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- **Capital Market Efficiency, Financial Innovation and Industrialization in Nigeria** 1
  Kazeem Seun Belau - Russell Olukayode Christopher Somoye
- **Drivers of Land Commodification in the Western Urban–Rural Areas of Guilan Province, Northern Iran** 15
  Habib Mahmoodi Chenari - Shahram Sharifi Hashjin - Farzaneh Nasiri Jan agha
- **Explaining the Challenges of Establishing Women's Cooperatives in Rural Areas (Case Study: Dizajabad Rural, Zanjan County)** 37
  Manijeh Ahmadi - Mehri Jahansoozi
- **Spatial Analysis of Poverty and Food Insecurity in Rural Iran: Assessing Status and Food Insecurity Determinants** 63
  Mehdi Shabanzadeh-Khoshrody
- **Investigating the Impact of Economic, Social-cultural, Environmental and Spatial Factors on Return Migration in Rural Areas (Case Study: Bandar Khamir County)** 81
  Firoozeh Behi - Seyed Asghar Mousavi - Amrollah Rashedzadeh
- **Spatial Analysis of Factors Influencing the Development of Rural E-Tourism Approaches (Case Study: Tourism Destination Villages of Amol County)** 101
  Aliakbar Anabestani - Mahsa Hedayati - Shaghayeh Yarahmadi

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Table of Contents

Title	Pages
▪ **Capital Market Efficiency, Financial Innovation and Industrialization in Nigeria** Kazeem Seun Belau - Russell Olukayode Christopher Somoye	**(1-14)**
▪ **Drivers of Land Commodification in the Western Urban–Rural Areas of Guilan Province, Northern Iran** Habib Mahmoodi Chenari - Shahram Sharifi Hashjin - Farzaneh Nasiri Jan agha	**(15-35)**
▪ **Explaining the Challenges of Establishing Women's Cooperatives in Rural Areas (Case Study: Dizajabad Rural, Zanjan County)** Manijeh Ahmadi - Mehri Jahansoozi	**(37-62)**
▪ **Spatial Analysis of Poverty and Food Insecurity in Rural Iran: Assessing Status and Food Insecurity Determinants** Mehdi Shabanzadeh-Khoshrody	**(63-79)**
▪ **Investigating the Impact of Economic, Social-cultural, Environmental and Spatial Factors on Return Migration in Rural Areas (Case Study: Bandar Khamir County)** Firoozeh Behi - Seyed Asghar Mousavi - Amrollah Rashedzadeh	**(81-100)**
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Original Article

Capital Market Efficiency, Financial Innovation and Industrialization in Nigeria

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Abstract

Purpose- Nigeria remains heavily import-dependent and under-industrialized despite abundant natural resources and repeated industrial development programmes. This study investigated how capital market efficiency and financial innovation influence industrialization in Nigeria, with specific focus on their relevance for rural and regional economic transformation.

Design/methodology/approach- The study employed an *ex-post facto* research design using secondary annual time-series data from 2010-2023 obtained from the Central Bank of Nigeria Statistical Bulletin. Descriptive statistics and the Autoregressive Distributed Lag (ARDL) model were applied to examine both short-run and long-run relationships among stock market depth and liquidity, stock market efficiency, fintech adoption, credit to the private sector, inflation, and industrial output. The study also emphasized the rural and regional development implications of financial sector performance.

Finding- Results showed that Nigeria's manufacturing sector contribution to GDP remains structurally low, and market depth is highly volatile. Fintech adoption exhibits the highest dispersion due to periodic surges in electronic payments, while stock market liquidity is relatively stable. ARDL estimates reveal that market liquidity and market depth exert positive and significant effects on industrialization, whereas fintech adoption and private-sector credit exert negative significant effects. Inflation is insignificant. The bounds test confirms strong long-run cointegration among the variables. The findings indicated that Nigeria's industrialisation is largely driven by short-run financial dynamics, particularly stock market liquidity and credit allocation efficiency. High fintech activity, when weakly regulated, may facilitate capital flight and reduce productive sector investment. Strengthening capital-market institutions, stabilising monetary conditions, and improving rural credit access are essential for sustainable industrial development.

Originality/value– This study contributed to the industrialization literature by integrating capital-market efficiency, financial innovation, and rural or regional development perspectives within a unified ARDL framework for Nigeria. It provided new evidence on how financial sector dynamics shape industrial growth in emerging economies.

Keywords- Industrial output, Stock market depth, Stock market efficiency, Fintech adoption, ARDL model, Rural development.

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1. Introduction

Industrialisation remains a persistent challenge for most African economies, which continue to operate as consumption-driven systems dependent on imported machinery and primary commodity exports. Nigeria, similar to other African countries, relies heavily on crude oil as its major source of foreign exchange, making the economy vulnerable to external shocks and inhibiting diversification into manufacturing and agro-industrial sectors (Lawal *et al*., 2019). Past development initiatives including import substitution, rural development programmes, and the Structural Adjustment Programme (SAP) failed to achieve sustained industrial transformation due to structural bottlenecks such as infrastructural decay, technological gaps, low investment, policy reversals, weak institutions, and inadequate financing (Nzau, 2010; Ibi *et al*., 2015).

Recent literature underscores the centrality of a functional capital market to industrial development. Efficient capital markets facilitate the reallocation of resources from inefficient firms to productive ones, reduce credit constraints, and support long-term investment required for industrial growth (Markjackson & Omie, 2018; Ngozi *et al*., 2022). For Nigeria, improving capital-market performance is therefore critical to reducing dependence on crude oil and promoting a diversified industrial base (Ejem & Ogbonna, 2020). Investor confidence driven by transparency, liquidity, and fair returns is equally essential in stimulating investment and broadening industrial financing channels.

Nigeria's high poverty incidence, with a multidimensional poverty index of 0.34 and 64 per cent of the population classified as being poor (Eze & Alugbuo, 2021), further highlights the need for inclusive financial systems. Financial innovation offers new opportunities to reach rural and underserved populations, mobilise savings from the informal sector, and channel funds toward productive industrial activities. Improved payment technologies, digital banking, and fintech platforms can enhance financial inclusion, strengthen rural capital participation, and support the financing of small-scale manufacturing and agro-processing firms that dominate Nigeria's regional economies (Otapo, 2020; Abina, 2023).

Despite Nigeria's abundant natural resources, human capital capacity, and multiple industrialisation programmes, the country remains under-industrialised. Empirical studies show mixed evidence regarding the efficiency of Nigeria's capital market as ranging from weak form (Ajao & Osayuwu, 2012; Falaye *et al*., 2018) to mean-reverting (Lawal *et al*., 2019) and even strong form (Sulaiman & Azeez, 2012). However, these studies do not jointly examine capital-market efficiency and financial innovation as complementary drivers of industrialisation, nor do they adequately integrate rural or regional development implications. Existing research such as Murinde (2012), Nzau (2010), Morris and Fessehaie (2014), and Ledeneva *et al*. (2020) largely treats industrialisation conceptually, while studies by Ibi *et al*. (2015), Gbarato *et al*. (2020), and Ngozi *et al*. (2022) focus only on either capital markets or general economic performance.

Given the increasing role of financial technology, capital-market dynamics, and regional development considerations, there is a clear gap in understanding how capital-market efficiency and financial innovation jointly shape Nigeria's industrialisation trajectory. This study therefore examined the combined influence of capital-market efficiency and financial innovation on industrialisation in Nigeria, contributing new empirical insights relevant to national and rural economic transformation.

The remaining sections of the paper are structured as follows, section two presents the theoretical and empirical literature; section three outlines the methodology; section four discusses the results; and section five concludes with implications and recommendations.

2. Research Theoretical Literature

2.1. Conceptual Review

Industrialisation refers to the sustained expansion of a country's manufacturing and industrial capacity, leading to value addition, productivity growth, and structural transformation. Classical perspectives trace industrialisation to strategic investments, technological upgrading, and efficient resource allocation (Schumpeter, 1934; Rosenstein-Rodan, 1943). In modern economies, industrialisation represents a shift from low-productivity sectors to high-productivity manufacturing and technology-driven industries (Lucas, 1988; Romer, 1990). Industrial output, an indicator of industrialisation, captures production scale, efficiency, and capacity utilisation. Studies emphasise that industrialisation in Africa including

Nigeria depends significantly on institutional quality, financial openness, capital access, and innovation (Ledeneva *et al*., 2020; Amoah & Jehu-Appiah, 2022; Paulin *et al*., 2023). Weak infrastructure, volatile macroeconomic factors, and inefficient financial systems have historically constrained industrial growth (Nzau, 2010; Morris & Fessehaie, 2014).

Capital market efficiency refers to the extent to which stock prices reflect all available information, allowing savings to be channelled into productive investments without friction. Stock market liquidity, is a good indicator of capital market efficiency, and refers to the ease with which financial assets such as shares can be bought or sold in the market without causing significant changes in their prices. A liquid market is characterised by high trading volume, narrow bid–ask spreads, and the ability to execute large transactions quickly. Liquidity enhances market attractiveness for investors, reduces investment risks, and enables firms to raise capital efficiently. In emerging markets like Nigeria, liquidity signals a more mature financial system capable of supporting industrial and economic development.

Another capital market efficiency indicator is stock market depth, which refers to the market's ability to sustain relatively large trading volumes without experiencing significant price volatility. It measures the capacity of the market, that is, how much capital and how many transactions it can absorb. A deep stock market supports long-term investment, reduces reliance on bank financing, and provides a stable source of capital for large-scale industrial and infrastructural projects. Studies in Nigeria confirm that deeper capital markets are associated with improved industrial performance (Adeusi *et al*., 2013; Gbarato *et al*., 2020). Stock market efficiency refers to how well stock prices reflect all available information. According to the Efficient Market Hypothesis (EMH) popularised by Fama (1965), an efficient market immediately incorporates new information into prices, making it impossible for investors to consistently earn abnormal returns.

Financial innovation refers to new technologies, processes, institutions, and financial instruments that enhance efficiency in financial intermediation (Schumpeter, 1934). Modern fintech including mobile banking, digital payments, blockchain, AI, and automated credit scoring, has revolutionised financial services, bridging gaps created by traditional banking systems. The FinTech adoption index reflects how digital platforms improve payment systems, credit delivery, savings mobilisation, and risk management. Financial innovation promotes growth by expanding credit availability, reducing transaction costs, and promoting efficient capital allocation (Murinde, 2012; Michalopoulos *et al.*, 2015).

Financial intermediation is strengthened as fintech platforms deepen access to finance, improve operational efficiency, and reduce borrowing constraints. In emerging economies like Nigeria, fintech-driven innovation has become essential for supporting business expansion and industrial activities, particularly where formal financial infrastructure is weak. Inflation refers to the general rise in prices over time, which affects purchasing power, investment decisions, production costs, and the overall macroeconomic environment. In the context of industrial development and financial market performance, inflation is an important macroeconomic stabiliser or destabiliser.

Figure 1.1 shows the conceptual framework where industrialisation in Nigeria is shaped by financial market performance, technological adoption, and macroeconomic conditions. Industrialisation (MP), measured by the share of manufacturing output in GDP, is the outcome the framework seeks to explain. The first pathway emphasises capital market behaviour. Stock market efficiency (NGXTV) and Market liquidity and depth (SML) capture how effectively the Nigerian stock market allocates funds to productive sectors. This is grounded in the Efficient Market Hypothesis (EMH), which argues that when markets process information efficiently, capital flows to its most productive uses, thereby supporting manufacturing growth. The Random Walk Hypothesis further implies that a well-functioning market reduces speculative distortions, ensuring that prices reflect fundamentals and encourage long-term industrial investment.

The second pathway reflects technological and financial system advancement. FinTech Adoption (TEP) aligns with the Technological Growth Model, which holds that technological innovation enhances productivity, reduces transaction frictions, and expands access to financial services that businesses require for production and

expansion. Financial Intermediation (CPS) is linked to the Solow Growth Model, which emphasises capital accumulation as a key driver of output growth; greater credit to the private sector increases firms' ability to invest in machinery, innovation, and production capacity. Finally, Macroeconomic Stability (INFL) is included as a control variable because persistent inflation distorts prices and reduces investment efficiency, potentially weakening the impact of finance and technology on industrialisation.

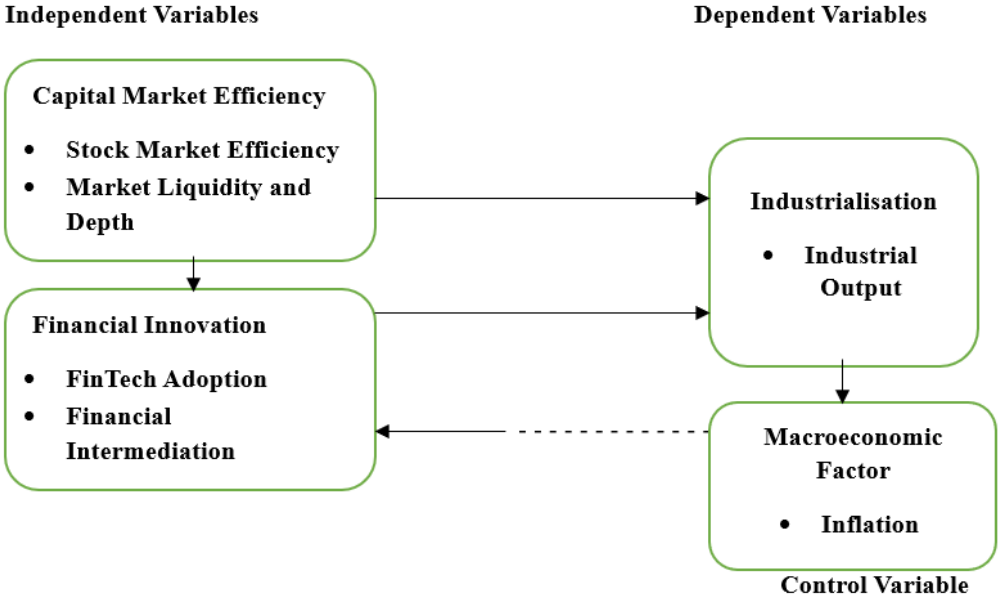


Figure 1. Conceptual Framework

2.2 Theoretical Review

The concept of capital market efficiency is rooted in the random walk hypothesis and the efficient market hypothesis (EMH). Malkiel (1973) originally observed that stock prices follow no predictable pattern, reflecting a random walk and implying that neither technical nor fundamental analysis can consistently outperform the market. The random walk hypothesis therefore assumes that security prices respond only to new information and that past price movements offer no predictive value for future performance.

Fama (1965) extended this view by formalising the EMH, arguing that security prices incorporate all available information such that no investor can earn excess returns by exploiting publicly known data. Fama identified three forms of market efficiency. First, weak-form efficiency posits that past market information is fully reflected in current prices, rendering technical analysis ineffective. Second, semi-strong efficiency states that prices rapidly adjust to both historical and publicly available new information, making both technical and fundamental analysis unproductive. Finally, strong-form efficiency suggests that all forms of information namely, public, private, and insider are instantly reflected in market prices, leaving no room for abnormal profits. Although these models underpin modern financial market analysis, empirical studies in developing countries often show deviations from full efficiency due to institutional weaknesses, information asymmetry, and shallow market depth.

The technological (endogenous) growth model, pioneered by Schumpeter (1934), emphasises innovation, entrepreneurship, and technological change as drivers of long-run growth. Schumpeter's theory was extended by Lucas (1988) and Romer (1990), who stressed the role of human capital accumulation, knowledge creation, and research and development (R&D) in promoting industrialisation. In this context, equity markets serve as crucial channels for providing long-term, risk-bearing finance needed for innovation, especially in intangible assets. Aghion and Howitt (1992) further advanced this perspective through the "creative destruction" model, arguing that growth occurs through

sequential innovations that replace outdated technologies. For this process to be sustained, investors must receive adequate compensation for bearing high innovation-related risks.

Michalopoulos *et al.* (2015) bridge endogenous growth theory with capital market development by emphasising the need to reduce information asymmetry. They argue that well-functioning markets lower uncertainty, encourage R&D investment, and stimulate innovation-led industrial growth.

Exogenous growth models provide complementary perspectives on industrialisation. The Solow (1956) and Swan (1956) model argues that capital accumulation alone cannot sustain long-run industrialisation without technological progress, which they view as exogenous. Kaldor (1957), in his "manufacturing as the engine of growth" hypothesis, asserts that industrial expansion, rather than general gross domestic product growth is central to productivity increases and structural transformation. Earlier, Rosenstein-Rodan (1943) proposed the "big push" theory, contending that large-scale, coordinated investments across sectors are necessary to overcome structural bottlenecks, market failures, and economic dualism common in developing economies.

Efficient financial markets, as described by Fama (1965), require liquidity to ensure that information is rapidly incorporated into stock prices. More liquid markets better allocate capital and reduce uncertainty for firms seeking funding. Market depth strengthens financial intermediation by allowing firms to access capital in large volumes, complementing endogenous growth models (Romer, 1990; Lucas, 1988), which emphasise capital accumulation and technological progress. The random walk theory (Malkiel, 1973) supports EMH by suggesting that price movements are unpredictable. In emerging economies, deviations from efficiency often result from poor disclosure, low investor participation, and information asymmetry. These models highlight that industrialisation requires both technological change and supportive macroeconomic conditions including access to finance, efficient capital markets, and institutional stability.

2.3 Empirical Review

Murinde (2006) noted that African capital markets face structural challenges including weak institutions, fragmented markets, and inconsistent macroeconomic policies that hinder their ability to support long-term industrialisation. Morris and Fessehaie (2014) highlighted linkage development as a pathway to industrialisation, arguing that targeted regulatory policies, commodity-based industrialisation, sectoral productivity improvements, and product quality upgrading can stimulate structural transformation. Ejem and Ogbonna (2020) argued for a broader conceptualisation of capital market efficiency by integrating exchange rate behaviour within global financial-asset markets. They identified two theoretical approaches. First, monetary approach which is when exchange rates are determined by relative demand and supply for money between countries, assuming perfect substitutability between domestic and foreign assets. Second, portfolio balance approach, implying that exchange rates depend on the supply and demand for domestic and foreign bonds, assuming imperfect substitutability. This suggests that changes in investor portfolios, interest rates, and risk preferences influence exchange rate and asset-price dynamics. These models are particularly relevant for emerging markets such as Nigeria, where exchange rate volatility affects foreign investment flows, market depth, and portfolio allocation within the capital market.

