, "Assets, Shocks, and Poverty Traps in Rural Settlements of Mozambique," Giesbert et al. (2012) looked into the dynamics of household well-being in rural Mozambique towns. The results demonstrate that drought relief measures can significantly lower Mozambique's poverty rate, depending on the population's living conditions.

Kraay and Raddatz (2006) explore the applicability of the poverty trap theory of underdevelopment in their work "Poverty Trap, Assistance, and Growth." This article grades simple models of the growth in which poverty traps can develop because of low savings or technology. It then assesses the empirical significance of these particular mechanisms and their policy implications.

Arab-Mazar et al. (2004) In the case of "effective factors in rural households," a straightforward model was used to identify and categorize the variables influencing rural households using income data (the cost of rural households in 2000). It was found that among farmers, relative to other demographic and geographic factors, increasing the burden of guardianship and decreasing household assets significantly increased the likelihood of poor households. According to definitions, poverty is an unstable and persistent social condition brought on by dysfunctional economic, ecological, cultural, and social systems. Due to this situation, a group of people loses the ability to adapt, survive, and live beyond the bare minimum of fulfilling their needs and desires. In other words, the poor won't be able to feed themselves properly, get a good education, and care for their families, which will stifle individual needs (Baush & colleagues, 2017: 78-79). The "poverty trap" is the mechanism of increasing inequality that results in persistent poverty (Giannetti et al., 2023).

Robert Chamber has stated that development in rural areas empowers a specific group of people, such as low-income men and women (Fathi & Motlag, 2010: 48) communities with limited access to services and employment opportunities. If poverty persists in a society, it may become a persistent barrier to advancing in development, and the economy may enter a vicious cycle (Mousavi & Azari, 2015: 158). Consequently, a primary objective of sustainable development programs has been the reduction of inequality and poverty (Lakner et al., 2019). The notion of "poverty traps" clarifies inequality between and within countries. It is essential in terms of development planning because of this. The poverty trap is a socio-academic self-reinforcing mechanism that contributes to the persistence and reproduction of poverty in people's lives and society (Matsuyama, 2008; Azariadis & Stachurski, 2005; Haider et al., 2018).

In rural spaces, multidimensional poverty traps interact with economic, social, physical, and biological processes. It also has different factors and consequences in other spatial conditions. That is why you can portray different types of poverty traps (Radosavljevic et al., 2021):

The first form is the single-level poverty trap, in which processes or structures sustain the trap at one level. For instance, a farmer whose agricultural property is entrusted to an agricultural joint-stock company or production cooperative cannot innovate and increase their income. The second type is the fractal trap, where dynamics sets up a trap at every level that interactions across levels might strengthen. In other words, the fractal poverty trap symbolizes the existence of similar traps at various societal levels, which causes the traps to become more robust due to social interactions. For instance, a rural household in society may fall into the trap of low-income level due to production in the agricultural sector on the one hand and a trap of low productivity in agricultural production on the other due to a lack of technology and modern technology in the farm.

Consequently, due to the mutual feedback between the two traps above, both become more intense; The "cross trap," a kind of multi-level trap with a cross-level trapping mechanism, is the third type. In other words, mutual interactions cause trapping at multiple levels. For instance, the trap of declining tax revenues at the provincial and federal levels of government arises due to the low-income trap of urban and rural households (at the local level). As a result, the nation's social security system is experiencing issues (another trap at the national level).

If no effort is made to interrupt the vicious cycle (trap) of poverty, the trap will begin to strengthen itself. Finding out what causes poverty is one way to escape it. From many perspectives, the causes of poverty have been listed. Among the factors exacerbating the poverty trap are differences in access to quality education prospects (Mousavi & Azari, 2015: 158), the lack of infrastructure development, low productivity, and low levels of average earnings (Raghfar et al., 2012: 144–145), the high level of inequalities, limited cash capital (Dao & Edenhofer, 2018; Giannetti et al., 2023); and limited access to credit sources due to limitations in providing (Radosav-ljevic et al., 2021).

3. Methodology

In terms of purpose, this research is applied. In terms of the research methodology, it is classified as survey research. Attributive and field research have been used to collect the data. Questionnaires were used to obtain field data at both the household and population levels. Subsequently, using PLS and SPSS software, data analysis and pattern search was performed. The statistical population consists of all communities with more than 50 households (according to the population and housing census in 2016). There are 61 communities with 12854 families within the city borders of Birjand. With the aid of Cochran's formula, the sample size at the household

level for all the studied villages was calculated to be 378 people to be questioned. Lastly, the number of sample people for challenging in each town was determined as outlined in the table, and then sample people were selected randomly at the location.