Also, Ledeneva *et al*. (2020) emphasised Africa's growing opportunities for industrialisation, including rising urbanisation, an expanding labour force, growing domestic markets, digital penetration, and increased external investment especially from Asia. However, persistent constraints such as weak institutions, low savings, corruption, excessive debt, and underdeveloped capital markets continue to impede progress.

Empirical studies on African capital markets present mixed evidence. For instance, Gbarato *et al*. (2020) found a positive link between market capitalisation and industrial growth, but reported that the value of transactions negatively affects industrial development due to inefficient capital utilisation. Ngozi *et al.* (2022) found market capitalisation to be positively related to GDP, but volume of traded shares to be insignificant, indicating under-trading and low market participation. They recommended a systemic overhaul of the Nigerian capital market to enhance its developmental impact. These studies underscore the need to integrate financial

innovation, market efficiency, technological structure, and macroeconomic stability when analysing pathways to industrialisation in Nigeria.
From the reviewed literature, three major gaps emerge, first, limited joint analysis of capital-market efficiency and financial innovation in explaining Nigeria's industrialisation. Second is the insufficient attention to the role of digital financial systems such as fintech adoption and electronic payments in shaping industrial financing channels. Lastly, lack of integrated frameworks that connect financial markets, macroeconomic factors, and industrial performance within the Nigerian context. This study addressed these gaps by examining how capital market efficiency and financial innovation jointly influence Nigeria's industrialisation using an ARDL model.

3. Research Methodology

This study adopted an *ex -post facto* research design using secondary time series data obtained from the Central Bank of Nigeria (CBN) Statistical Bulletin (2023). The data comprised macroeconomic indicators drawn from the real, financial, and external sectors of the Nigerian economy. Specifically, the variables extracted include manufacturing sector contribution to GDP, market liquidity, market depth, fintech adoption index, credit to the private sector, and inflation rate. The dataset covered the period between 2010 and 2023. Preliminary diagnostic tests revealed that the variables were integrated at different orders some at level I(0) and others at first difference I(1). This justified the use of the Autoregressive Distributed Lag (ARDL) technique, which is suitable for estimating relationships involving mixed-order integrations without requiring all variables to be stationary at the same level.

To ensure robustness, the study conducted several pre-estimation and post-estimation tests. These include Augmented Dickey–Fuller (ADF) test for unit root, Variance Inflation Factor (VIF) for multicollinearity, descriptive statistics and correlation analysis, Portmanteau Q-test for autocorrelation, Breusch–Pagan (Cook–Weisberg) test for heteroscedasticity, and Breusch–Godfrey Lagrange Multiplier test. Other tests are Wald test for joint significance, Shapiro–Wilk test for normality, CUSUM squared and histogram with kernel density for structural stability and distributional shape respectively.

3.1 Model Specification

The functional relationship is specified as:

$$MP = f(TEP, CPS, NGXTV, SML, INFL) \quad (1)$$

Given the time series nature of the data, the study employed a dynamic ARDL model, specified as:

$$\begin{aligned} MP_t = \; & \alpha_0 + \beta_1 MP_{t-1} + \delta_0 TEP_t + \delta_1 TEP_{t-1} + \phi_0 CPS_t + \phi_1 CPS_{t-1} \\ & + \varphi_0 NGXTV_t + \varphi_1 NGXTV_{t-1} + \lambda_0 SML_t + \lambda_1 SML_{t-1} \\ & + \theta_0 INFL_t + \theta_1 INFL_{t-1} + \varepsilon_t \end{aligned} \quad (2)$$

Where: MP is manufacturing sector contribution to GDP (proxy for industrialisation), CPS is credit to private sector (proxy for financial intermediation); TEP is Total electronic payments (proxy for fintech adoption), SML is stock market liquidity ratio (proxy for market liquidity and depth), NGXTV is stock market turnover ratio (proxy for capital market efficiency), INFL is inflation rate (proxy for macroeconomic stability).

Table 1. Description of Variables

S/N	Parameter Measured	Variable & Symbol	Measurement	Description
Dependent Variable				
1	Industrialisation	MP	Ratio of manufacturing output to GDP	Indicates the contribution of manufacturing to national output; a higher ratio reflects stronger industrial development.
Independent Variables				
2	Capital Market Efficiency			
	Stock Market Efficiency	NGXTV	Trading volume divided by market capitalisation	Measures how actively the stock market converts investment into liquidity.
	Market Liquidity & Depth	SML	Equity traded divided by market capitalisation	Shows how easily positions can be entered or exited; reflects market depth.
3	Financial Innovation			

	FinTech Adoption	TEP	Growth rate of total electronic payments	Captures adoption of digital financial services (e.g., USSD, mobile banking, POS, ATM, internet banking).
	Financial Intermediation	CPS	Credit to private sector divided by GDP	Indicates financial sector support to private investment and economic activity.
4	Control Variable			
	Macroeconomic Stability	INFL	Growth rate of inflation	Controls for price-level changes affecting economic performance.

Source: Author's Compilation (2025)

4. Research Findings

4.1 Descriptive Analysis

Table 2 presents the descriptive statistics for the selected capital market and macroeconomic variables in Nigeria. The mean manufacturing sector contribution to GDP (MP) is 8.6756, suggesting an average of 8.68 per cent during the review period. The low standard deviation (0.1970) and coefficient of variation (0.0227) indicate relative stability. The negative skewness (-1.5738) reflects a left-tailed distribution, while the kurtosis value (4.0660) shows moderate peakness. The mean NGX trading volume is 72.62 billion units, indicating high trading activity. However, the high standard deviation (58.29) and coefficient of variation (0.8028) reveal large fluctuations. The distribution is right-skewed (0.9731). Total electronic payments (TEP) average ₦2.407 trillion, but exhibit extreme variability, as shown by the high standard deviation (7.1585) and coefficient of variation (2.9735). The variable is strongly positively skewed (3.2771) and highly leptokurtic (11.8583).

Stock market liquidity (SML) has a mean of 0.1233, indicating that about 12.33 per cent of market capitalisation is traded annually. The coefficient of variation (0.2159) suggests moderate variability, while the skewness (0.3463) and kurtosis (2.2650) point to non-normal distribution. Credit to private sector as a percentage of GDP (CPS) averages 0.1878, with low volatility (CV = 0.0889). Its skewness is close to zero (0.0789), and kurtosis (4.2600) indicates a slightly peaked distribution. Inflation averages 7.8 per cent, with moderate volatility (SD = 0.2669). The high coefficient of variation (3.4218), positive skewness (0.7550), and leptokurtic kurtosis (3.8359) indicate occasional inflationary spikes.

Table 2. Descriptive Analysis

Variable	MP	NGXTV	TEP	SML	CPS	INF
Mean	8.6756	72.6163	2.4074	0.1233	0.1878	0.078
Standard Deviation	0.197	58.2943	7.1585	0.02662	0.0167	0.2669
Coefficient of Variation	0.0227	0.828	2.9735	0.2159	0.0889	3.4218
Minimum	8.18	14.35	-0.31	0.08	0.15	-0.3
Maximum	8.81	194.11	27.16	0.17	0.22	0.73
Skewness	-1.5738	0.9731	3.2771	0.3463	0.0789	0.755
Kurtosis	4.06	2.56	11.85	2.26	4.26	3.83

4.2 Pre-Estimation Test (ADF Unit Root Test)

The ADF test results (Table 3) show that MP, TEP, and inflation are stationary at level, confirming I(0) behaviour. Meanwhile, NGXTV, SML, and CPS are non-stationary at level but become stationary after first differencing, indicating they are I(1). This mix of I(0) and I(1) variables supports the suitability of the ARDL methodology.

Table 3. Augmented Dickey-Fuller Unit Root Test

Variable	MP	NGXTV	TEP	SML	CPS	INF
constant	2.8723	17.9649	2.8612	0.0823	0.1308	0.0704
constant t	4.98	1.05	1.26	2	1.84	0.86
L1 t	-4.89	-2.3	-3.66	-1.97	-1.8	-2.89
P-Value	0	0.1709	0.0047	0.3000	0.3799	0.0469

Variable	MP	NGXTV	TEP	SML	CPS	INF
Constant trend	-1.7614	0.237	1.4755	1.5356	0.1572	-0.1488
constant t	0.5454	2.9451	-3.1377	-4.0301	-4.7776	-3.696
P-value	0.036	0.0006	0.0257	0.044	0.001	0.05
Order	I(0)	I(1)	I(0)	I(1)	I(1)	I(0)

4.3 Correlation Analysis

The correlation matrix (Table 4) indicates generally weak linear associations with MP. TEP shows a very weak positive correlation (0.0812), implying minimal connectivity with manufacturing performance. CPS has the strongest positive correlation (0.3470), suggesting that private sector credit moderately supports manufacturing activity. NGXTV (0.2961) also shows a weak-to-moderate positive correlation. SML exhibits a low correlation (0.1419), and inflation has a weak positive correlation (0.1925), indicating limited influence on manufacturing
.

Table 4. Correlation Analysis

Variables	MP	NGXTV	TEP	SML	CPS	INFL
MP	1.0000					
TEP	0.0812	1.0000				
CPS	0.3470	0.0843	1.0000			
NGXTV	0.2961	0.0426	0.0123	1.0000		
SML	0.1419	0.4176	0.4960	0.5610	1.0000	
INFL	0.1925	0.0598	0.5444	-0.1449	0.1210	1.0000

4.4 Test of Multicollinearity

VIF results (Table 5) show no multicollinearity concerns. The highest VIF (3.20 for SML) and the mean VIF (2.07) are below the critical threshold of 5. This confirms that all variables can be retained in the regression model.

Table 5. Variance Inflation Factor

Variables	VIF	1/VIF
SML	3.20	0.3127
CPS	2.30	0.4347
NGXTV	1.91	0.5224
INFL	1.51	0.6635
TEP	1.42	0.7042
Mean VIF	2.07	

4.5 ARDL Regression Analysis

The ARDL estimates (Table 6) provide insight into short-run dynamics. Lagged MP (MP L_1) is highly significant and positive (0.9088), suggesting strong persistence in manufacturing performance. TEP (L_0) has a significant negative effect (–0.0024), implying that increases in electronic payments reduce manufacturing performance in the short run. CPS (L_0 and L_1) both display negative coefficients, though marginally significant, suggesting that credit expansion may not immediately support manufacturing, possibly due to misallocation or consumption-driven lending. NGXTV (L_0) is positive and significant (0.0006), indicating that market trading activity stimulates manufacturing output. SML (L_0) is positive and significant, while SML (L_1) is not significant. This highlights an immediate but not persistent liquidity effect. Inflation is insignificant, suggesting no short-run influence on MP. The model fits strongly (R^2 = 0.9972; Adj. R^2 = 0.9917). The F-statistic confirms joint significance of all regressors.

Table 6. ARDL Analysis

Variables	Lag	Coefficient	Std. Error	t-cal	Significant
MP	L1	0.9088	0.0395	22.98	0.000
TEP	L0	-0.0024	0.0006	-3.49	0.025
CPS	L0	-1.5134	0.6674	-2.27	0.086

Variables	Lag	Coefficient	Std. Error	t-cal	Significant
	L1	-0.8144	0.3221	-2.53	0.065
NGXTV	L0	0.0006	0.0001	5.09	0.007
SML	L0	1.1307	0.2670	4.23	0.013
	L1	0.3223	0.2094	1.54	0.199
INFL	L0	-0.0068	0.0262	-0.26	0.88
C		1.0649	0.2684	3.97	0.017
$R^2 = 0.9972$; Adj. $R^2 = 0.9917$; t-cal = 3.97; Sig. = 0.0001; F- cal = 179.29					

4.6 ARDL Bounds Test

The bounds test (Table 7) reveals cointegration, with the F-statistic (87.39) exceeding the upper bound critical value (5.761) at the 1 per cent level. This confirms a long-run relationship among the variables.

Table 7. Bound Test Result

t-statistics	Value	K	I(0)	I(1)
F-statistics	87.3925	5	4.134	5.761

4.6 ARDL Error Correction Model (ECM)

The error correction term (ECM –1) is negative and highly significant (0.000), confirming long-run stability. However, the speed of adjustment (9.08 per cent per year) is slow, implying persistent deviations from equilibrium. In the short run, D(SML) is positive and highly significant at 1 per cent level (0.0003) with coefficient of 1.1359, indicating strong short-run liquidity support for manufacturing. D(CPS) remains negative and highly significant at 1 per cent level (0.0004) but coefficient of –1.5216, implying short-run credit allocation inefficiency.

Table 8. Co-integration Form

Variable	Coefficient	Std Error	t-Value	Probability
D (SML)	1.135946	0.094379	12.03599	0.0003
D (CPS)	-1.521608	0.141972	-10.71765	0.0004
ECM (-1)	-0.090771	0.002321	-39.10716	0.0000

4.8 Long-Run ARDL Results

Long-run coefficients (Table 9) show expected signs of TEP, CPS, and inflation are negative, while SML and NGXTV are positive. However, none of the slope coefficients are statistically significant, suggesting that these variables do not exert long-run measurable effects on manufacturing GDP within the sample. The constant is significant and positive.

Table 9. Long-run ARDL Result

Variable	Coefficient	Std. Error	t-Value	Probability
TEP	-0.02653	0.016278	-1.63007	0.1784
SML	16.05174	8.604512	1.865503	0.1355
NGXTV	0.006734	0.003676	1.831525	0.141
CPS	-25.7384	18.18128	-1.41566	0.2298
INFL	-0.07366	0.274673	-0.26816	0.8018
C	11.70991	2.476883	4.72768	0.0091

4.9 Parameter Estimation Tests

4.9.1 Serial Correlation (Breusch–Godfrey LM Test)

The Breusch-Godfrey LM test is to reveal serial correlation as shown in table 10. The LM statistic

(p = 0.1798) indicates no serial correlation as residuals are independent.

Table 10. Breusch-Godfrey LM Test for Serial Correlation

Lags	Chi2	Df	Prob
1	1.799	1	0.1798
H0: no serial correlation			

4.9.2 Heteroskedasticity (Breusch–Pagan Test)

Table 11 shows the Breusch-Pagan test. The p-value (0.1874) shows no heteroskedasticity, implying constant variance of residuals.

Table 11. Breusch-Pagan / Cook-Weisberg Test for Heteroskedasticity

chi2(1)	Prob > chi2
1.74	0.1874

4.9.3 Portmanteau Q-Test

The Portmanteau Q-test is shown in table 12. The Q-statistic (p = 0.2253) confirms residuals are white noise.

Table 12. Portmanteau Test for White Noise

Portmanteau (Q) statistic = 12.9716	Prob > chi2(10)
12.9716	0.2253

4.9.4 Wald Test

Table 13 reveals the Wald test. The Wald F-statistic (826.47; p < 0.001) confirms that the explanatory variables have a joint significant effect on manufacturing GDP.

Table 13. Wald Test

Variables	Value
TES	0
CPS	0
NGXTV	0
SML	0
INFL	0
F (5, 9) = 826.47, Prob> F = 0.0000	

4.9.5 Normality Tests

These are tests for examining the normality of the dataset.

a) Shapiro-Wilk

The data set is shown to be non-normally distributed with Shapiro–Wilk (W = 0.6937; p = 0.00048) as revealed in table 14.

Table 14. Shapiro-Wilk Test

Variable	W	Probability
Residual	0.6937	0.00048

b) Skewness and Kurtosis

Residuals are not normally distributed, as indicated by Skewness (p = 0.0030); Kurtosis (p = 0.0361) and Joint Chi-square (p = 0.0062). Despite this limitation, the large sample size and ARDL robustness mitigate concerns.

Table 15. Skewness and Kurtosis Test for Normality

Variable	Pr(Skewness)	Pr(Kurtosis)	Adj Chi2(2)	Prob>Chi2
Residuals	0.0030	0.0361	10.18	0.0062

4.9.6. CUSUM Square Test

The CUSUM of Squares plot in figure 2 shows that the cummulative sum of squared residuals remains within the 5 per cent significance boundaries throughout the sample period (2017–2023). This indicates no structural instability in the model, and therefore the null hypothesis of parameter stability is not rejected.

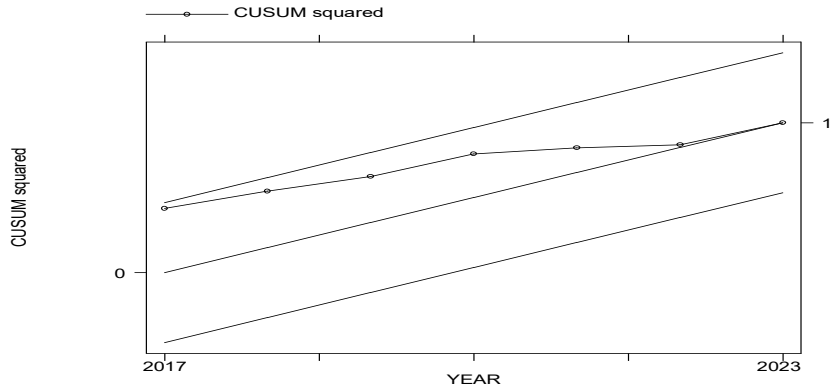


Figure 2. CUSUM Square Test

The kernel density plot of the ARDL fitted values shows a non-normal, multimodal distribution, with two distinct clusters around 8.4 and 8.75. This suggests possible nonlinear dynamics, subgroup effects, or structural differences in the sample. The distribution further supports evidence from normality tests indicating that the model's error structure may deviate from normality.

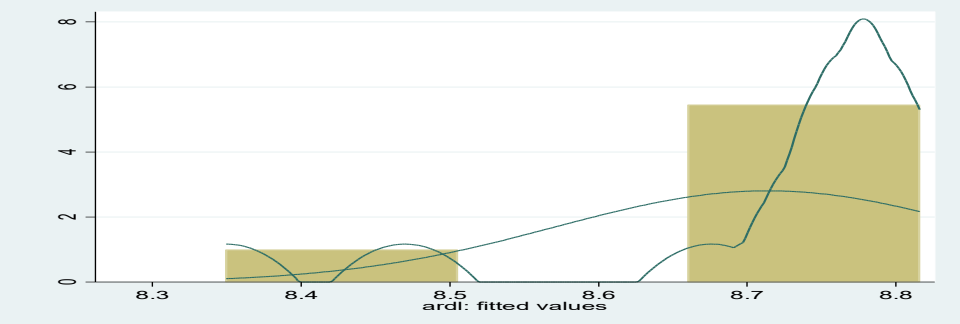


Figure 3. Normality Histogram for K-Density

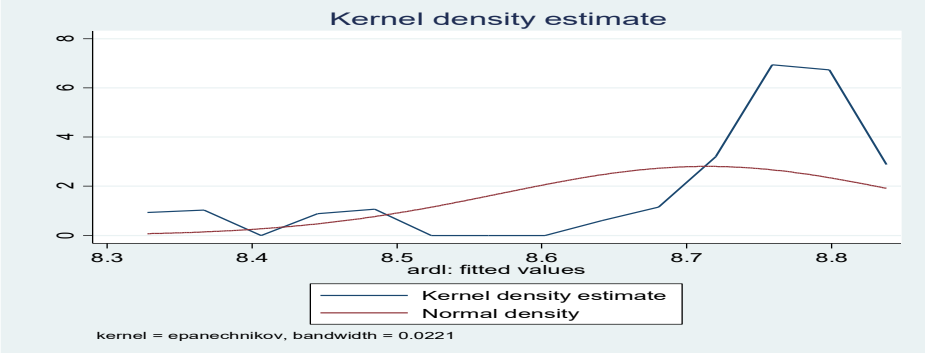


Figure 4. Kernel and Normal Density Estimate

5. Discussion and Conclusions

The analysis reveals that lagged manufacturing performance remains a strong and significant

driver of current industrial output, confirming the persistence of sectoral momentum. This outcome aligns with Murinde (2012) and Ayopo (2015), who emphasise stability effects in industrial growth. However, it contradicts the findings of Olorunfemi *et al.* (2013), who reported that manufacturing performance in Nigeria tends to exhibit volatility rather than persistence, largely due to infrastructural instability.

Total electronic payments show a negative short-run effect on industrialisation, indicating that rapid digital financial growth may initially disrupt productive activity. This supports Morris and Fessehaie (2014), who documented similar structural bottlenecks in Africa's industrial systems. Nonetheless, this result differs from Olayemi *et al.* (2020), who found that digital payments stimulate manufacturing performance by improving supply-chain efficiency, suggesting country- and sector-specific variations.

Credit to the private sector displays a negative influence, both contemporaneously and at lag, suggesting inefficient credit allocation and diversion away from productive investment. This finding is consistent with Ibi *et al*. (2015) and Gbarato *et al*. (2020). It contradicts the results of Nnanna (2004) and Udoka & Anyingang (2014), who found that bank credit significantly supports industrial output when lending conditions are stable and institutions are strong, implying that Nigeria's experience is shaped by structural weaknesses in credit administration.

Both stock market liquidity (SML) and stock market turnover (NGXTV) exert positive and significant short-run effects, reflecting the relevance of market depth in financing industrial capacity. These outcomes are aligned with Adeusi *et al*. (2013) and Michalopoulos *et al.* (2015). Nevertheless, they stand in contrast to Uwubanmwen & Eghosa (2015), who observed that stock market indicators had no meaningful effect on Nigeria's real sector due to volatility and speculative trading activities.

Inflation is insignificant in the short-run model, which conforms with Sulaiman and Azeez (2012); Ihugba *et al.* (2023), who argue that inflationary pressures may be overshadowed by deeper structural constraints. However, this contradicts Okafor *et al.* (2018), who found that inflation exerts a strong negative influence on industrial performance in Nigeria, especially when inflation exceeds threshold levels.

The ARDL bounds test confirms a long-run cointegrating relationship among the variables, supporting the propositions of endogenous growth theory (Lucas, 1988; Romer, 1990) and Schumpeter's innovation model. This long-run relationship aligns with Paulin *et al*. (2023), who argue that sustained industrialisation in Africa requires stable structural linkages. Yet, it differs from Akinlo (2004), who reported no stable long-run link between financial development and industrial output in Nigeria, suggesting empirical divergence depending on model specification and time horizon.

Long-run ARDL estimates show that most variables become statistically insignificant. While the direction of the coefficients aligns with findings by Adeusi *et al*. (2013) and Ngozi *et al*. (2022), the insignificance supports Ajao & Osayuwu (2012) and Falaye *et al*. (2018), who argue that the Nigerian capital market is too shallow to transmit long-term benefits. This contradicts the earlier evidence by Okpara (2010), who found that long-run financial market development significantly enhances industrial output under periods of financial stability.

The study concluded that Nigeria's manufacturing sector is largely shaped by short-run dynamics. Stock market liquidity and trading activity positively influence industrial output, while credit to the private sector has a negative effect, reflecting inefficiencies in allocation. Inflation is insignificant, and high levels of electronic payments may divert resources away from productive manufacturing. The ARDL bounds test confirms a stable long-run relationship, but most long-run coefficients are statistically weak, and the error correction mechanism indicates a slow adjustment toward equilibrium, highlighting persistent structural constraints. The policy implications are that policymakers should focus on improving capital market liquidity to facilitate efficient financing for manufacturing, ensure targeted credit allocation toward productive investments, maintain monetary stability for predictable industrial planning, and regulate digital payment flows to prevent resource outflows from the real sector.

It is therefore, recommended that future studies could examine manufacturing sub-sectors, the role of institutional quality and governance, cross-country comparisons in emerging economies, and the long-term impact of fintech adoption on industrial growth.

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The authors equally contributed to the preparation of this article.

Conflict of interest
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REFERENCES

1. Abina, A., & Deekor, L. N. (2024). Institutional banks' financing and economic growth in Nigeria. *International Journal of Business & Law Research, 12*(1), 236-253. https://www.researchgate.net/publication/380897589
2. Adeusi, S. O., Sulaiman, L. A., & Azeez, B. A. (2013). Impact of capital market development on the Nigerian economy: A post-SAP analysis. *Journal of Economics and Behavioral Studies*, *5*(1), 1. https://scholar.google.com/citations?user=YwyHriwAAAAJ&hl=en
3. Aghion, P., & Howitt, P. (1992). A model of growth through creative destruction. *Econometrica, 60*(2), 323–351. https://doi.org/10.2307/2951599
4. Ajao, M. G., & Osayuwu, R. (2012). Testing the weak form of efficient market hypothesis in Nigerian capital market. *Accounting and Finance Research*, *1*(1), 169-179. https://doi.org/10.5430/afr.v1n1p169
5. Akinlo, A. E. (2004). Foreign direct investment and growth in Nigeria: An empirical investigation. *Journal of Policy modeling*, *26*(5), 627-639. https://doi.org/10.1016/j.jpolmod.2004.04.011
6. Amoah, C., & Jehu-Appiah, J. (2022). Factors driving industrialization in Africa: A panel two-stage least square approach. *Modern Economy*, *13*(2), 144-158. https://doi.org/10.4236/me.2022.132010
7. Ayopo, B. A., Isola, L. A., & Olukayode, S. R. (2015). Monetary policy dynamics and the stock market movements: Empirical evidence from Nigeria. *Journal of Applied Economic Sciences*, *10*(8), 1179-1188. https://www.ceeol.com/search/article-detail?id=535860
8. Ejem, C. A., & Ogbonna, U. G. (2020). Nigerian stock exchange and weak form efficiency. *Global journal of business research*, *8*(1), 59-70. https://absu.academia.edu/UdochukwuOgbonna?swp=tc-au-52210492
9. Eze, E., & Alugbuo, J. C. (2021). Financial inclusion and poverty reduction in Nigeria: A survey-based analysis. *GSC Advanced Research and Reviews, 7*(3), 75–84. https://doi.org/10.30574/gscarr.2021.7.3.0127
10. Falaye, A. J., Awonusi, F., Eseyin, O., & Eboigbe, G. (2018). The weak form market efficiency and the Nigerian stock exchange. *Afro Asian Journal of Social Sciences, 9*(4). https://www.researchgate.net/publication/325176787
11. Fama, E. F. (1965). The behavior of stock-market prices. *The journal of Business*, *38*(1), 34-105. https://doi.org/10.2469/faj.v21.n5.55
12. Gbarato, L. M., Cookey, S. C. M., & Nwagu, U. S. (2020). Capital market: Its efficacy on Nigerian industrial growth. *EPRA International Journal of Research and Development, 5*(5), 60–73. https://cdn.epratrustpublishing.com/article/604pm_9.EPRA%20JOURNALS%20-4401.pdf
13. Ibi, E. E., Joshua, N. J., Eja, B. R., & Olatunbosun, H. U. (2015). Capital market and industrial sector development in Nigeria: An empirical investigation. *European Journal of Accounting Auditing and Finance Research*, *3*(6), 63-79. https://doi.org/10.37745/ejaafr.2013
14. Ihugba, O. A., Orji, A. C., & Duru, E. E. (2023). Inflation and manufacturing sector growth in Nigeria: Evidence from ARDL approach. *Journal of Economics and Research*, *12*(3), 45–58. https://jearecons.com/index.php/jearecons/article/view/300
15. Kaldor, N. (1957). A model of economic growth. *The economic journal*, *67*(268), 591-624. https://doi.org/10.2307/2227704
16. Lawal, A. I., Salisu, A. A., Somoye, R. O., Babajide, A. A., & Taiwo, J. N. (2019). *Re-examining stock market efficiency in Nigeria using nonlinear unit root tests.* In R. C. Das (Ed.), *The Impacts of Monetary Policy in the 21st Century: Perspectives from Emerging Economies* (pp. 75–88). Emerald Publishing Limited. https://doi.org/10.1108/978-1-78973-319-820191011
17. Ledeneva, M., Okhremenko, I., Inshakova, E., & Plaksunova, T. (2020). Industrialization in Sub-Saharan Africa: Challenges and opportunities. In E. G. Popkova, B. S. Sergi, L. Haabazoka, & J. V. Ragulina (Eds.), *Supporting Inclusive Growth and Sustainable Development in Africa – Volume I* (pp. 67–89). Springer. https://doi.org/10.1007/978-3-030-41979-0
18. Lucas, R. E., Jr. (1988). On the mechanics of economic development. *Journal of Monetary Economics, 22*(1), 3–42. https://doi.org/10.1016/0304-3932(88)90168-7
19. Malkiel, B. G. (1973). *A random walk down Wall Street*. New York: W. W. Norton & Company.

20. Markjackson, D., & Omie, T. K. (2018). Theoretical evidence of the efficient market test in the Nigerian capital market. *International Journal of Scientific and Research Publications, 8*(2), 154–162. https://www.researchgate.net/publication/327573516
21. Michalopoulos, Laeven, L., & Levine, R. (2015). Financial innovation and endogenous growth. *Journal of Financial Intermediation, 24*(1), 1–24. https://doi.org/10.1016/j.jfi.2014.04.001
22. Morris, M., & Fessehaie, J. (2014). The industrialisation challenge for Africa: Towards a commodities-based industrialisation path. *Journal of African Trade*, *1*(1), 25-36. https://doi.org/10.1016/j.joat.2014.10.001
23. Murinde, V. (2012). Financial development and economic growth: Global and African evidence. *Journal of African economies*, *21*(1), 10-56. https://doi.org/10.1093/jae/ejr042
24. Ngozi, C. G., Helen, A. N., & Anyanwu, A. C. (2022). Capital Market, Economic Growth and Industrialization in Nigeria (2000–2016). *Journal of System and Management Sciences*, 24(2), 107–128.
25. Nnanna, O. J. (2004). Financial sector development and economic growth in Nigeria: An empirical investigation. *Economic and Financial Review, 42*(3), 1–19. https://dc.cbn.gov.ng/efr/vol42/iss3/2/
26. Nzau, M. (2010). Africa's industrialization debate: a critical analysis. *Journal of language, technology & entrepreneurship in Africa*, *2*(1), 146-165. https://www.ajol.info/index.php/jolte/article/view/51996
27. Okafor, T. C., Adegbite, E. O., & Babajide, A. A. (2018). Exchange rate fluctuations, inflation, and industrial output in Nigeria. *IBIMA Conference Proceedings*. https://ibima.org/accepted-paper/exchange-rate-fluctuations-inflation-and-industrial-output-in-nigeria
28. Okpara, G. C. (2010). Analysis of capital market performance and the growth of the Nigerian economy: A cointegration approach. *Global Journal of Human Social Science, 10*(4), 9–15.
29. Olayemi, O. O., Okonji, P. S., Oghojafor, B. E. A., & Orekoya, I. O. (2020). Innovative behaviour and firm's performance in the Nigerian manufacturing sector. *Nigerian Journal of Management Studies, 20*(1), 98–105. https://eprints.lancs.ac.uk/id/eprint/175522/
30. Olorunfemi, S., Obamuyi, T. M., Adekunjo, F. O., & Ogunleye, E. O. (2013). Manufacturing performance in Nigeria: Implication for sustainable development. *Asian Economic and Financial Review, 3*(9), 1195–1213. https://archive.aessweb.com/index.php/5002/article/view/1080
31. Otapo, T. W. (2020). Determinants of Exchange Rates in Nigeria: Empirical evidence using the portfolio balance model. *Journal of Business and Management (IOSR-JBM)*, *22*(3), 01-10. https://www.researchgate.net/publication/369273087
32. Paulin, D. D. G., Esperence, F., & Sali, A. M. (2023). The Effect of Foreign Direct Investment on Industrialisation in Subsaharan Africa: thé Rôle if Institutional Quality. *EuroEconomica*, *42*(2), 10-21. https://econpapers.repec.org/article/dugjournl/y_3a2023_3ai_3a2_3ap_3a10-21.htm
33. Romer, P. M. (1990). Endogenous technological change. *Journal of Political Economy, 98*(5, Part 2), S71–S102. https://doi.org/10.1086/261725
34. Rosenstein-Rodan, P. N. (1943). Problems of industrialisation of Eastern and South-Eastern Europe. *Economic Journal, 53*(210/211), 202–211. https://www.jstor.org/stable/2226317
35. Schumpeter, J. A. (1934). *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle* (R. Opie, Trans.). Cambridge, MA: Harvard University Press. (Original work published 1911)
36. Solow, R. M. (1956). A contribution to the theory of economic growth. *Quarterly Journal of Economics, 70*(1), 65–94. https://doi.org/10.2307/1884513
37. Sulaiman, L. A., & Azeez, B. A. (2012). Effect of external debt on economic growth of Nigeria. *Journal of Economics and sustainable development*, *3*(8), 71-79.
38. Swan, T. W. (1956). Economic growth and capital accumulation. *Economic Record, 32*(2), 334–361. https://doi.org/10.1111/j.1475-4932.1956.tb00434.x
39. Udoka, C. O., & Anyingang, R. A. (2014). Operational efficiency of the Nigerian stock market (1986–2010). *International Journal of Finance and Banking Studies, 3*(1), 173–185. https://www.researchgate.net/publication/298728392
40. Uwubanmwen, A. E., & Eghosa, L. I. (2015). Inflation rate and stock returns: Evidence from the Nigerian stock market. *International Journal of Business and Social Science, 6*(11), 155–167. https://ijbss.thebrpi.org/journals/Vol_6_No_11_November_2015/19.pdf

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Original Article

Drivers of Land Commodification in the Western Urban–Rural Areas of Guilan Province, Northern Iran

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Abstract

Purpose- Land commodification is a process through which land shifts from being a productive, ecological, and social resource to a speculative asset and a vehicle for capital accumulation. Over the past decade, this process has intensified across the urban and rural zones of western Gilan Province, resulting in widespread villa construction, unregulated land-use conversions, increasing pressure on agricultural lands, spatial fragmentation, and the weakening of rural development. Despite the significance of this phenomenon, previous studies have rarely undertaken a systematic identification of the *key driving forces* shaping this complex dynamic.

Design/methodology/approach- Addressing this gap, the present study first identified a broad set of factors influencing land commodification through semi-structured interviews with local experts, managers, and stakeholders (145 participants). Following a screening and consensus-building process with 10 spatial-planning specialists, 59 final variables were extracted and subjected to structural analysis using a cross-impact matrix in MICMAC software. In addition, survey data from 300 local residents were employed to capture lived experiences, validate the operational mechanisms, and complement the analytical outcomes.

Finding- MICMAC results reveal that the absence of deterrent regulations and effective oversight mechanisms, weak agricultural support policies, fragmented land governance, the expansion of non-strategic tourism, and the increasing attractiveness of converting liquidity into land function as the principal driving variables. These drivers reinforce a self-amplifying cycle—characterized by rising land prices, intensified speculation, withdrawal of agricultural lands from production, and rapid villa development—that ultimately fosters spatial instability and undermines rural development.

Originality/value– By mapping the causal structure and identifying the key drivers, this study provides an evidence-based foundation for targeted policy interventions aimed at regulating land commodification and enhancing spatial–rural sustainability in western Gilan.

Keywords: Key driving forces, Land commodification, Western Guilan region, Land sales, MICMAC.

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1. Introduction

Land is a multidimensional concept that embodies environmental, economic, social, and even symbolic functions, each shaped according to human needs and objectives. Across cultures and intellectual traditions, land has held such significance that in many societies it has been regarded as a sacred entity or a supervising deity (Renne, 1958; Barlowe, 1986; Randall & Castle, 1985; Daly & Cobb, 1991; Van Vliet, 2016; Hersperger et al., 2018). In the humanities and social sciences as well, land—considered the foundation of all human activity—has been subject to extensive conceptual classifications and diverse theoretical perspectives (Henderson, 2017).