In this study, the opinions of university professors were used to verify the validity of the questionnaire's content, and the necessary adjustments from their perspective were made to the questionnaire. Then, using Cronbach's alpha method in SPSS software, the reliability coefficient was determined for various questionnaire sections, and the tool's reliability was confirmed based on the results (Table 2).

 Used to verify the validity of the questionnaire's content,

 Table 1. Sample size in the studied villages

 Village
 Household
 Sample
 Village
 Household
 Sample

 Village
 Household
 Sample
 Village
 Household
 Sample

 Village
 Household
 Sample
 Village
 Household
 Sample

village	Householu	Sample	village	nousenoiu	Sample	village	nousenoiu	Sample
Khang	128	4	Buiq Vasati	99	3	ShawcatAbad	143	4
NoDeh	51	1	Gazar	224	6	Bejad	303	9
Mozdab	144	4	Mehmuei	221	6	AliAbad	74	2
GolunAbad	56	2	HesarSang	97	3	Behdan	77	2
Asu	184	5	AfzalAbad	56	2	Behlgard	76	2
Naghnaj	123	4	ShuShuk	141	4	Suraj	74	2
Belenjab	52	2	Rushnavand	54	2	Chaj	121	4
Tourman	54	2	Merk	151	4	Khorashad	236	7
DelAbad	100	3	Zirak	55	2	NasrAbad	74	2
Saghi	101	3	SarChah Tazian	135	4	Noferst	178	5
Falark	52	2	GuqChin	75	2	HasanAbad Mian	65	2
Ghauq	58	2	Mirzag	64	2	MahmudAbad	63	2
Kooshk	66	2	KuchAlghar	53	1	AliAbad Lule	238	7
Mafriz	52	2	Oujan	238	7	Bagh Manzarieh	58	2
Shokrane	92	3	Furjan	161	5	Raghuei Paein	68	2
Kalate Bedji	87	3	Mirik	378	11	DehNo	120	3
Dastgerd	898	26	Khazan	97	3	ShamsAbad	122	4
Asnan	65	2	MobarakAbad	129	4	HosseinAbad	157	5
Daraj	70	2	Shakan	422	12	Chahkand	1220	35
BiDokht	56	2	Vashan	122	4			
AmirAbad Paein	1847	54	HajiAbad	2078	60	Total	12854	378

JSRD

Table 2. Cronbach's alpha coefficient for the questionnaire

Indicators	Number of Questions	Cronbach's Alpha Values
Poverty trap	26	0.73
Individual factors	14	0.82
Social factors	17	0.80
Economic factors	20	0.79
Political factors	9	0.76
Geographic factors	21	0.83
		Â

JSRD

4. Findings

Satarifar (2021: 120,147), citing Nurkse, says that "low income," "low savings," "low investment," "poor capital development," and "low efficiency" are the main parts of the poverty cycle or trap. Assessing the status of each element of the poverty trap in the format of a Likert spectrum among the households of the examined villages in Birjand city showed (Table 3) that, among these factors, literacy has the highest average, and the savings index has the lowest average.

To find out how many households are caught in the poverty cycle; first, the normality of the data was checked with a Q-Q chart so that the correct test could be chosen. Figure 1 shows that if the sample data follows a normal distribution, the points should be close to the 45-degree line. The premise that the data of the poverty trap components are normally distributed is confirmed by the graph below. The requirement for a poverty trap to exist is 3.67, and Table 4 shows that in this study, the average of the poverty trap's parts is very different from 3.67. The number 3 on the Likert scale from 1 to 5 shows the average degree of evaluation. Now, in analyzing a single sample's average, a comparison with a number higher than the average level shows attractiveness. Since the range is from 1 to 5, this number is greater than three and equals 0.67. So, in this analysis, the average variable is compared to 3.67. There is a difference, and the average variable is 2.71, which shows a poverty trap.

Using the binomial test, Table 5 shows that the chance of getting caught in the poverty trap is 0.88. In other words, the probability that more people are caught in the poverty trap is high. Based on the high probability value that we observe, which is near the value of one, we can conclude that a very substantial proportion of the sample is caught in the poverty trap.

Table 3. Statistical analysis of poverty trap indicators in the study area

Indicator	Average	Standard deviation
Literacy	3.07	0.74
Income	2.99	0.47
Investment	2.96	0.46
Production and productivity	2.76	0.50
Saving	1.78	0.56



Figure 1. Probability of normality of poverty trap components

JSRD

JSRD

Table /	Single	samplo	moon	comparison
Table 4.	Single	sample	mean	comparison

Variable	Average	verage t-statistic D f	Degrees of	The signifi-	The average dif- ference with the	95% confiden the mean	ce interval for difference
Elements of	Avenuge		freedom	cance level	number 3.67	Lower limit	Upper limit
trap	2.71	-70.45	377	0.0001	-0.95	-0.97	-0.92
							ISRD

Table 5. Binomial test

Variable	Condition	Number	Probability of existence	The significance level
Dovortv tran	Caught	331	0.88	0.0001
Poverty trap	Not caught	47	0.12	

The fundamental factors influencing the poverty trap and its communication pattern were identified using intelligent PLS software. In the initial step, the fitting of the models was done. Following the results of Cronbach's alpha and composite reliability indices for each component, coefficients greater than 0.6 suggest strong reliability and satisfactory model fit. Convergent validity was also evaluated using an index called AVE. Magner et al. (1996) deemed a 0.4 or above sufficient for AVE. The AVE values for the research components are shown in the table below. Since the AVE values of the research variables are greater than 0.4, their convergent validity is excellent.

The third criterion for evaluating the validity of measurement models is their divergent validity. In this regard, the Fornell-Larcker method results are presented in the table below. The suitable divergence validity and excellent fit of the measurement models are indicated by the increase in the AVE roots of the variables relative to the correlation values of the variables with one another.

To test the adequacy of the structural model, which is the relationship among hidden variables, three criteria -significant coefficients t, R^2 values, and Q2 criteriahave been examined. If the values of the significant t coefficients are greater than 1.96, this shows significant correlations between the variables at the 95% confidence level. Consequently, in Table 8, the T statistic values for the significant variables are marked with an asterisk (*). Among the individual variables that can be highlighted are age, reading level, and residence history. Among the social variables that can be cited are "being covered by social institutions," "being covered by insurance," and "degree of satisfaction with social security." Among the economic determinants, variables such as "annual gross income," "the number of unemployed persons over the age of 15 in the household," and "annual amount of subsistence allowances" can be cited. In addition, significant variables include "distance from the village center" among geographical factors and "degree of security" among political aspects.

December 2022, Volume 6, Number 2

JSRD

Table 6. Cronbach's alpha coefficient and composite reliability of research variables

Name of the component	Cronbach's alpha	Composite reliability	AVE
Individual factors	0.73	0.68	0.51
Social factors	0.82	0.85	0.62
Economic factors	0.70	0.64	0.41
Political factors	0.79	0.61	0.39
Geographic factors	0.76	0.65	0.42
Components of the poverty trap	0.83	0.60	0.39
			~

Table 7. Fornell-Larcker matrix to check divergent validity

Individual factors	Social factors	Economic factors	Political factors	Geographic factors	Components of the poverty trap
0.71					
0.25	0.78				
0.31	0.46	0.64			
0.45	0.53	0.42	0.62		
0.41	0.51	0.40	0.52	0.65	
0.58	0.60	0.45	0.41	0.40	0.62
	Individual factors 0.71 0.25 0.31 0.45 0.41 0.58	Individual factors Social factors 0.71 0.78 0.25 0.78 0.31 0.46 0.45 0.53 0.41 0.51 0.58 0.60	Individual factors Social factors Economic factors 0.71 . . 0.25 0.78 . 0.31 0.46 0.64 0.45 0.53 0.42 0.41 0.51 0.40 0.58 0.60 0.45	Individual factorsSocial factorsEconomic factorsPolitical factors0.710.250.780.310.460.64-0.450.530.420.620.410.510.400.520.580.600.450.41	Individual factorsSocial factorsEconomic factorsPolitical factorsGeographic factors0.710.250.780.310.460.640.450.530.420.620.410.510.400.520.650.58