In recent decades, the "land market" has emerged as one of the most influential mechanisms shaping land use and land value, drawing considerable analytical attention in economics, geography, and spatial planning (Haila, 1991; Aspinall & Hill, 2008). As a primary human asset and a key component of national development, land functions in buying, selling, and leasing activities that create an active and complex market system. However, misallocation or inappropriate use of land can generate extensive consequences for its other essential and irreplaceable functions (Mousavi & Yazdani, 2015).

In Iran—as in many developing countries—factors such as population growth, rising land prices, inflation, water scarcity, and increased residential demand have accelerated the conversion of agricultural lands and green spaces into residential and commercial uses (Mahmoudzadeh, 2017). Coupled with migration, urban expansion, the absorption of villages into urban structures, and the unchecked growth of settlements, these processes have led to the degradation of orchards, shortages of public spaces, and increasing spatial disorder in rural landscapes.

Land-use change is a dynamic and complex phenomenon shaped by an interconnected network of biophysical and socio-economic forces (Koomen et al., 2007; Briassoulis, 2020; Kolhe et al., 2016; Walker, 2004; Rimal, 2011). Within this context, *driving forces* and *adaptive approaches* constitute two of the most prominent analytical frameworks for understanding land-change processes. Rooted in geographical scholarship, driving forces seek to explain human–environment interactions through concepts related to landscape transformation. However, the nature and intensity of these forces vary across regions, influenced by factors such as population characteristics, policy regimes, landforms, and resource availability. Moreover, driving forces typically operate in interconnected ways, making it difficult to understand them without analyzing their internal systemic relationships.

Given the complexity of this system and the instabilities arising from it, futures-oriented approaches have gained importance for identifying uncertainties and strengthening spatial planning (Zali, 2014). Although foresight studies complement strategic planning, structural analysis tools such as MICMAC primarily focus on identifying influential and dependent variables under current conditions, thereby creating the groundwork for constructing future scenarios.

In western Gilan, a combination of economic, social, and institutional factors has accelerated land commodification—a process that has manifested in widespread villa construction, the withdrawal of agricultural lands from production, declining rural economic resilience, and extensive transformations in settlement spatial structures. Despite the significance of this trend, few studies have systematically and causally examined the driving forces behind land commodification in this region.

Accordingly, the objective of the present study is to identify and explain the key driving forces shaping land commodification across the urban–rural zones of western Gilan and to provide a structural representation of the relationships among influential variables over a 30-year period. Such an analysis offers a foundation for managing and mitigating unsustainable trends and guiding spatial policy-making at regional and provincial scales.

2. Research Theoretical Literature

In recent years, the international literature has increasingly identified rural land commodification as one of the fundamental processes transforming rural and peri-urban spaces. In a study conducted in rural areas of Shijiazhuang, China, Fu and Sanada (2023) categorized this phenomenon into four pathways, including the commodification of agricultural lands (production- or tourism-oriented), residential plots, and construction land. They argue that land commodification results from the penetration of capital logic into rural spaces. Their findings show that population density, economic development level, agricultural production capacity,

and locational conditions are among the most significant driving forces behind this trend. Moreover, in the absence of policy intervention, land commodification may lead to polarization, land-use homogenization, and heightened land insecurity for vulnerable rural households. These results are consistent with recent research highlighting the role of land markets, tourism investment, and state policies in intensifying market-oriented transformations in rural areas.

In the broader field of land-use change, studies over the past five years have emphasized the interconnected effects of natural, social, economic, and political factors. Wu et al. (2022), examining Chongqing through geographic detectors and a combined ANN–CA model, demonstrate that land-use changes result from the simultaneous influence of variables such as population, distance from the city center, school density, GDP, and transportation networks. Similarly, Shoja et al. (2025), in a study on Tehran Province using Landsat imagery and the TerrSet platform, identify vegetation decline and expansion of built-up areas over the past two decades as major outcomes of human pressure and land-use policies. Collectively, this body of research highlights not only the value of remote sensing and dynamic modeling but also the critical importance of institutional and policy-related drivers.

In Iran, only a limited number of studies have directly examined the relationship between land commodification and rural development. Afrakhteh and Rahimi Pour Sheikhani Nejad (2020), in a study conducted in eastern Guilan, demonstrated that land-use change results from a complex interplay of ecological, social, economic, and political factors. The findings of other domestic studies confirm this pattern. For example, Kalali Moghaddam (2015) showed that in the rural areas of Rasht, residential demand pressures, declining agricultural profitability, and the absence of effective monitoring are among the main drivers pushing agricultural lands toward conversion and withdrawal from production. Similarly, Darban-e-Astaneh (2016), in an investigation of rural areas in Mahmoudabad, found that institutional deficiencies, weak agricultural support policies, and the economic constraints of rural households have intensified land sales and the expansion of non-agricultural uses. Taken together with evidence from eastern Guilan, these findings indicate that the combination of economic pressures, weak land governance, and regulatory gaps constitutes one of the principal engines behind rural land commodification in the country.

A synthesis of the literature from the past five years suggests that while many studies have analyzed land commodification through market-oriented lenses, few have structurally examined the causal relationships among driving forces, and most have not differentiated between the various forms of commodification (e.g., agriculture-driven, tourism-driven, housing-driven, etc.). Moreover, despite the severity of land commodification across the urban–rural zones of western Guilan, no research has yet employed structural analytical approaches such as MICMAC to identify the key drivers and the network of interrelationships among them. Building on the latest studies (Fu & Sanada, 2023; Wu et al., 2022; Afrakhteh & Rahimi Pour, 2020; Shoja et al., 2025), the present research seeks to fill this gap by identifying the fundamental driving forces of land commodification and explaining its implications for rural development and territorial security in western Guilan.

3. Methodology and Study area

3.1 Geographical Scope of the Research

The study area encompasses the urban and rural zones of the western–central part of Guilan Province, covering the counties of Shaft, Fuman, Masal, Rezvanshahr, Talesh, and Astara (Figure 1). This region is bounded to the north by the Caspian Sea and the border of the Republic of Azerbaijan, to the south by the western Alborz highlands, to the east by Rasht and Sowme'eh Sara counties, and to the west by Ardabil Province. The climatic and topographic diversity of the area—from fertile alluvial plains to forested foothills and highland pastures—makes it one of the richest bio-climatic and spatial units in northern Iran.

The regional economy is based on a combination of agriculture (rice paddies, tea and citrus orchards), livestock husbandry, forestry, and nature–culture-based tourism. Attractions such as Rudkhan Castle, Masuleh, Olsabelangah, the Meryan and Agh-Olar highlands, and the Talysh–Astara coastal belt have made the region one of the most important tourism destinations in northern Iran. Proximity to the metropolitan area of Rasht and convenient access to transportation networks have significantly increased residential and tourism-driven demand in recent years.

The simultaneous presence of high ecological sensitivity, valuable agricultural lands, Hyrcanian forests, and intense investment-driven demand has exposed western Guilan to accelerating land commodification, widespread villa construction, agricultural land conversion, and the withdrawal of land from productive use. The complexity of settlement patterns, the dispersed rural–urban system, and the strategic position of the region within the provincial settlement network have turned this area into a focal point of spatial transformations and land commodification in northern Iran—highlighting the urgent need for a structural analysis of the driving forces shaping these trends.

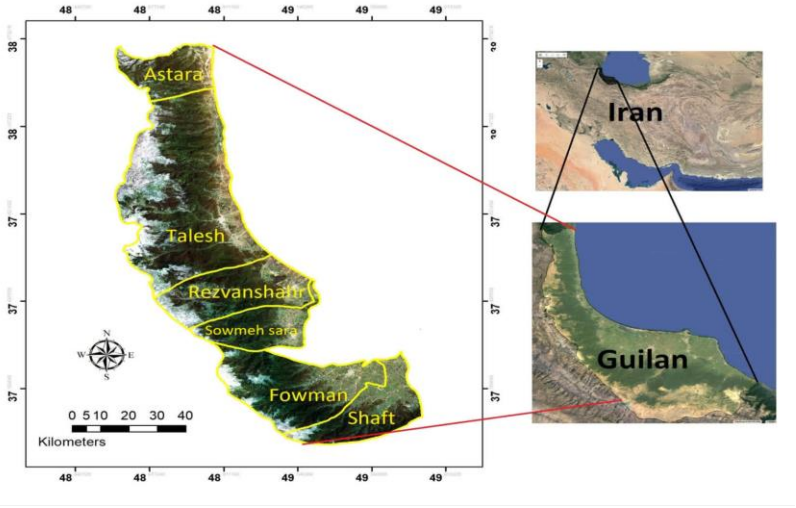


Figure 1. Map of the study area

3.2. Methodology

This study is applied in nature and follows a descriptive–analytical design. To examine the relationships among the factors influencing land commodification in the urban–rural zones of western Guilan Province, a mixed-methods approach (qualitative–quantitative) was employed, utilizing the MICMAC-based structural analysis method. The research process was organized into four main stages.

In the first stage, aiming for a comprehensive identification of the dimensions and components shaping land commodification, the qualitative phase of the study was conducted through semi-structured interviews with managers and experts of relevant governmental institutions, local planners, council members, and community leaders. Participants were selected using purposive and snowball sampling, resulting in a total of 145 interviewees. The collected data were analyzed using the Colaizzi method, through which 101 initial variables were extracted and categorized into four domains: institutional–managerial, economic–market, social–demographic, and environmental–spatial factors.

In the second stage, the list of extracted variables was submitted to 10 experts in the fields of spatial planning, land economics, human geography, and land governance for evaluation, consolidation, elimination of redundancies, and prioritization. The specialists assessed the variables based on three criteria: their level of influence on land commodification, their frequency across interviews, and their suitability for structural analysis. As a result, 59 final variables were selected to form the basis of the structural analysis. The complete list of these 59 variables (coded A1 to A59) is presented in Table 1.

Table 1 :Driving and Key Variables Influencing Land Commodification Variables Entered into MICMAC Software

Variable Entered into MICMAC	MICMAC Code	Variable Entered into MICMAC	MICMAC Code
Severe currency fluctuations	A1	Dominance of single-crop livelihood systems	A36
Low bank interest rates	A2	Profit-seeking behavior (sellers–buyers)	A37
Administrative and economic corruption	A3	Traditional agricultural methods and tools	A38
Land brokerage	A4	Shortage of marketable land	A39
Growth of luxury orientation	A5	Prominence of tourism activity	A40
Converting cash into property and land	A6	Artificial price suppression for market control	A41
Rising housing and land prices	A7	Weak institutional monitoring and enforcement	A42
Capitalist mindset across social classes	A8	Absence of fiscal and taxation laws regulating land sales	A43
Desire for second homes or villas	A9	Creation of exclusive spaces resulting from inappropriate policies	A44
Aspiration for aristocratic lifestyles	A10	Economic instability and insecurity in the agricultural sector	A45
Lack of appropriate tourism models for northern regions	A11	Stagnation and decline in agricultural production	A46
Tendency toward residence and leisure in the north	A12	Lack of economic justification for agricultural lands	A47
Proximity to Tehran	A13	Capital accumulation in urban areas	A48
Tourism attractiveness of rural areas	A14	Weakness of productive economic sectors	A49
Lack of motivation to work	A15	Widespread rural unemployment	A50
Capital flow toward non-productive, asset-based goods	A16	Relative increase in the price of marketable lands	A51
Land-use change of purchased lands	A17	Climate-induced migration and population influx	A52
Pollution in urban settlements	A18	Removal of agricultural lands from the production cycle	A53
Changing national climatic conditions	A19	Low land prices in rural areas	A54
Availability and easy access to water	A20	Media advertising	A55
Drought and water scarcity	A21	Poor management of water resources	A56
Inheritance laws	A22	Import of agricultural products	A57
Absence of deterrent regulations	A23	Weak management of tourism complexes	A58
Lack of supportive agricultural policies	A24	Substandard or inadequate urban housing	A59
Urban-centered development policies	A25		
Unregulated villa construction	A26		
Lack of awareness regarding the consequences of land sale	A27		
Fragmented (island-like) institutional functioning	A28		
Policies promoting private vehicle ownership	A29		
Macro-level land and housing issues	A30		
Weak role of the education system	A31		
Absence of secure/safe markets	A32		
National economic recession	A33		
Access to windfall profits	A34		
Low income in the agricultural sector	A35		

To enhance the external validity of the study and assess the consistency of the identified mechanisms with the lived experiences of the local community, an online questionnaire was distributed among 300 residents from the six counties of the study area. The data obtained from this questionnaire were not used in the MICMAC analysis; rather, they served qualitative validation purposes, contributing to a deeper contextual understanding and improving the accuracy of interpreting interrelationships among the variables. The results of this stage were also instrumental in ensuring the external validity of the research.

In the subsequent stage, a cross-impact matrix for the 59 variables was constructed using a four-level scale (0: no influence, 1: weak influence, 2: moderate influence, 3: strong influence). Each of the ten experts completed the matrix independently, and the final matrix was generated by averaging their responses. The data were then entered into the MICMAC software to determine the direct and indirect influence and dependence of each variable, classify the variables into the four structural quadrants (driving, dependent, linkage, and autonomous variables), and generate the system's influence–dependence map.

To ensure the precision of the instruments, research validity was assessed through expert confirmation (content validity), conceptual coherence of variables (construct validity during thematic analysis), and comparison of findings with data from the local community (external validity). Additionally, to evaluate the reliability of the quantitative instrument, Cronbach's alpha was calculated for the community questionnaire, with values exceeding 0.8 for most components, indicating satisfactory instrument reliability.

4. Research Findings

The results of the MICMAC structural analysis indicate that land commodification in the urban–rural zones of western Guilan is shaped by the interaction of a complex set of institutional, economic, social, and spatial variables. The analysis of influence and dependence levels shows that a substantial portion of the system's dynamics is driven by factors that are inherently structural, policy-based, and managerial in nature—variables that function as the system's primary driving forces.

4.1. Driving Variables Analysis in Quadrant I (High Influence / Low Dependence)

The influence–dependence analysis within the MICMAC model reveals that the process of land commodification is shaped by a set of variables located in Quadrant I (High Influence / Low Dependence). This position indicates that factors such as administrative and economic corruption (A3), the prominent role of tourism (A40), the absence of fiscal and tax regulations governing land sales (A43), aspirations for luxury-oriented lifestyles (A10), the weakness of productive economic sectors (A49), the absence of deterrent regulations (A23), the lack of agricultural support policies (A24), fragmented and uncoordinated institutional governance (A28), and broader economic recession and the absence of secure financial markets (A32), are not outcomes of other variables; rather, they constitute the foundational drivers that shape the overall direction of the system (Figure 2).

Among these factors, institutional and regulatory weakness exerts the strongest influence on land commodification. The absence of deterrent regulations (A23) and the lack of effective fiscal and tax instruments to regulate land transactions (A43) create a context in which land becomes a low-risk and highly profitable commodity. Without taxation mechanisms to suppress speculative behavior, effective monitoring systems, or restrictive construction regulations, the rules of the land market become increasingly aligned with speculative interests. Since these variables are largely unaffected by others, they play a structural role in shaping the institutional environment and directing the behavior of all actors within the system.

At the same time, governance inefficiency, manifested through fragmented and isolated institutional operations (A28), exerts substantial influence on land commodification. Institutional incoherence, overlapping responsibilities, dispersed decision-making, and the absence of integrated management systems weaken land-use control and oversight. Such fragmentation fosters rent-seeking behaviors, unregulated land-use changes, and intensified speculative pressures—conditions that expose land to rapid conversion into a commercialized asset.

Furthermore, administrative and economic corruption (A3) serves as one of the structural drivers that fundamentally shapes patterns of land use. Corruption facilitates illegal transactions, generates rent-seeking opportunities, undermines monitoring systems, and enables the circumvention of regulations—all of which intensify opportunistic

behavior in the land market and create an environment in which speculative motives override the logic of production and land sustainability.

Economic variables also play a critical role in accelerating land commodification. The weakness of productive economic sectors (A49) and economic recession (A33) reduce the attractiveness of investment in productive activities and redirect capital toward land, which is perceived as a more stable and profitable asset. During periods of recession, economic actors turn to land as a means of preserving the value of their assets, dramatically increasing demand for land.

In contexts where secure economic markets (A32) are lacking and the financial system lacks stability, land becomes widely viewed as the safest investment option. This environment fuels speculative demand and accelerates the pace of land commodification.

In addition, a set of cultural and functional factors further reinforces this cycle. The aspiration toward luxury-oriented lifestyles (A10) increases demand for upscale construction, villa development, and the acquisition of large land parcels. In such circumstances, land is no longer regarded as a biological or productive resource but rather as a symbol of social status—intensifying pressure on natural and agricultural resources. Likewise, the strong influence of tourism (A40) in attractive areas raises land values and stimulates short-term profitable land uses, a process that—without sustainable management frameworks—leads to rapid and often irreversible land-use transformations.

Moreover, the absence of supportive policies for the agricultural sector (A24) reduces both the productivity and the economic attractiveness of agricultural land, thereby increasing the likelihood of land conversion and sale. This directly weakens the productive function of land while reinforcing its speculative role.

The combined effect of these factors demonstrates that land commodification results from the interaction of institutional, economic, cultural, and managerial variables—all of which operate as influential driving forces. These variables are not significantly shaped by other factors; however, they exert considerable influence across the entire network of dependent variables and ultimately determine the future trajectory of the land system. Therefore, any effective policy aimed at sustainable land management must begin with reforming these key drivers, as changes within them have the potential to reorient the entire system.

4.2. Linkage Variables Analysis in Quadrant II (High Influence / High Dependence)

According to the MICMAC analysis, a set of variables falls within Quadrant II (High Influence / High Dependence), commonly referred to as *linkage variables* or *unstable variables*. These variables are highly sensitive because they are strongly influenced by other factors while simultaneously exerting significant effects on the rest of the system. As such, they play a central role in destabilizing the land system. In essence, these variables act as transmission and amplification mechanisms: even minor shifts in the primary driving forces are rapidly reflected in these variables and subsequently transferred to other parts of the system (Figure 2).