JSRD

•JSRD

Table 8. Critical values of research variables in the model

Variable		t-statistic	Variable	Equivalent	t-statistic
Individual factors			Social factors		
Age	B1	1/97*	Family size	H1	1/11
Gender	B2	0/73	Covered by social institutions	H2	0/92
Literacy rate	B3	1/97*	Covered by social insurance	H3	1/97*
History of living in the village	B4	2/10*	The level of cooperation with government institutions outside the village	H4	1/97*
Employment status	B5	1/96*	The level of cooperation and communication with the elements of village management	H5	1/15
Physical health	B6	1/99*	The amount of use of social networks	H6	0/76
Ability to manage the household in difficult condi- tions	B7	0/36	Level of satisfaction with social security	H7	2/30*
Marital status	B8	2/0*	Participation status of family members	H8	1/20
Duration of marriage	B9	1/58	The amount of self-reliance of the household	H9	1/12
The level of self-confidence and self-defense	B10	0/51	Knowledge of civil laws and regulations	H10	1/27
Having enough motivation to improve life	B11	0/42	The level of awareness of village managers' decisions	H11	0/99
Having hope for the future	B12	0/34	The amount of social solidarity in the village	H12	0/63
The status of passing job skills courses	B13	1/99*	The level of social trust among the villagers	H13	0/73
Desire to stay in the village	B14	0/43	The level of interaction in village affairs among residents	H14	1/99*
			The extent of social damage in the village	H15	0/58
			The level of social cohesion in the village	H16	2/02*
			The willingness of family members to migrate from the village	H17	0/26
Economic factors			Geographic factors		
Annual gross income	P1	1/97*	Type of agricultural water supply source	J1	0/79
The number of unemployed people over 15 years old in the household	P2	1/98*	Distance from the village center	J2	1/97*
Amount of subsidy per month	Р3	1/71	Distance from the center of the parish	13	1/28
The amount of receiving subsistence allowances per year	P4	2/22*	Distance from the county center	J4	1/28
Main job title	P5	1/14	Distance from the center of the province	J5	2/04*
Amount of agricultural water	P6	0/79	Status of village typology	J6	0/76
Number of light livestock	P7	1/96*	The immigration status of the village	J7	1/28
Number of heavy livestock	P8	0/49	Proximity to the town and industrial areas	J8	1/17
The level of technology use in economic activities	Р9	0/69	Placement of the village within the scope of national and international projects	19	2/29*
Access to loans and bank credits	P10	2/21*	Implementation of plans and improvements	J10	0/26
The amount of marketing of household products	P11	0/41	The condition of the village road	J11	2/81*
Status of being covered by agricultural products insurance	P12	1/99*	The existence of tourist attractions	J12	2/52*
Membership in production cooperatives	P13	0/59	Having the advantage of being a tourist target village	J13	1/56
The amount of money invested in the stock market	P14	1/95	The amount of environmental destruction in the village	J14	0/68
The level of communication with local and extra- local markets	P15	0/34	The rate of land use change	J15	0/12
Household food security level	P16	0/54	Level of access to transportation facilities	J16	1/17
The amount of purchasing power	P17	1/96*	Level of access to educational facilities	J17	2/68*
Satisfaction with income	P18	0/67	Level of access to healthcare facilities	118	1/03

JSRD

Variable	Equivalent	t-statistic	Variable	Equivalent	t-statistic
Economic factors			Geographic factors		
The amount of dependence on government subsidies and subsistence allowances	P19	0/98	Level of access to safe drinking water and sewage	J19	1/07
The effect of inflation on the household's annual livelihood	P20	0/92	The level of decline of water resources throughout the year	J20	1/49
			The rural marginalization of the village	J21	0/24
Political factors			Components of the poverty trap		
The existence of the village Islamic Council	S1	0/96	Literacy F1		0/28
Existence of village administration	S2	1/12	Income F2		0/59
Establishment of security institutions	S3	0/45	Saving F3		1/97*
The level of security	S4	1/96*	Investment F4		2/02*
The amount of conflict between villagers	S5	1/98*	Production and productivity F5		2/58*
The existence of ethnic and tribal relations in the village	S6	1/27			
Participation in political activities	S7	0/93			
The extent of the role played by Elders in solving disputes and local affairs	S8	0/62			
Political situation of the village	S9	0/54			

Table 8. Critical values of research variables in the model

As a criterion used to connect the measuring component with the structural part, the coefficient of determination, or R2, expresses the effect that an endogenous (dependent) variable has. The crucial point is that R2 is only evaluated for endogenous structures, and the value of this criterion for exogenous (independent) structures is zero. The greater the R2 value associated with the endogenous structures of a model, the better the model's fit. Chin (1998) identified the numbers 0.19, 0.33, and 0.67 as representing weak, medium, and strong models. In this study, the data-derived coefficient of determination value of 0.35 indicates that the endogenous variable of the model has a value greater than 0.33, meaning a relatively structural solid fit.

In terms of criterion Q2, which Stone and Geisser proposed in 1975, it determines the model's predictive ability. Henseler et al. (2009) established three values for the predictive strength of the model regarding endogenous structures: 0.02, 0.15, and 0.35. Accordingly, the value of Q2 in the case of an endogenous structure close to 0.02 indicates that the model has a weak predictive power for the structure indicators. Similarly, the value of Q2 for the endogenous variable "The components of the poverty trap" is equal to 0.16, indicating that the endogenous variable of this study has rela-

tively good predictability with its associated constructs. In the same way, this index is calculated in the following way to fit the whole model, taking into account the communality values and coefficients of determination given in the output:

 $GOF = \sqrt{AVE Avrage \times R^2 Average} = \sqrt{0/45 \times 0/35} = 0/39$

The GOF value surpasses 0.36, so the model's overall fit is excellent. Lastly, the significant coefficients of the model's routes reveal whether or not the research's underlying assumptions are valid. In the following model, the relevant coefficients are stated. When the significance level of the test is less than 0.05, it shows the significance of the variables at the 95% confidence level, following the obtained results and the information provided in Table 9.

JSRD



Figure 2. The model drawn with alternative p-value and path coefficients

Table 9. The results of the pls hypothesis

Hypothesis	t-test statistic	Impact factor	p-value	Result
Individual factors> Poverty trap	1/70	0/25	0/03	Confirmation
Social factors> Poverty trap	1/18	0/19	0/23	Disapproval
Economic factors> Poverty trap	2/00	0/31	0/008	Confirmation
Political factors> Poverty trap	0/95	0/15	0/34	Disapproval
Geographic factors> Poverty trap	1/92	0/29	0/01	Confirmation
				JSRD

5. Discussion

Poverty, a significant economic and social phenomenon growing increasingly pervasive, is of paramount and fundamental significance. The eradication of poverty requires a comprehensive understanding of the factors contributing to this phenomenon. Poverty issues are addressed through various settings and local-spatial subordination. To determine the main factors influencing the spread of poverty in villages, researchers in Birjand examined settlements with more than 50 households. They discovered that the increasing spread of poverty, or the constant exposure of people and rural families to poverty, suggests the existence of a poverty trap. Low income, poor savings, low investment, low capital development, and low productivity produce the poverty trap. Of the researched elements, the economic factor, with an impact value of 0.31, the geographical factor, with an impact factor of 0.29, and the individual factor, with an impact factor of 0.25, had the most considerable influence on the rural poverty trap. Consequently, it can be stated that the results are consistent with those of Bahramian and Karami (2018), Shahraki et al. (2018), and Thomas and Gaspert (2014), and that the way out of poverty in rural areas is through economic solutions and the restoration of indicators such as increasing employment opportunities, supporting agricultural products, boosting the productivity of production and human resources, and enhancing access to affordable credit.

Acknowledgements

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

Conflict of Interest

The authors declared no conflicts of interest.

References

Allen, R.C. (2017). Absolute Poverty: When Necessity Displaces Desire. American Economic Review, 107 (12): 705-721. https://www.aeaweb.org/articles?id=10.1257/aer.20161080