Within this quadrant, variables such as the pursuit of profit (A37), land brokerage (A4), growth of luxury-oriented consumption (A5), conversion of cash into property and land (A6), rising housing and land prices (A7), capitalist mindsets across social classes (A8), and the desire for second homes or villas (A9) play a prominent role in reproducing the instability associated with land commodification. These variables function as *structure-induced behaviors* which—due to their high level of influence—accelerate speculative dynamics and rapidly propagate changes throughout the entire system.

For example, the pursuit of profit (A37) and the conversion of monetary assets into property (A6), as reactive economic behaviors, are shaped by the absence of deterrent regulations, weak financial markets, and economic recession. Yet, they immediately amplify land demand, drive up land prices, and activate numerous dependent variables. Similarly, land brokerage (A4) and the emergence of intermediary networks are fueled by regulatory gaps and administrative corruption; in turn, these mechanisms intensify system instability by raising prices and accelerating transactions.

In addition to economic factors, cultural and social variables also feature prominently in this quadrant. The rise of luxury-oriented consumption (A5), the spread of capitalist attitudes across social classes (A8), and the desire for second homes or villas (A9) are simultaneously influenced by structural

economic shifts and regulatory weaknesses, while also increasing demand for land and high-end land uses. These variables act as *lifestyle-driven catalysts*, providing the cultural foundation for speculative demand and increasing pressure on natural and agricultural resources.

In northern regions of the country, the combination of cultural and economic factors has led to behaviors such as the strong inclination toward residence and leisure activities in the north (A12), widespread unregulated villa construction (A26), and land-use conversion of purchased plots (A17). These variables—emerging from weak governance and the area's inherent attractiveness—intensify expected investor returns, escalating demand and accelerating the cycle of land commodification. Under such circumstances, the creation of special-purpose spaces driven by misguided policies (A44) also appears as an unstable variable, since any ineffective macro-level policy is quickly mirrored in new projects and land uses, further reinforcing speculative dynamics.

Furthermore, the dependence of several variables on the economic conditions of the agricultural sector plays a critical role in reinforcing system instability. Economic insecurity and lack of stability in agriculture (A45) and the low income of the agricultural sector (A35) are shaped by structural, legal, and pricing-related factors; however, once changes occur within the system, these variables immediately trigger farmers' withdrawal from productive activities, increase the supply of land for sale, and intensify land-use conversion. This process is directly linked to the relative rise in the price of land available for sale (A51), which expands the supply of agricultural and natural lands entering the speculative market.

Ultimately, the rise in housing and land prices (A7)—one of the most significant linkage variables—is simultaneously influenced by economic, legal, and social conditions, while also amplifying system-wide instability. By increasing demand, generating inflationary expectations, and encouraging investment-driven behavior, this variable rapidly transmits changes throughout the entire system. It serves as the focal point of systemic volatility, and its fluctuations have the potential to disrupt the overall structure of the land market.

Taken together, the variables in this quadrant constitute the fastest-moving and most unstable components of the land system because they both influence and are strongly influenced by other variables. They are direct outcomes of institutional, economic, and cultural conditions, yet by transmitting and magnifying changes, they activate a chain of cascading effects that threaten the overall stability of the system. Therefore, addressing these variables is essential for controlling the process of land commodification, as any change in the primary drivers is immediately reflected in this quadrant and swiftly propagated throughout the system.

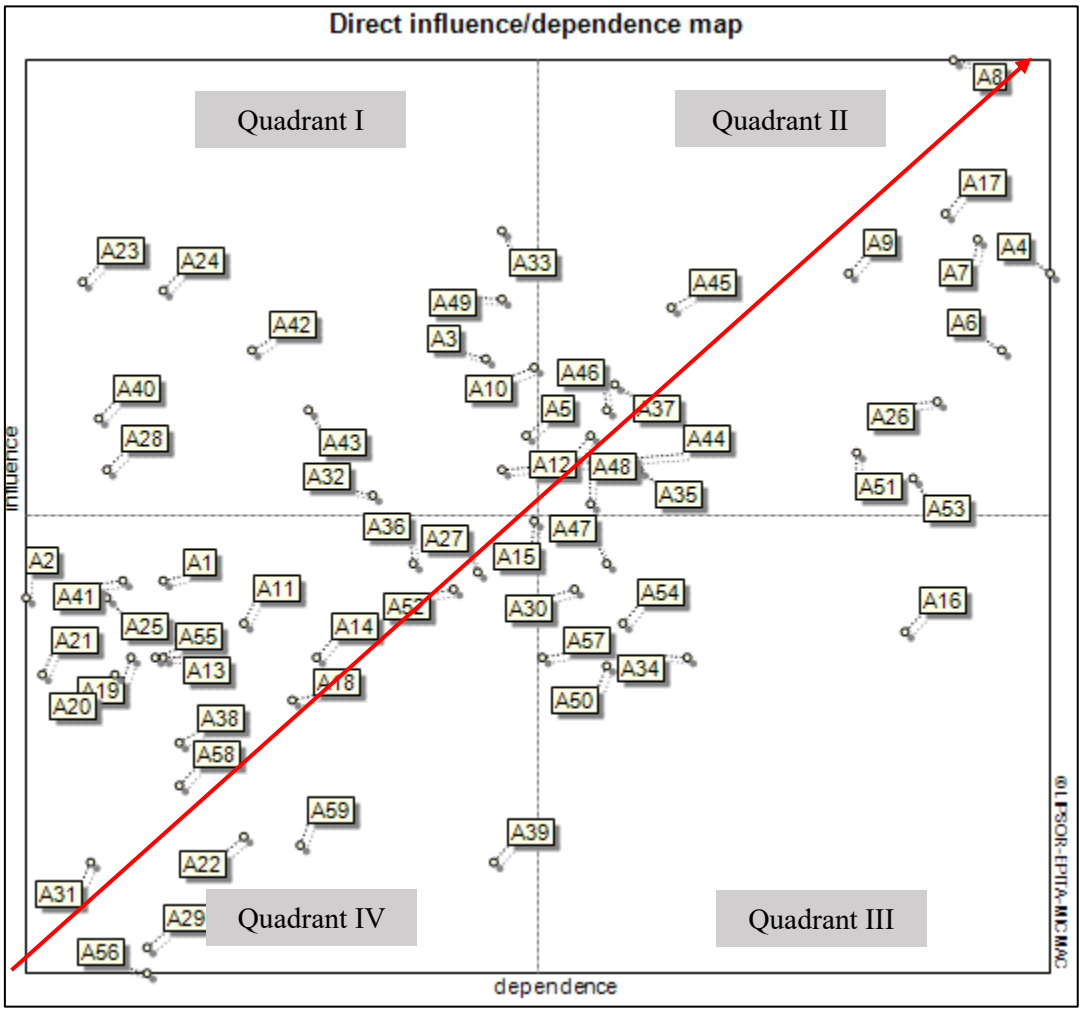


Figure 2. Direct Influence–Dependence Map of Variables Affecting Land Commodification in the Western Region of Guilan Province

4.3. Dependent Variables Analysis in Quadrant III (Low Influence / High Dependence)

Variables located in Quadrant III (Low Influence / High Dependence) represent the most vulnerable components of the system to environmental and structural changes. These variables function as outputs, consequences, or secondary effects of the actions of driving variables (upper left) and linkage variables (upper right). Therefore, changes in these variables do not stem from direct internal agency; rather, they emerge from the overarching legal, economic, institutional, and behavioral conditions that govern the system. As such, these variables serve as indicators reflecting the final condition of the land system.

Within this quadrant, variables such as shortage of marketable land (A39) exhibit high dependence on speculative demand, extensive land-use conversions, and increased speculative transactions. This shortage is a direct result of demand pressures generated by variables such as land brokerage, luxury-driven consumption, second-home demand, and the conversion of monetary assets into property. At the same time, this scarcity is also a symptom of ineffective policies and the absence of supervision over land-use change.

Similarly, the lack of economic justification for agricultural lands (A47) and the low income of the agricultural sector (A35) are strongly shaped by institutional and economic structures. Weak agricultural support policies, the absence of economic security in farming, extensive food imports, and national economic recession collectively diminish the economic attractiveness of agricultural land. This situation drives farmers toward land-use conversion or the sale of their land. This situation directly leads to another variable, namely the withdrawal of agricultural lands from the production cycle (A53). This variable is not an independent driver but rather a shared outcome of

upstream pressures such as rising land prices, the profitability of selling land for villa construction, weak support markets, and instability within the productive sector. For this reason, it is fully dependent on the system's pre-existing structural conditions.

The variable low land prices in rural areas (A54) is likewise dependent on broader economic and demographic trends. Rural outmigration, lack of employment opportunities, and low agricultural productivity are among the main factors contributing to the relatively low value of rural lands. However, this affordability becomes a stimulus for speculative investors and land brokers to enter these areas, eventually driving prices upward in later stages. Therefore, this variable is reactive and dependent rather than an independent influencing factor.

Widespread unemployment in rural areas (A50) represents another highly dependent variable, strongly shaped by economic recession, weaknesses in the agricultural sector, limited employment diversity, and reduced investment in rural regions. Unemployment not only reflects the broader macroeconomic structure but also contributes to an increased supply of agricultural land for sale, further accelerating the withdrawal of land from production.

In such a context, lack of motivation to work (A15) emerges as a socio-behavioral consequence. When the disparity between income derived from productive labor and the profits gained through land transactions becomes substantial, incentives for agricultural or productive work diminish. This variable reflects the unequal relationship between effort and financial return in a land-driven economy rather than functioning as an initiator of change.

Similarly, capital shifting toward investment commodities such as land (A16) is directly influenced by economic instability, the absence of secure financial markets, and rising land prices. This capital movement constitutes a reactive mechanism within the economy and cannot be considered a primary driving force. As soon as changes occur within linkage or driving variables, this variable fluctuates accordingly and further fuels speculative activity.

The relative increase in the price of marketable land (A51) is also a fully reactive variable. This price escalation is a direct outcome of demand pressures associated with villa construction, luxury-oriented consumption, land brokerage, and the shrinking supply of land available for sale. Therefore, rather than being a primary driver, this variable serves as a final indicator of disorder and instability within the land market.

The variable agricultural product imports (A57) also falls within the dependent category, as it is shaped by trade policies, declining domestic production capacity, the withdrawal of agricultural lands from production, and broader weaknesses in the agricultural economy. Increased imports further reduce incentives for investment in agriculture and indirectly intensify the process of land commodification.

Finally, windfall gains (A34) represent one of the most important dependent outcomes in the model. This variable emerges not only from rising land prices and speculative transactions but also reinforces other social–behavioral factors—such as luxury consumption, land brokerage, and the desire for second homes—once these abnormal profits materialize.

Overall, the variables in this quadrant exhibit the highest levels of dependence on structural and institutional conditions and primarily reflect the consequences of more powerful processes operating in other quadrants. They serve as the ultimate indicators of instability within the land system. Accordingly, any meaningful reform must begin with interventions targeting the driving and linkage variables, as only then can lasting changes within this dependent category be achieved.

4.4. Autonomous Variables Analysis in Quadrant IV (Low Influence / Low Dependence)

Based on the MICMAC analysis, a set of variables is located in the lower-left quadrant of the diagram (Figure 2), characterized by both low influence on other variables and low dependence on the overall system. These variables—referred to as *autonomous* or *peripheral variables*—function as environmental, marginal, or complementary factors. They neither play a direct role in shaping the process of land commodification nor are they significantly affected by the system's driving or linkage variables. In other words, they mostly reflect the stable, general, and dispersed characteristics of the system, and their removal would not alter the system's overall trajectory. One such variable is severe currency fluctuations (A1), which, despite its importance in the macroeconomic context, does not exert a direct or enduring influence on the structure of the land market. It may affect certain investment behaviors under specific

circumstances, but it lacks the systemic power to induce fundamental change. Similarly, low bank interest rates (A2) represent another macroeconomic factor whose influence on land investment decisions is limited and sporadic, and which does not significantly shape the dynamics of the northern land market. In the agricultural domain, variables such as the dominance of monoculture farming systems (A36), traditional methods and tools (A38), lack of appropriate tourism models in northern regions (A11), and weak management of tourism complexes (A58), while relevant to explaining production and tourism conditions, do not possess the capacity to produce systemic waves of influence. These factors operate more as practical and cultural background conditions and lack a direct structural connection to the core processes of land commodification. Geographical and urban characteristics also fall within this quadrant. Variables such as proximity to Tehran (A13), the touristic appeal of rural settlements (A14), capital accumulation in urban areas (A48), and urban housing deprivation and inadequate housing conditions (A59), although relevant at local or behavioral scales, lack the systemic influence or transmissive capacity needed to affect other key variables. They function primarily as environmental and cultural indicators that marginally shape land market conditions without serving as fundamental sources of change. From an environmental and demographic perspective, urban settlement pollution (A18), climate change impacts at the national scale (A19), and the presence and ease of access to water resources (A20) also belong to this quadrant. These variables represent general environmental characteristics whose effects on the land market are gradual and limited, and which are insufficient to redirect broader economic or social trajectories. Likewise, climate-induced migration and population influx (A52), as a reactive variable, is mainly shaped by market pressures, rising land prices, and investor behavior, and does not constitute an independent determinant. Peripheral cultural and social variables—such as media advertising (A55), inheritance laws (A22), lack of awareness regarding the consequences of land sales (A27), and policies promoting widespread car ownership (A29)—also fall within this quadrant. These variables play descriptive and low-impact roles and do not possess the capacity to alter major land market trends; instead, they serve as contextual reflections of system changes rather than origins of those changes. Finally, broad policy discourses on land and housing (A30) and the weak role of education systems (A31) represent low-power, peripheral factors with limited influence and dependence, operating merely as complementary variables within the system analysis. Taken together, the variables in this quadrant exhibit minimal influence on other components of the system, limited dependence, and low sensitivity to driving and linkage variables. They play secondary and peripheral roles in shaping the land commodification process, and their removal from the analytical model would have little effect on the system's explanatory capacity. Rather than functioning as transformative forces, these variables primarily reflect general environmental, cultural, and contextual conditions. Consequently, structural reforms and policy interventions should focus on the driving and linkage variables, where meaningful and sustainable changes in the trajectory of land commodification can be achieved. The MICMAC structural analysis demonstrates that the process of land commodification in the urban and rural areas of western Guilan results from the complex interaction of institutional, economic, social, and spatial factors. Within this system, a subset of variables with high influence and low dependence act as key driving forces that shape the overall trajectory of land commodification. These factors are neither the outcomes of other variables nor subject to direct control by them; rather, they possess the capacity to initiate broad, system-wide changes and to accelerate and intensify the commodification process.

In western Guilan, administrative and economic corruption (A3) plays a pivotal role by facilitating illegal transactions, enabling the circumvention of laws, and generating rent-seeking opportunities. This fosters a fertile environment for widespread land speculation, allowing short-term profit motives to dominate over the logic of production and resource sustainability. Similarly, the absence of deterrent regulations and effective monitoring instruments (A23, A43) creates regulatory gaps and inefficiencies in controlling transactions and construction activities. This transforms land into a low-risk, highly profitable asset for capital flows and brokerage networks. Institutional fragmentation and uncoordinated organizational governance (A28) further exacerbate the situation by dispersing

responsibilities, weakening oversight of land use, and increasing unauthorized land-use changes. Such administrative incoherence provides the institutional and managerial conditions necessary for expanding speculative activities and accelerating land commodification. The weakness of productive economic sectors and economic recession (A49, A33) also redirect capital flows toward land, as land becomes the safest and most profitable option for preserving wealth in times of economic instability and in the absence of secure markets (A32). This shift intensifies speculative demand. Additionally, cultural and functional factors such as aspirations for luxury-oriented lifestyles and the strong influence of tourism (A10, A40) stimulate demand for villas and high-end land uses. These factors direct investments and land-use conversions toward luxury development, positioning land not as a productive resource but as a symbol of social status and a tool for rapid financial gain. The absence of supportive agricultural policies (A24) further reduces the economic viability of agricultural land, encouraging its abandonment or conversion and integrating it into speculative markets. This not only accelerates land-use conversion but also, by undermining the resilience of the agricultural sector, strengthens speculative demand for land. These driving forces channel capital flows and speculative demand toward land, functioning as the primary engine of commodification. Even slight changes in these variables can generate ripple effects capable of shifting the entire system toward intensified speculation and short-term price escalation. The analysis of the land system in western Guilan underscores the necessity of reforming these structural drivers to achieve sustainable land governance; without addressing them, the dependent and unstable variables will continue to be influenced in a cascading manner, thereby accelerating the overall process of land commodification. Figure 3 illustrates the most influential and dominant variables shaping land commodification in western Guilan. According to this figure, the commodification trajectory in the region is primarily driven by the runaway escalation of housing and land prices (A7) and the economic recession embedded within the national socio-economic system (A33)—factors that have transformed land into a safe haven for capital. This process is further reinforced by brokerage and speculative activities (A4) and becomes institutionalized through the spread of capitalist mindsets across social classes (A8) and the intensifying desire for second homes or villas (A9). The instability of the agricultural sector (A45) and the weak performance of productive economic sectors (A49) diminish the attractiveness of land as a productive asset, prompting landowners to sell their agricultural lands. Meanwhile, the absence of deterrent regulations (A23) and the weakness of agricultural support policies (A24) act as institutional facilitators, enabling the conversion of purchased lands (A17) and sustaining this cycle in a systemic and self-reinforcing manner.