December 2022, Volume 6, Number 2

- Arab-Mazar, A., & Hosseini-Nejad, S. M. (2004). Factors affecting the poverty of working rural households in Iran. Economic Ventures, 1(1), 67-94. (in persian) https://www.sid. ir/paper/108984/fa
- Arunachalam, R., & Shenoy, A. (2017). Poverty Traps, Convergence, And the Dynamics of Household Income. Journal of Development Economics, Vol. 126, 215-230. https://doi.org/10.1016/j.jdeveco.2017.02.001
- Avaye Khorasane Jonubi. (2022). 10-fold growth of the population of the outskirts of Birjand city, No. 43061. (in persian) https://ava724.ir/newspapers
- Azariadis, C., & Stachurski, J. (2005). Poverty Traps, in: Philippe Aghion & Steven Durlauf (ed.), Handbook of Economic Growth, edition 1, volume 1, chapter 5, Elsevier. https:// ideas.repec.org/h/eee/grochp/1-05.html
- Bahramian, S., & Karmi, A. (2018). Studying the trend of poverty in rural areas of Iran, Journal of Economic Research, 10(40), 195-214. (in persian) https://jae.marvdasht.iau.ir/ article_3098.html
- Barbier E., & Hochard, J. (2019). Poverty-Environment Traps, Environmental & Resource Economics, 74(13): 1239-1271. https://doi.org/10.1007/s10640-019-00366-3.
- Baush, M., Shiani, M., & Mousaei, M. (2017). Analysis of socioeconomic factors affecting poverty and inequality in the field of health during 2011-2015. Scientific-Research Quarterly of Social Welfare, 17(67), 108-71. (in persian) http://refahj.uswr. ac.ir/article-1-3091-fa.html
- Canidio, A. (2015). Focusing Effect and The Poverty Trap. European Economic Review, 76, 222-238. https://doi. org/10.1016/j.euroecorev.2015.03.008
- Chin, W.W. (1998). The partial least squares approach to structural equation modeling. In: G. A. Marcoulides (Ed), Modern Methods for business Reseatch (pp. 295-358). Mahwah, Nj: Lawrence Erlbaum Associates.
- Dao, T. N., & Edenhofer, O. (2018). On the fiscal strategies of escaping poverty-environment traps towards sustainable growth, Journal of Macroeconomics, Vol. 55, Pp. 253-273, https://doi.org/10.1016/j.jmacro.2017.10.007.
- Ding, J., Wang, Z., Liu, Y., & Yu, F. (2020). Rural Household's Livelihood Responses to Industry-Based Poverty Alleviation as A Sustainable Route Out of Poverty. Regional Sustainability, 1(1): 68-81. https://doi.org/10.1016/j.regsus.2020.07.002
- Fathi, S., & Mutlaq, M. (2010). A theoretical approach to sustainable rural development based on information and communication technology (ICT), Human Geography Quarterly, 2(2), 66-47. (in persian) http://ensani.ir/fa/article/231064
- Francis, B., Booth, L., & Mcguinness, F. (2019). Poverty in the Uk. House of Commons in Library, Briefing paper 7096. https:// researchbriefings.Files.Parliament.uk.documents/SN07096/ SN07096.pdf.
- Giannetti, B. F., Langa, E. S., Almeida, C. M.V.B., Agostinho, F. de Oliveira Neto, G. C., & Lombardi, G. V. (2023). Overcoming poverty traps in Mozambique: Quantifying inequalities among economic, social and environmental capitals, Journal of Cleaner Production, Vol. 383, https://doi.org/10.1016/j. jclepro.2022.135266.