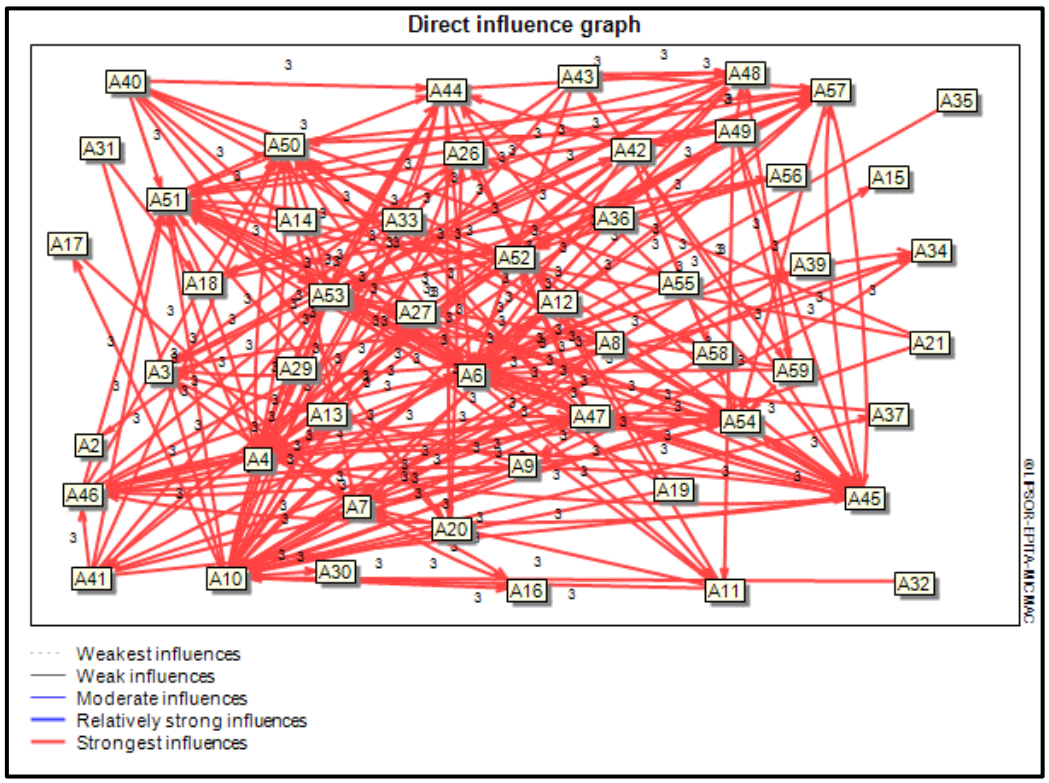


Figure 3. Variables with the Highest Influence on the Process of Land Commodification in the Western Region of Guilan Province

In addition to the direct relationships highlighted in Figure 3, the MICMAC analysis also emphasizes the indirect relationships among the variables (Figure 4), which reinforce the persistence and expansion of land commodification in the western region of Guilan through hidden and chain-like interactions. In fact, indirect effects represent intermediary influences that operate by altering the intensity of other factors and, consequently, affect the key variables. Figure 4 illustrates these relationships and identifies the dependent variables (the most affected ones), which are primarily influenced by direct driving forces such as rising housing prices (A7) and economic recession (A33), yet are further intensified through indirect pathways such as land brokerage (A4) and the spread of capitalist thinking (A8). Accordingly, the most affected variables in the process of land commodification in western Guilan include: the expansion of land brokerage in the region (A4), the conversion of cash into property and land (A6), rising housing and land prices (A7), the formation and reinforcement of capitalist capital-flow networks (A8), villa-oriented lifestyle and second-home culture (A9), land-use conversion of purchased plots (A17), profit-seeking behavior among sellers and buyers (A37), economic instability and insecurity in the agricultural sector (A45), the relative increase in the price of marketable land (A51), the withdrawal of agricultural lands from the production cycle (A53), and unregulated villa construction (A26), all of which represent the most significantly affected components of the commodification process.

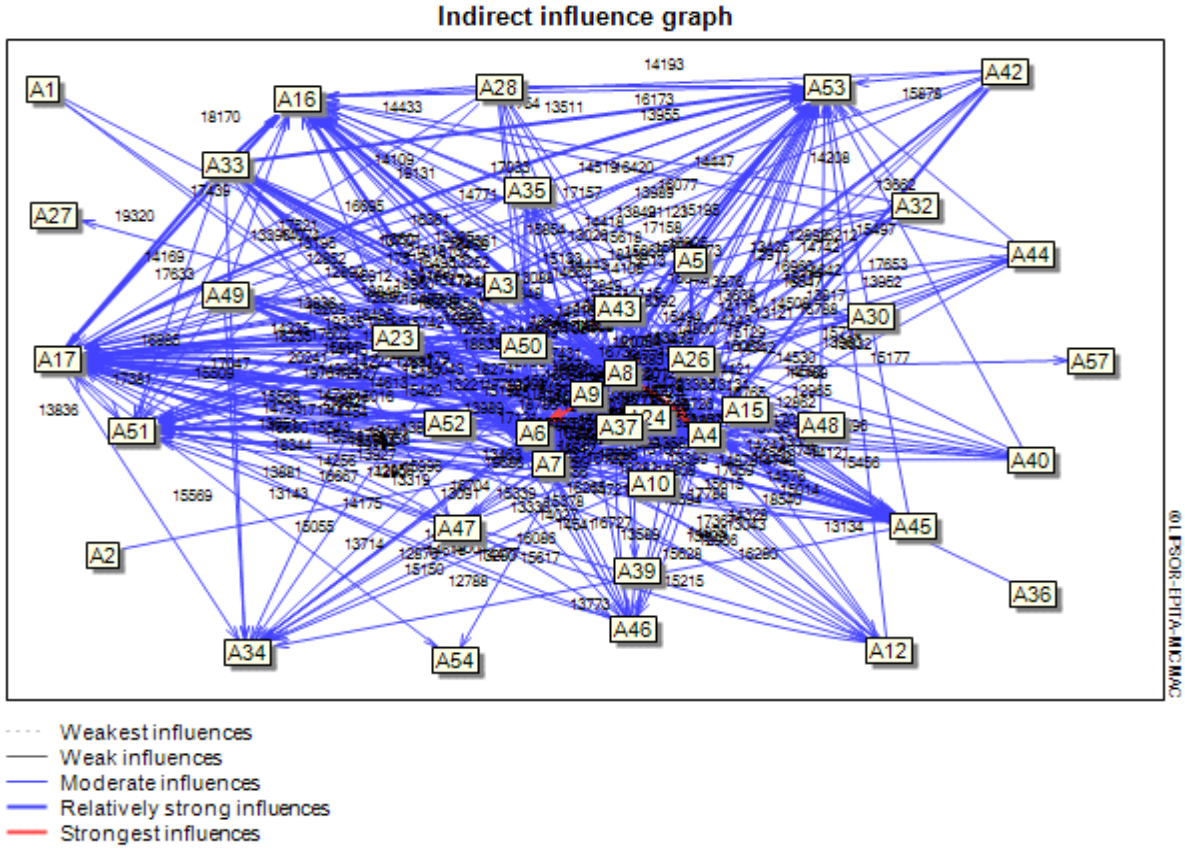


Figure 4. Variables Affected by the Process of Land Commodification in the Western Region of Guilan Province

The findings of the study indicate that the dominant mechanisms governing the land system in western Guilan result from the interaction of a complex set of economic, institutional, social, and spatial forces. The MICMAC-based structural analysis revealed that this system lacks stability and predictability, as the influential variables are widely dispersed around the bisector line of the MICMAC diagram. This condition suggests that the process of land commodification in the region is not driven by a single determinant; rather, it emerges from the synergistic interaction of multiple variables operating within an unstable and feedback-driven cycle. Among the 59 variables examined, a number of factors—due to their high influence and low dependence—serve as the primary and fundamental driving forces. These variables occupy a strategic position in which changes within them can alter the overall trajectory of land system dynamics, accelerating or slowing the commodification process. The most significant of these drivers include: the absence of deterrent regulations governing land transactions; the weakness or lack of governmental support policies for the agricultural and rural sectors; the strong role and demand for tourism in the region; the fragmented, uncoordinated functioning of land-related institutions; and weak oversight and inadequate enforcement of regulations within agencies responsible for agricultural lands and natural resources. Together, these variables form the core of institutional dysfunction, and if left unaddressed, they will continue to facilitate the expansion of speculative activities, intensify demand pressures, and accelerate land-use transformation. The absence of deterrent regulations and the inefficiency of the legal framework have created an environment in which there are no substantial barriers to land speculation, non-transparent transactions, or frequent shifts in ownership. At the same time, weak economic and support policies in the agricultural sector have reduced incentives for maintaining agricultural lands, pushing landowners toward selling their plots and converting them into capital assets. Tourism pressures and the continuous presence of external buyers artificially inflate land values and generate waves of secondary demand in the market. The fragmented, uncoordinated

functioning of land-governing institutions further enables legal loopholes, overlapping responsibilities, and gaps in oversight. Weak enforcement completes this cycle, effectively eliminating the possibility of controlling unregulated villa construction, widespread land-use conversion, and illegal interventions. As a result, these driving forces activate a set of dependent variables and produce visible consequences across the region. The expansion of land brokerage, unprecedented increases in housing and land prices, the spread of a villa-oriented lifestyle, the conversion of agricultural lands, the transformation of liquid capital into real estate, and the withdrawal of farmlands from the production cycle are only part of the outcomes emerging from this mechanism. These outcomes are not primary causes; rather, they represent *direct outputs* of a dysfunctional land governance structure. In reality, land commodification in western Guilan is not a "natural phenomenon" but a direct consequence of institutional weakness and the absence of coordinated policymaking—conditions that have turned rural and agricultural spaces into arenas for speculative and capital-driven competition.

Based on the conducted analyses, it can be concluded that controlling the process of land commodification in the region will only be achievable if interventions are directed toward the key driving forces. Any intervention implemented without accounting for the role of these core variables will merely shift the symptoms rather than address the fundamental sources of pressure within the land system. Therefore, effective policymaking must begin with correcting institutional deficiencies, strengthening enforcement mechanisms, redesigning deterrent regulations, revitalizing support policies in the agricultural sector, and ultimately steering the land system toward balance and sustainability by managing tourism demand and preventing fragmented institutional operations. This analysis shows that the identified driving forces are not only the primary determinants of land commodification but also act as central nodes within the system's network, meaning that the future trajectory of the land system in the region is directly tied to the orientation of these factors. Consequently, any intervention program aimed at controlling or reducing the pace of land commodification must necessarily begin with these leverage points and place strong emphasis on reforming land governance structures and improving oversight, control, and support mechanisms. Accordingly, effective policymaking must focus on strengthening deterrent regulations and monitoring systems, reducing administrative and economic corruption, enhancing institutional coordination and integrated land management, reinforcing productive economic sectors and secure markets, supporting agriculture, and managing both the cultural and economic dimensions of land demand. Reforming these driving forces can redirect capital flows and speculative land demand, thereby moderating the commodification trend. In contrast, neglecting these factors will further entrench land as an increasingly attractive vehicle for investment and short-term profit, undermining its productive and sustainable role. This analysis underscores that structural and institutional drivers in western Guilan fundamentally determine the trajectory of land governance, and addressing them is a necessary condition for sustainable management and for preventing the intensification of land speculation.

5. Discussion and Conclusion

The process of land commodification in the urban–rural areas of western Guilan, as a spatial–economic phenomenon, is not merely the outcome of local or micro-level interactions; rather, it reflects broader ideological, political, and economic forces operating at national and global scales. The MICMAC-based structural analysis, which examined 59 variables within a complex network of direct and indirect relationships, demonstrates that this process forms part of an unstable feedback cycle. In this cycle, institutional and economic drivers—such as legal voids, economic recession, and organizational incoherence—interact synergistically with cultural and social factors, including luxury-oriented lifestyles and the villa-centric culture, transforming land from a biological–productive resource into a capital asset. To gain a deeper understanding, however, this phenomenon must be interpreted through the lens of political economy, which views outcomes not as isolated events but as products of the interaction between dominant ideology, political power, and economic market structures. From a political economy perspective, land commodification in Iran—particularly in regions such as western Guilan, which face intense external demand due to natural amenities and proximity to major urban

centers—is a reflection of the penetration of neoliberal ideology, an ideology that, willingly or unwillingly, operates even within mixed economic systems such as Iran's. The central government, influenced by global political–economic doctrines, pursues policies that privilege market dynamics over socio-ecological priorities. For instance, monetary and exchange-rate policies—such as currency fluctuations and low interest rates—divert capital away from productive sectors and toward non-productive assets like land. This ideology, rooted in capitalist philosophy, transforms land into a low-risk commodity and, by weakening agricultural support systems, paves the way for the privatization of public resources. Within the dominant ideological framework of Iran—grounded in theological and jurisprudential principles—several contradictions emerge. On the one hand, concepts such as private property rights and inheritance law (which appear as peripheral factors in the MICMAC model) safeguard landowners' autonomy; on the other hand, the misalignment of these principles with spatial sustainability needs allows speculative behavior to override social justice. This ideology, by reinforcing private ownership, inadvertently fuels land commodification, with impacts extending from the micro level (such as the conversion of agricultural lands) to the macro level (such as national spatial inequality). In this context, the state, as the primary actor, functions as a facilitator of commodification through its fluctuating regulatory decisions over time—from monetary policies that intensify inflation to the fragmented management of local territorial units, which is often uncoordinated and sectoral. For example, in recent years, government economic strategies—such as promoting tourism without sustainable planning—have heightened speculative demand and transformed land into a site of capitalist competition. Simultaneously, the corporate sector and private actors—including companies, brokers, and interest groups—through market-driven practices, generate spatial tensions in which short-term profitability is prioritized over long-term sustainability. Influenced by global currents in political economy, these actors embed land within the capitalist value chain, producing cascading social effects (such as rural unemployment and migration) and environmental impacts (such as the removal of farmland from production). This macro-level analysis demonstrates that land commodification in western Guilan represents a localized manifestation of a global trend in which dominant economic–political ideologies push governing powers toward market-oriented frameworks, thereby reshaping geographical spaces. The MICMAC results—particularly the system instability reflected in the dispersion of variables around the bisector line—confirm that this phenomenon is not merely local; rather, it forms part of a feedback cycle that flows from the macro scale (national policies and global ideological forces) to the micro scale (local behaviors such as land brokerage and villa construction), and, in turn, feeds back into those higher-level structures. Ultimately, this process poses significant threats to food security, ecological balance, and social justice, highlighting the need for a paradigm shift from market-driven approaches toward sustainable and community-centered models. These findings align with the results of Wang et al. (2018) all of whom emphasize the decisive role of institutional and economic driving forces in land-use change. Furthermore, the outcomes of this study are consistent with the research by Azari et al. (2021) in Tehran, which identified consumerism, weak oversight, a non-productive economy, and the commercialization of land as the most influential drivers of land-use transformation. At the national level, the findings are also consistent with those of Kalali Moghaddam (2015), who shows that in rural areas, residential demand pressures, declining economic profitability in agriculture, and regulatory gaps are among the primary drivers of land-use conversion and the withdrawal of farmlands from production. Similarly, Darban-e-Astaneh (2016) emphasizes that shortcomings in agricultural support policies and the economic constraints of rural households create conditions that encourage land sales and the expansion of non-agricultural land uses. Furthermore, the study conducted by Azizi, Azizpour, and Riahi (2024) on land-use transformations in peri-urban and rural–urban settlements around Tehran demonstrates that weak institutional coordination, the absence of development-guiding policies, and the dominance of market logic over land have led to dispersed construction patterns and rapid land-use change—an outcome that closely mirrors the trajectory observed in western Guilan. Additionally, the pattern observed in western Guilan—characterized by the weakening of the agricultural sector and the expansion of speculative land uses—aligns with the

findings of Motiee Langroudi et al. (2012) in Bandar Anzali, which similarly highlight the erosion of productive land functions and the rise of market-driven land transformations.

5.1. Land-Use Governance Recommendations

5.1.1. Institutional and Legal Reforms

- Formulate and enforce clear, binding regulations governing land purchase and sale, with strict mechanisms to prevent informal or unregistered transactions.
- Reform inheritance laws, land-use regulations, and the legal boundaries of urban and rural settlements, ensuring precise clarification of property rights and ownership limits.
- Establish a targeted taxation system for land-related transactions—including capital gains tax, taxes on repeated transactions, and taxes on idle or vacant land.
- Accelerate the completion of an integrated cadastral system for agricultural lands and natural resources, and develop a comprehensive land information database.

5.1.2. Integrated Land Management

- Establish a Strategic Land Management System involving the agricultural extension organization, natural resources administration, land registration office, municipalities, and district governorates.
- Prevent organizational overlap and create a coordinated mechanism for monitoring and regulating land-use changes.
- Restrict the allocation of public and state-owned lands unless supported by rigorous technical assessments and oversight procedures.

5.1.3. Strengthening the Agricultural Sector and Local Economy

- Expand financial, insurance, and marketing support for farmers to reduce pressure for forced land sales.
- Provide economic incentives to maintain agricultural land use and enhance production efficiency.
- Develop agricultural value chains and promote agro-processing industries to increase local income.
- Diversify rural household income sources to reduce dependency on land sales.

5.1.4. Tourism Management and Construction Control

- Regulate regional tourism and shift from mass tourism toward sustainable, community-based tourism models.
- Implement strict regulations on construction by non-local actors, including withholding infrastructure services from developments that violate land-use regulations.
- Prevent the conversion of agricultural and orchard lands into villa and second-home developments.

5.1.5. Judicial–Protective and Oversight Measures

- Identifying and taking legal action against encroachers on national lands and natural resources, along with the public disclosure of violators' names.
- Implementing preventive strategies by the National Land Protection Council.
- Strengthening the role of the media and public awareness campaigns to combat land speculation and protect land resources.

In the final analysis, it can be stated that if institutional reforms, land market regulation, tourism management, and agricultural support are not implemented in a coordinated and integrated manner in the short term, the process of land commodification in western Guilan will intensify, likely resulting in consequences such as natural resource degradation, reduced agricultural production, social inequality, and environmental crises. However, if the proposed measures—based on the key driving forces identified in this study—are implemented, it will be possible to control destabilizing trends and steer regional development toward sustainable patterns aligned with the area's environmental capacities.

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Authors' contributions

The authors equally contributed to the preparation of this article.

Conflict of interest

The authors declare no conflict of interest.

References

1. Afrakhteh, H., & Rahimi Pour Sheikhani Nejad, M. A. (2020). Land use change in East Guilan and its consequences. *Journal of Sustainable Rural Development, 4*(2), 135–148. https://doi.org/10.32598/jsrd.4.2.3
2. Aspinall, R. J., & Hill, M. J. (Eds.). (2008). *Land use change: Science, policy and management* (1st ed.). CRC Press. https://doi.org/10.1201/9781420042979
3. Azari, M., Kozegarkaleji, L., Tavakolinia, J., & Heydari, A. (2021). Investigating the role of driving forces in land use changes and the spatial evolution of the city with a futurology approach (Case study: District 12 of Tehran). *Journal of Spatial Planning, 25*(2), 121–144. https://doi.org/20.1001.1.16059689.1400.25.2.6.3
4. Azizi, S., Azizpour, F., & Riahi, V. (2024). Analyzing land use changes in rural settlements in the metropolitan area of Tehran: The case study of Shahriar County. *Journal of Rural Research, 15*(3), 127–148. [In Persian] https://doi.org/10.22059/jrur.2024.368942.1892
5. Barlowe, R. (1986). *Land resource economics: The economics of real estate*.
6. Briassoulis, H. (2020). *Analysis of land use change: Theoretical and modeling approaches* (2nd ed.). WVU Research Repository.
7. Daly, H. E., & Cobb, J. B. (1991). *For the common good: Redirecting the economy toward community, the environment, and a sustainable future*. Beacon Press. (Reviewed in 1991, *Bulletin of Science, Technology & Society*, 11(1), 42–43). https://doi.org/10.1177/027046769101100137
8. Darban-e-Astaneh, A. (2016). An investigation of the factors affecting land use changing (Mahmoudabad Town–Iran). *Journal of Research and Rural Planning, 5*(1), 23–40. https://jrrp.um.ac.ir/article_28320.html
9. Dempsey, J. A., Plantinga, A. J., Kline, J. D., Lawler, J. J., Martinuzzi, S., Radeloff, V. C., & Bigelow, D. P. (2017). Effects of local land-use planning on development and disturbance in riparian areas. *Land Use Policy, 60*, 16–25. https://doi.org/10.1016/j.landusepol.2016.10.01 1
10. Fu, L., & Sanada, J. (2023). Spatial patterns and influencing factors of rural land commodification at township scale: A case study in Shijiazhuang City, North China. *Land, 12*(6), 1194. https://doi.org/10.3390/land12061194
11. Haila, A. (1991). Four types of investment in land and property. *International Journal of Urban and Regional Research*, 15(3), 343–365. https://doi.org/10.1111/j.1468-2427.1991.tb00643.x
12. Henderson, V. (2017). Medium-size cities. *Regional Science and Urban Economics, 27*(6), 583–612. https://doi.org/10.1016/S0166-0462(96)02169-2
13. Hersperger, A. M., Mueller, G., Knöpfel, M., Siegfried, A., & Kienast, F. (2018). Evaluating outcomes in planning: Indicators and reference values for Swiss landscapes. *Ecological Indicators, 77*, 96–104. https://doi.org/10.1016/j.ecolind.2017.02.004
14. Kalali Moghaddam, Z. (2015). An investigation of the factors affecting land use changing of agricultural lands (Case study: Rural Areas of Rasht County, Iran). *Journal of Research and Rural Planning, 4*(1), 113–132. https://doi.org/10.22067/jrrp.v4i9.33738
15. Kolhe, N. P., & Dhote, K. K. (2016). Rurban centres: The new dimension of urbanism. *Procedia Technology*, 24, 1699–1705. https://doi.org/10.1016/j.protcy.2016.05.198
16. Koomen, E., Stillwell, J., Bakema, A., & Scholten, H. (2007). *Modelling land-use change: Progress and applications*. Springer. https://doi.org/10.1007/978-1-4020-5648-2
17. Mahmoudzadeh, H. (2017). Application of artificial neural network in modeling and forecasting land use changes in Sardroud City (1984–2031). *Journal of Geography and Planning*, 21(60), 221–237. [In Persian]
18. Motiee langroudi, S. H., Rezvani, M. & Kateb Azgomi, Z. (2012). Economic effects of agricultural land use change on rural area (Dehestan of Licharaki Hasan-rood, Bandar Anzali). *Journal of Research and Rural Planning*, 1(1), 1-23. https://doi.org/10.22067/jrrp.v1i1.14983
19. Mousavi, M. N., & Yazdani Chaharborj, R. (2015). Land-use suitability analysis of Tabriz City growth with AHP-OWA model. *Geography and Urban Planning Research*, 3(3), 361–381. [In Persian] https://www.magiran.com/paper/1483846
20. Randall, A., & Castle, E. N. (1985). Land resources and land markets. In A. V. Kneese & J. L. Sweeney (Eds.), *Handbook of natural resource and energy economics* (Vol. 2, pp. 571–620). Elsevier.
21. Renne, R. R. (1958). *Land economics: Principles, problems, and policies in utilizing land resources*. Harper. http://hdl.handle.net/10973/28977

22. Rimal, B. (2011). Application of remote sensing and GIS: Land use/land cover change in Kathmandu Metropolitan City, Nepal. *Journal of Theoretical and Applied Information Technology*, 23, 80–86.
23. Shoja, F., Veisi Nabikandi, B., & Feizizadeh, B. (2025). Spatiotemporal analysis of land-use change in Tehran Province using novel geospatial technologies. *Journal of Geography and Cartography, 8*(2), 11630. [In Persian] https://doi.org/10.24294/jgc11630
24. Van Vliet, J., Bregt, A. K., Brown, D. G., van Delden, H., Heckbert, S., & Verburg, P. H. (2016). A review of current calibration and validation practices in land-change modeling. *Environmental Modelling & Software, 82*, 174–182. https://doi.org/10.1016/j.envsoft.2016.04.017
25. Walker, R. (2004). Theorizing land-cover and land-use change: The case of tropical deforestation. *International Regional Science Review*, 27(3), 247–270. https://doi.org/10.1177/0160017604266026
26. Wang, J., He, T., & Lin, Y. (2018). Changes in ecological, agricultural, and urban land space in China: Land policies and socio-economic drivers. *Habitat International, 71*, 1–13. https://doi.org/10.1016/j.habitatint.2017.10.010
27. Wu, F., Mo, C., & Dai, X. (2022). Analysis of the Driving Force of Land Use Change Based on Geographic Detection and Simulation of Future Land Use Scenarios. *Sustainability, 14*(9), 5254. https://doi.org/10.3390/su14095254
28. Zali, N., & Zamanipoor, M. (2015). Systematic analysis of strategic variables of regional development in scenario-based planning (Case: Mazandaran Province). *Town and Country Planning*, 7(1), 1–28. https://doi.org/10.22059/jtcp.2015.54779

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چکیده مبسوط

۱. مقدمه

فضا مفهومی چندبعدی است که ابعاد اجتماعی، اقتصادی، محیطی و اکولوژیک را در بر می‌گیرد؛ اما در دهه‌های اخیر، این فضا در مقیاس‌های خرد و کلان، به‌ویژه در کشورهای در حال توسعه، در معرض فرآیند کالایی‌شدن قرار گرفته است. در این فرآیند، اجزای مختلف فضا به مجموعه‌ای از کالاها و روابط کالایی تبدیل می‌شوند که هدف اصلی آن‌ها کسب سود و منفعت اقتصادی است. زمین به عنوان یکی از بنیادی‌ترین عناصر فضا، بیش از سایر ابعاد درگیر این روند شده است. در چنین چارچوبی، زمین از بستر تولید و زیست اجتماعی به کالایی قابل‌مبادله با ارزش اقتصادی صرف تبدیل شده است. در ایران، تحولات اقتصادی و اجتماعی سال‌های اخیر، به‌ویژه در مناطق شمالی، موجب شتاب فزاینده تغییر کاربری اراضی کشاورزی، جنگلی و مرتعی به کاربری‌های سرمایه‌ای و تفریحی مانند ویلاسازی و خانه‌های دوم شده است. این روند نه‌تنها اکوسیستم‌های طبیعی را تهدید می‌کند، بلکه پایداری اجتماعی و معیشت محلی را نیز با چالش مواجه ساخته است. پژوهش حاضر با تمرکز بر نواحی شهری–روستایی غرب استان گیلان، در پی شناسایی ویژگی‌ها و عوامل مؤثر بر کالایی‌شدن زمین، تحلیل پیامدهای فضایی و کالبدی آن، و ارائه راهکارهایی برای مدیریت و کنترل این فرآیند در راستای توسعه پایدار منطقه است.

۲. مبانی نظری تحقیق

در جوامع معاصر، زمین از یک عامل تولید سنتی به کالایی اقتصادی بدل شده است. این تغییر، حاصل برهم‌کنش نیروهای سیاسی، اقتصادی و اجتماعی است که نظریه‌های گوناگونی به تبیین آن پرداخته‌اند. از دیدگاه کارکردگرایی ساختاری، زمین عنصری پویا در نظام فضایی است که به‌تدریج کارکردهای تولیدی و مبادله‌ای می‌یابد. رویکرد اقتصاد سیاسی فضا، کالایی‌شدن زمین را پیامد جریان‌های قدرت، دولت و سرمایه، به‌ویژه تحت سلطه نئولیبرالیسم و جهانی‌شدن می‌داند. نئولیبرالیسم با کاستن از نقش دولت و تأکید بر بازار، زمین را به کالایی با ارزش مبادله‌ای تبدیل و نابرابری‌های فضایی را تشدید می‌کند. نظریه انتقادی سرمایه‌داری متأخر از منظر هاروی، شهری‌شدن را مدار انباشت سرمایه می‌داند که از طریق کالایی‌سازی فضا نابرابری‌های اجتماعی را افزایش می‌دهد. در نهایت، دیدگاه مارکسیستی و سرمایه‌داری مستغلات بر نقش دولت به‌عنوان بازوی سرمایه و بر سوداگری زمین تأکید دارد. حاصل این فرآیند، غلبه ارزش مبادله‌ای بر ارزش مصرفی و تبدیل زمین از عنصری طبیعی و اجتماعی به کالایی اقتصادی است.

۳. روش‌شناسی تحقیق

پژوهش حاضر از نظر هدف، کاربردی، و از نظر ماهیت، توصیفی-تحلیلی است و با رویکرد آمیخته (کمی و کیفی) انجام شده است. روش جمع‌آوری اطلاعات شامل مطالعات اسنادی و میدانی از جمله مصاحبه با خبرگان و توزیع پرسشنامه آنلاین بوده است. قلمرو جغرافیایی مطالعه شامل پهنه سکونتگاهی نواحی شهری-روستایی غرب استان گیلان است و واحد تحلیل، پهنه کاربری‌های رایج منطقه و کارشناسان و خبرگان محلی در نظر گرفته شده‌اند. برای انتخاب این گروه از روش نمونه‌گیری هدفمند استفاده شده است. برای تحلیل داده‌ها، ابتدا جهت تحلیل تغییرات کاربری اراضی در یک بازه زمانی ۳۰ ساله (۱۳۶۹ تا ۱۳۹۹)، از تصاویر ماهواره‌ای لندست استفاده گردید. برای افزایش دقت طبقه‌بندی، از شاخص پوشش گیاهی و مدل ارتفاعی زمین (DEM) ماهواره ALOSpalsar نیز بهره گرفته شد. در گام بعدی، جهت شناسایی عوامل پیشران و کلیدی مؤثر بر کالایی شدن زمین، پس از

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کدبندی متغیرها در نرم‌افزارSPSS ، از روش تحلیل اثرات متقاطع و نرم‌افزار MICMAC استفاده گردید. به طور کلی، تجزیه و تحلیل داده‌ها با استفاده از نرم‌افزارهایSPSS ، GISو MATLAB صورت پذیرفت.

۴. یافته‌های تحقیق

پژوهش نشـــان می‌دهد که زمین در غرب اســـتان گیلان از کارکرد اصـلی خود خارج شـده و به مثابه کالایی برای کسـب سـود، حفظ و انباشـــت ســـرمایه در قالب خانه‌های ویلایی، املاک زراعی و باغی، و طرح‌های گردشگری به صورت گسترده‌ای خرید و فروش می‌شود. این روند از دهه ۹۰ شـمسـی شـدت گرفته و در حال گسـترش اسـت و نظارت دقیقی بر آن وجود ندارد. بررسـی تصـاویر ماهواره‌ای در طول دوره سـی‌سـاله مورد مطالعه نشـان داد که بیشـترین شـدت تغییرات کاربری به سـمت کلاس‌های مسـکونی، مرتع و اراضـی بایر بوده اسـت، که این امر ناشی از حجم بالای تقاضا برای مسکن، حضور گردشگران به عنوان خانه‌های دوم و مهاجرت‌های روستا به شهر است. همچنین، تحلیل میک‌مک و نظرات کارشناسان نشان داد که کالایی‌شدن زمین در منطقه چندوجهی بوده و عوامل مدیریتی-نهادی، اقتصـــادی و سیاستگذاری از مهم‌ترین عوامل پیشران و کلیدی محسوب می‌شوند. ضـــعف نظارتی و اجرایی ســـازمان‌های متولی زمین و کشـــاورزی، جزیره‌ای عمل کردن این ســـازمان‌ها، نبود قوانین بازدارنده، ضـــعف سیاسـت‌های حمایتی دولت در حوزه کشـاورزی و روسـتاییان، پررنگ بودن نقش گردشگری و وجود سیاست‌گذاری‌های کلان ملی و قوانین غیرشـــفاف از جمله مهم‌ترین عوامل مؤثر بر این پدیده هســـتند. در نهایت، اثرات کالایی شـــدن زمین در این منطقه در قلب پیامدهای اقتصادی، زیست‌محیطی-کالبدی و اجتماعی-فرهنگی بروز کرده است.

۵. بحث و نتیجه‌گیری

تحلیل نتایج به وضـــوح تأیید می‌کند که زمین از کارکرد تولید خارج شـــده و به یک کالای ســـرمایه‌ای، قابل ذخیره و احتکار تبدیل شـــده است؛ این پدیده عمدتاً معلول ساختار نظام سرمایه‌داری نئولیبرالیسم و ســـودآوری ســـرمایه‌داری مســـتغلات، و همچنین ضـــعف قوانین و مدیریت ناکارا بوده که منجر به ناســـازگاری‌های فضـــایی و خروج سرمایه از مسیر تولید شده است. بررسی‌ها همچنین هشدار می‌دهد که در صـــورت تداوم روند کنونی، در آینده‌ای نزدیک کارکردهای کشـاورزی به نفع عملکرد خدمات گردشـگری و فعالیت‌های تفریحی تحول خواهند یافت. تنها راه جلوگیری از این روند، کنترل عوامل مؤثر بر کالایی شـــدن زمین از طریق ارائه راهکارهای مدیریتی و اجرایی است. مهم‌ترین راهکارهای پیشنهادی در سه حوزه اصلی قابل دسته‌بندی هستند: ۱. ایجاد بستر قانونی و نظارتی، شامل جلوگیری از خریـد و فروش زمین بـدون سـنـد، سـنـددار کردن املاک (کاداسـتر/حدنگاری)، تشـکیل بانک زمین، و تدوین قوانین بازدارنده سـخت‌گیرانه در ارتباط با کاربری زمین؛ ۲. مدیریت فضـایی از طریق راه‌اندازی ســـامانه یکپارچه تعیین کاربری زمین، عدم ارائه خدمات زیرساختی به سازه‌های خارج از بافت روستا، و کنترل دقیق و مستمر بر طرح‌های توسعه روستایی؛ و ۳. کنترل اقتصادی و اجتماعی شامل ایجاد محدودیت برای خریداران غیربومی از طریق قانون، تنوع بخشی به منابع درآمدی روسـتاییان و قیمت‌گذاری و تعیین نرخ برای اراضـی کشـاورزی. در نهایت، پیشـــنهاد می‌شـــود در تحقیقات آینده، نقش نهادها و ســـازمان‌های دولتی و تأثیر قوانین فرادســـت و ایدئولوژی حاکمیت بر روند کالایی شدن زمین به صورت عمیق‌تری مورد بررسی قرار گیرد.

کلیدواژه‌ها: کالایی‌شدن زمین، عوامل کلیدی، معاملات زمین، تحلیلMICMAC ، پیوند آب–غذا–انرژی.

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Original Article

Explaining the Challenges of Establishing Women's Cooperatives in Rural Areas (Case Study: Dizajabad Rural, Zanjan County)

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Abstract

Purpose- Rural women's cooperatives play a crucial role in improving livelihoods, fostering economic independence, and empowering women in rural communities. However; these cooperatives face multiple challenges that can affect their performance and sustainability. Accordingly, this study seeks to assess the feasibility of establishing a women's cooperative and to analyze the challenges facing rural women's cooperatives in Dizajabad rural.

Design/methodology/approach- This research is applied in purpose and employs both quantitative and qualitative paradigms. The statistical population in the quantitative section consisted of women in Dizajabad rural. In contrast, the qualitative section included women participating in business training courses and experts from the Zanjan Province Cooperative Office. The sample size in the quantitative part was determined as 292 using Cochran's formula. Data collection tools included a researcher-made questionnaire and interviews, with the questionnaire's reliability confirmed by a Cronbach's alpha of 0.78. Data analysis employed a one-sample t-test for the quantitative section and grounded theory for the qualitative section. Qualitative data were gathered through direct observation and semi-structured interviews, then analysed using open, axial, and selective coding.

Findings- Results of the one-sample t-test indicated that socio-cultural factors provide favorable conditions for the formation of women's cooperatives, while economic indicators were not evaluated as favorable. Furthermore, qualitative findings revealed 18 initial concepts from interviews regarding challenges to cooperative formation, categorised into four dimensions: policy-making, social, economic, and individual. Key barriers included weak legislation, poor planning, lack of investment and financial support, weak local management, insufficient supervision, lack of coordination among institutions, existence of parallel organisations, inadequate facilities, insecurity in the business environment, low risk-taking, weak individual capabilities, limited technical knowledge, poor market awareness, lack of education and training, and delinquency.

Originality/Value- Rural women's cooperatives, by creating employment opportunities, enhancing specialised skills, and strengthening individual and collective capacities, play a significant role in the economic and social empowerment of women. By increasing women's active participation in production and decision-making processes, these institutions contribute to improved household livelihoods, sustainable development, and the strengthening of human capital in rural communities.