- Giesbert, L., & Schindler, K. (2012). Assets, Shocks and Poverty Traps in Rural Mozambique. World Development, 40(8): 1594-1609. https://doi.org/10.1016/j.worlddev.2012.04.002
- Haider, L. J., Boonstra, W. J., Peterson, G. D., & Schlüter, M. (2018). Traps and sustainable development in rural areas: A review. World Development, 101, Pp. 321-311. https://doi. org/10.1016/j.worlddev.2017.05.038
- Hendizadeh, H., Karbasi, A., & Mohammadzadeh, S.H. (2017). Spatial analysis of factors affecting rural poverty and its relationship with environmental degradation in Qaynat city. Rural Development Spatial Economics Quarterly, 7(23), 148-131. (in persian) http://ensani.ir/fa/article/391963
- Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The Use of Partial Least Squares Path Modeling in International Marketing. Advances In International Marketting 20, 277-320. https://doi.org/10.1108/S1474-7979(2009)0000020014
- Iran Statistics Center. (2016). General population and housing census. Viewed at: https://www.amar.org.ir
- Jamshidi, A., Seidai, S. E., Jamshidi, M., Gholami, A., & Gamini, D. (2013). Factors affecting the existence or non-existence of the main factors constituting the deprivation trap in the rural areas of Shirvan and Cherdavel in Ilam province. Applied Research in Geographical Sciences, 13(31), 113-131. (in persian) http://ensani.ir/fa/article/324836
- Konecny, Z. (2016). Corporate Life Cycle as A Tool to Solve Technological Unemployment Just as To Lift Out of Poverty. Procedia-Social and Behavioral Sciences, 220, 191-199. https://doi.org/10.1016/j.sbspro.2016.05.484
- Kraay, A., & Raddatz, C. (2006). Poverty Traps, Aid and Growth. Journal of development economics, 82(2), 315-347. https:// doi.org/10.1016/j.jdeveco.2006.04.002
- Lakner, C., Mahler, D. G., Negre, M., & Prydz, E. B. (2019). How much does reducing inequality matter for global poverty? World Bank Policy Research Working Paper, (8869). https:// openknowledge.worldbank.org/handle/10986/31796
- Liuzzi, D., & Venture, B. (2021). Pollution-induced poverty traps via Hopf bifurcation in a minimal integrated economicenvironment model, Communications in Nonlinear Science and Numerical Simulation, Vol. 93, 105523. https://doi. org/10.1016/j.cnsns.2020.105523
- Matsuyama, K. (2008). "Poverty Trap", From the New Palgrave Dictionary of Economics, Second Edition.
- Mohammadi-Yeganeh, B., Cheraghi, M., & Yazdani, Z. (2014). Analysis of factors affecting the spatial distribution of poverty in rural areas, emphasizing the socioeconomic characteristics of the case study; Mahmoud Abad District, Shahin Dej County, Regional Geography and Urban Planning Quarterly, 4(13), 83-96. (in persian) https://gaij.usb.ac.ir/article_1775.html
- Mohammadzadeh, P., Fallahi, F., & Hekmati Farid, S. (2010). Investigating poverty and its determinants among urban households in the country. Economic Modeling Research Quarterly, 1(2), 41-64. (in persian) https://www.sid.ir/paper/208908/fa
- Mousavi, M., & Azari, B. (2015). Comparative study of the poverty trap in education generations in Iran, Majlis and Strategy Quarterly, 22(84), 157-184. (in persian) http://ensani.ir/fa/ article/427076

- Mousavi, M., & Azari, B. (2016). Intergenerational measurement of the poverty trap among female household heads. Women and Society Scientific-Research Quarterly, 7th year, 7(27), 153-135. (in persian) http://ensani.ir/fa/article/362943
- Radosavljevic, S., Haider,L. J., Lade, S. J., & Schlüter, M. (2021). Implications of poverty traps across levels, World Development, Vol. 144, 105437, https://doi.org/10.1016/j.worlddev.2021.105437.
- Raghfar, H., Kordbcheh, H., & Pak Niyat, M. (2012). Poverty traps in Iran's economy based on natural resources, Research Journal of Economics, 12(45), 143-170. (in persian) https:// joer.atu.ac.ir/article_954.html
- Sardarshahraki, A., Amirzadeh, S., & Akbari, A. (2018). Factors affecting income distribution in rural areas. Quarterly Journal of Space Economics and Rural Development, 8(28), 44-31. (in persian) http://ensani.ir/fa/article/409422
- Satarifar, M. (2021). Fundamentals of development and underdevelopment, first volume, Tehran: Allameh Tabatabai University Publications. (in persian)
- Stone, M., & Geisser, F. (1975). Crass Validatory Choice and Assessment of Statistical Predictions. Journal of the Royal Statistical Society, 36(2), 111-147. https://www.jstor.org/stable/2984809
- Thomas, A.C., & Gaspart, F. (2014). Does poverty trap rural Malagasy households? World Development, Vol. 67, 490-505. https://doi.org/10.1016/j.worlddev.2014.11.012
- Zahedi-Mazandarani, J. (2005). Rural poverty trend and its measurement in Iran. Refah Scientific Research Quarterly, 5(17), 495-435. (in persian) http://refahj.uswr.ac.ir/article-1-2122-fa.html
- Zhang, F. (2014). The poverty trap of education: educationpoverty connections in western China. International Journal of Educational Development, 32, 47-58. https://doi. org/10.1016/j.ijedudev.2014.05.003
- Zhang, F. (2017). Opportunity or new poverty trap: rural-urban education disparity and internal migration in china. China economic review, Vol. 4, 112-124. https://doi.org/10.1016/j. chieco.2017.03.011.