Keywords: Rural development, Women's participation, Cooperative, Zanjan Province.

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1. Introduction

Today, many theorists and social science scholars believe that achieving sustainable development is not possible without the active participation of women in political, social, and economic spheres (Monfared, 2016). For sustainable development to be realised, women must be fully included in decision-making and policy processes (Montanari et al., 2023). Social development, acceleration of economic growth, and the achievement of social justice can only be accomplished when women are recognised as active and productive forces in society. Women, particularly in developing countries, are considered the most vulnerable social group. They constitute nearly half of the active labor force in global agricultural and rural sectors and produce half of the outputs in these areas. Clearly, if productive infrastructures are strengthened, women can increase their efficiency, expand their production, and empower both themselves and their communities (Ranjbari et al., 2024).

Women's presence in society and their participation in economic and social activities have become one of the most important indicators of human development, as women's economic activities are directly linked to poverty reduction and improved social welfare (Aryana et al., 2020). The prosperity and advancement of society also depend on the shared roles of women and men in social arenas (Azimi et al., 2022). If women are given equal opportunities as men and their abilities and competencies are properly utilised, they too can achieve personal and social growth. Therefore, it is necessary to empower women in various fields so that they can play a more visible role in society (Jackson, 2010). In this regard, cooperatives have been recognised as a promising pathway for poverty reduction, enhancement of human development, women's empowerment, and the reduction of gender inequality (Kahamba & Xiuli, 2021).

Cooperatives have had a significant impact on rural development, characterised by improved access to basic facilities and services that enhance the living conditions of rural populations, especially women. These achievements include job creation, the development of rural markets, increased local incomes, and improved access to social services. Various studies have shown that women's participation in cooperatives not only improves their economic status but also positively influences human development indicators (Dash et al., 2020). Thus, these institutions can provide a foundation for strengthening women's economic and social independence and enhancing their participation in production and supply processes (Kahamba & Xu, 2021). Despite these advantages and capacities, rural women's cooperatives face numerous challenges.

Social and cultural factors within families and communities often limit women's ability to benefit from cooperatives and even affect their capacity to organise them (Dash et al., 2020). Lack of education, managerial skills, socio-economic norms, household responsibilities, cultural barriers, and patriarchal dominance are among the most significant obstacles to women's participation in cooperatives (Azad, 2020). In addition, the absence of supportive regulations specifically for women in cooperative laws, the lack of national organisations to promote women's participation, and limited financial resources have hindered the growth of women's cooperative movements. Traditions, religious beliefs, and discriminatory attitudes toward women also restrict their presence in cooperatives (Chikwendu, 1997). Furthermore, family and community resistance to women's membership, low literacy rates, financial constraints, and lack of access to specialised training all impede the expansion of women's participation. Many women's cooperatives remain confined to small-scale financial activities, and in some cases, even consider men's involvement essential for advancing their operations (Nair & Moolakkaltu, 2015).

Among other significant barriers are financial and institutional challenges that restrict women's access to essential resources. Many women, due a lack of collateral and structural discrimination in the financial sector, are unable to obtain bank loans. Technological and environmental limitations also hinder the progress of cooperatives. Limited access to modern production and management technologies reduces competitiveness and operational efficiency. The issue of value-added is another fundamental challenge: many women's cooperatives are unable to enhance the value of their products, which in turn reduces profitability. Finally, the absence of formal recognition and institutional support diminishes the effectiveness of women's cooperatives. Many of these cooperatives

lack official registration, which restricts their access to financial assistance, resources, and technical support. Unfair trade practices also lower women's wages, weakening their motivation and long-term commitment (Ibourk & Hninou, 2025).

In Zanjan County, the formation and development of these cooperatives in recent years has created valuable opportunities for women's more active participation in productive and entrepreneurial activities. Dizajabad rural, due to its proximity to the city of Zanjan, its considerable population, and its productive capacities in handicrafts and service activities, is considered one of the regions with suitable potential for the growth of women's cooperatives. The role of women's cooperatives in this village can be diverse and multifaceted. Beyond their primary functions, since women tend to allocate a larger share of their income to family education and healthcare compared to men, these cooperatives can contribute to improving family and community health, education, and welfare.

Despite the significant decline in female employment over the past decade in Dizajabad, women have maintained a strong and capable presence in traditional and rural culture, particularly through group and cooperative activities. Nevertheless, women's cooperatives in Dizajabad continue to face a range of structural, economic, social, and managerial challenges that may affect the sustainability of their activities and their long-term success. Limited access to capital, marketing and sales difficulties, weak production infrastructure, and lack of necessary training are among the factors that hinder the progress of these cooperatives.

A thorough examination of these challenges not only helps to understand the current situation better but also provides a basis for offering practical and implementable solutions to strengthen women's role in rural development, enhance economic empowerment, and increase the efficiency of cooperatives. This study aims to explore and assess the feasibility of establishing women's cooperatives in rural areas, to harness their potential for achieving sustainable rural development goals, and to identify and analyse the challenges facing women's cooperatives in Dizajabad rural. Accordingly, this research seeks to answer the following questions:

1. What conditions exist for the formation of women's cooperatives in Dizajabad rural?
2. What are the main dimensions of the challenges facing women's cooperatives in Dizajabad?
3. What practical strategies can enhance the conditions for establishing women's cooperatives in Dizajabad rural?

Several studies have examined the barriers affecting the development of rural women's cooperatives. Ajili, et al. (2009), in their study of women's cooperatives in Khuzestan, reported that the most significant obstacle from the women's perspective was their physical weakness compared to men, while the most influential factor in increasing women's participation was counselling and the development of human relations. Their analysis also revealed a significant relationship between work experience, managerial characteristics, literacy level, and financial capital with advancement in cooperatives.

Fadaibushehri (2013) identified some of the major problems of women's cooperatives as nominal membership of women, shortage of skilled and motivated female members, poor management of cooperative companies, and limited access of women to emphasised and vocational training.

Firouzabadi et al. (2018) argued that the main barriers to cooperative development stem from weaknesses in the managing director and founding board. According to Monfared (2016), women's problems in cooperatives include family, cultural, and social issues; administrative challenges; and financial and economic difficulties. From the women's perspective, cumbersome regulations and bureaucratic procedures hinder their participation, while managers believe that society's unfamiliarity—particularly women's unfamiliarity—with cooperative culture is the main obstacle. Managers emphasized family, cultural, and social problems, whereas women members highlighted administrative issues as more critical.

Movahedi & AliTavakoli (2017) demonstrated that among various barriers, economic obstacles had the greatest importance and impact on pooling small-scale capital in rural women's cooperatives. Other barriers included managerial, geographical, social, educational, familial, and individual factors.

Izadi et al. (2018) found that women's challenges included intra-family restrictions, concerns about household responsibilities, weak performance of supportive organisations, financial problems, gender discrimination, physical weakness,

uncertainty about the future, and poor communication skills.

Ahmadpour et al. (2019) concluded that social capital has a significant effect on the entrepreneurial behavior of members of rural women's cooperatives. Strengthening social capital through connections between cooperatives and other active rural institutions, continuous meetings to ensure transparency of cooperative activities, and raising women's awareness in identifying opportunities and making appropriate decisions through workshops and practical entrepreneurship training can foster and expand entrepreneurial behaviours.

Roomi & Parrott (2008), in their study on barriers to the development of women entrepreneurs in Pakistan, found that lack of access to capital, land, business premises, information technology, education, the inherent attitudes of a patriarchal society, lack of family encouragement, and shortage of social capital were the most significant obstacles to women's entrepreneurial advancement. Given these financial challenges, women can enter markets formally by creating associations and participating collectively.

Xuchu et al. (2011) argued that cooperatives, by mobilising limited resources, providing credit, knowledge, and appropriate technology to members in the areas of new production and marketing methods, can transform women into successful entrepreneurs. Raniga (2017) and Martí, Izquierdo & Lajara-Camilleri (2015) emphasized that financial issues and company capital are among the most critical challenges facing cooperatives. Similarly, Meier zu Selhausen (2016) identified access to capital and product markets as major obstacles for women's cooperatives.

Dash et al. (2020) showed that despite the many advantages of cooperatives for women in India, these benefits are neither sustainable nor widespread, as a combination of social, cultural, and institutional factors hinders effective participation. Key barriers include lack of education and managerial skills, heavy household responsibilities, patriarchal dominance, absence of supportive laws for women, and limited financial resources. In addition, traditions, religious beliefs, and discriminatory attitudes restrict women's involvement, with families and communities often resisting their membership. As a result, many women's cooperatives remain confined to small-scale financial activities and, in some cases, rely on men's participation to advance their operations. Furthermore, restrictions on property rights and interference by male politicians for factional purposes have further weakened the performance of these cooperatives.

Wafae & Sara (2021), in their study on rural women's cooperatives in Morocco, highlighted that despite growth and legal and institutional support, these cooperatives face serious challenges in rural areas. The main obstacles include illiteracy and low education levels, lack of self-confidence, governance and management problems, financial constraints, absence of project support, and difficulties in marketing and engaging with the surrounding environment. These factors have confined rural women to small, low-impact projects, leaving them vulnerable.

Msosa (2022) found that women's cooperatives face challenges in accessing markets due to lack of market information, transportation problems, structural and cultural limitations, and absence of necessary skills.

Mashapure et al. (2022) argued that the main barriers to women's entrepreneurship in Zimbabwe include insufficient government support programs, patriarchal social structures, lack of entrepreneurial knowledge for business management, insecurity of collateral for accessing funds, and time constraints or role conflicts in balancing family pressures with business responsibilities. Their study recommended appropriate entrepreneurial education, supportive government programs, and access to networking opportunities to sustain women's entrepreneurship in Zimbabwe.

Karaturhan et al. (2024), in a field study of rural cooperatives, found that despite the positive impact of cooperatives on women members' life satisfaction and income, barriers such as lack of capital, weak technical and managerial training, and insufficient marketing mechanisms hinder the sustainable development of these cooperatives.

Hanafi et al. (2024) showed that women's organisations and cooperatives in rural areas of Tunisia face challenges similar to those observed globally, including lack of financial resources, weak access to valuable markets, cultural barriers, and limited training. In some cases, however, targeted international support or regional networking has helped mitigate these negative effects.

Ibourk & Hninou (2025) concluded that the development of rural women's agricultural cooperatives is constrained by multiple challenges, including financial and institutional problems,

value-added limitations, restricted market access and lack of market knowledge, inadequate basic infrastructure, internal governance issues such as ineffective decision-making and internal conflicts, socio-cultural barriers, and insufficient institutional support. These factors collectively limit the growth and effectiveness of such cooperatives.

2. Research Theoretical Literature

2.1 Rural Women's Cooperatives

Gender inequality in labor force participation is a global phenomenon that persists in various forms. Strengthening women's ability to participate in the labor market is recognized as one of the key strategies for combating global poverty and promoting regional economic sustainability, and it can lead to the realisation of gender equality in society. In this regard, the cooperative movement at the global level has been introduced as a turning point in people's economic development. This movement first began in the early nineteenth century in Britain and today has achieved remarkable successes in many developing countries. At present, more than 700 million people in 90 countries are members of cooperative institutions (Dash et al., 2020).

The term *cooperation* was first introduced by Robert Owen (1771–1858) as the opposite of *competition*. Linguistically, cooperation means "mutual assistance and support." In other words, voluntary and organised collective work is referred to as cooperation. A cooperative is an autonomous institution based on voluntary union to meet common economic, social, and cultural needs and aspirations through joint ownership and democratic control (Imani et al., 2017).

Cooperatives are defined as "self-governing associations of individuals who voluntarily unite to meet their common economic, social, and cultural needs through a jointly owned and democratically controlled enterprise" (Kahamba & Xiuli, 2021). The International Cooperative Alliance (ICA) defines a cooperative as "an independent association of persons who voluntarily unite to meet their common economic, social, and cultural needs and aspirations through a jointly owned and democratically controlled enterprise" (Pourbafrani, 2016).

Cooperatives bring together individuals with shared goals who voluntarily form a democratic enterprise. Members contribute fairly to the investment, risk, and benefits of activities. Their core values include self-help, responsibility, democracy, equality, equity, and solidarity. This structure enhances members' participation in decision-making. From an economic perspective, cooperatives improve members' income and bargaining power. Socially, their objectives go beyond financial goals: they provide unique opportunities for education, skill-building, and active participation in meetings, committees, and leadership positions (Tennakoon et al., 2024).

The expansion and development of productive and dynamic activities are key objectives of cooperatives. Through investment, cooperatives generate specific economic and social activities. It can be stated that cooperative companies and institutions usually distribute their income proportionally to the value of resources jointly contributed by members. Net resources and income are allocated fairly among all members, ensuring that no member receives a higher share than others (Stovkstd, 2002).

A group believes that participation in cooperatives provides the necessary foundation for achieving personal growth and enhancing members' intellectual and mental abilities, and it leads to their active involvement in group activities (Fallsolayman et al., 2013). Evidence shows that efficient cooperatives possess both economic and social potential to empower their members. At the same time, through fair and inclusive business structures that are more resilient to shocks, they create long-term employment opportunities (Bharti, 2021).

Nevertheless, many approaches to cooperative development—particularly rural cooperatives—are often simplistic, superficial, and lack deep philosophical foundations. In other words, many of the policies proposed regarding cooperatives lack a clear theoretical foundation and philosophical framework; therefore, it is not appropriate to evaluate and examine the process of cooperative development without deep analysis (Apthotp, 1982).

Cooperatives, including rural women's cooperatives, exert influence in multiple areas: pursuing diverse economic, social, and ecological goals; serving as effective tools for collaboration and community participation; minimising environmental harm; creating favourable conditions for investment; reducing inequality; strengthening marginalised groups; promoting economic

democracy; and fostering strong connections with local communities. Women's cooperatives, as a form of social entrepreneurship, provide a tangible response to encourage women's economic and social empowerment. They represent a business model that enables women to collectively organise, pool resources, and market their products, while benefiting from mutual support and knowledge sharing (Merroun, 2025).

2.2 The Necessity of Rural Women's Cooperatives

The empowerment of women yields remarkable benefits for society as a whole. When women are given opportunities to participate in economic activities, they not only contribute significantly to national development but also become more capable, self-confident, and influential members of society. As Melinda Gates notes: *"Women's groups are essential for each of us and for society, because progress depends on inclusion, and inclusion begins with women"* (Msosa, 2022). Thus, women's participation in the public sphere fosters success, development, and the realisation of both individual and collective capacities.

Rural women constitute a substantial share of the labor force in local economies and agriculture, contributing to agricultural production, handicrafts, service work, and other community-based activities (Theeuwen et al., 2021). It is obvious that if production infrastructures are strengthened, women can achieve greater productivity, increase their output, and empower both themselves and the community. Rural women bear the greatest burden of work. Economic empowerment of women is essential for the sustainable reduction of poverty, and this requires the cooperation of the agricultural private sector and development institutions to effectively integrate women into markets as workers, producers, distributors, and consumers (Ranjbari et al., 2024). Women are often considered a disadvantaged group, as they lag behind men in economic, social, and political domains and are more exposed to adverse conditions such as violence, exploitation, and poverty. Challenges such as low income and limited access to education and healthcare can be addressed through cooperatives. As organisations focusing on women entrepreneurs, cooperatives enable the continuity of women's economic activities (Dalkiran, 2017).

Cooperatives provide a collective platform for women to engage in economic activities, pool resources, jointly manage risks, and access markets that would otherwise remain inaccessible. This collective approach helps women achieve financial independence and improve their economic standing. In many areas, women face serious barriers in accessing resources such as credit, land, technology, and education. Cooperatives can facilitate better access to these resources and provide the tools necessary for success in business or agricultural activities. Individually, women often have limited influence in markets dominated by large actors. However, through cooperative participation, they can strengthen their bargaining power, secure fairer prices for their products, and achieve more favourable conditions in dealings with suppliers and buyers (Tyagi & Jaryal, 2024).

For greater effectiveness, cooperatives must be owned and managed by women, or women must play an active role in their governance and decision-making processes (Msosa, 2022). Cooperatives create a supportive community that enables women to share knowledge, skills, and experiences. This network helps them overcome challenges and barriers while strengthening solidarity and mutual assistance. In many societies, women face structural discrimination that limits their opportunities. Cooperatives allow women to challenge these barriers collectively, claim their rights, gain greater self-confidence, and participate more actively in economic and social spheres. Membership in cooperatives provides women with opportunities to engage in decision-making processes that affect their work and livelihoods. This democratic structure empowers them to take on leadership roles and to have influence in decisions that affect their lives and communities (Tyagi & Jaryal, 2024). Thus, cooperatives create a safe environment where women can build confidence, identify challenges, make decisions, and manage risks (Tennakoon et al., 2024).

Many cooperatives focus on sustainable practices and long-term goals, which can lead to more stable and resilient communities. Women's participation in these cooperatives not only places them on the path toward sustainable development but also allows them to benefit from its outcomes. Cooperatives can amplify women's voices in advocacy and policy change. As a collective, they gain greater capacity to influence local, regional, and national policies. Overall, cooperatives serve as powerful tools to overcome economic, social, and cultural barriers, enabling women to pursue shared goals, improve their livelihoods, and greater empowerment and equality (Tyagi & Jaryal, 2024).

Figure 1 presents a summary of the challenges facing rural women's cooperatives in the form of a conceptual model. The model, designed based a literature review and previous findings, illustrates that these challenges can be explained through interconnected categories. Weak legislation and lack of financial support are

identified as structural factors at the macro level, which lead to managerial and planning limitations at the local level. These structural weaknesses directly affect women's individual and social capabilities, reducing their social and economic participation. Furthermore, lack of education and awareness, combined with inadequate infrastructure, reinforces weak capabilities and intensifies insecurity in the business environment. Ultimately, these factors result in social consequences such as reduced local cohesion and increased social vulnerabilities. Thus, the conceptual model demonstrates the causal relationships among the identified categories as a chain of interrelated factors.

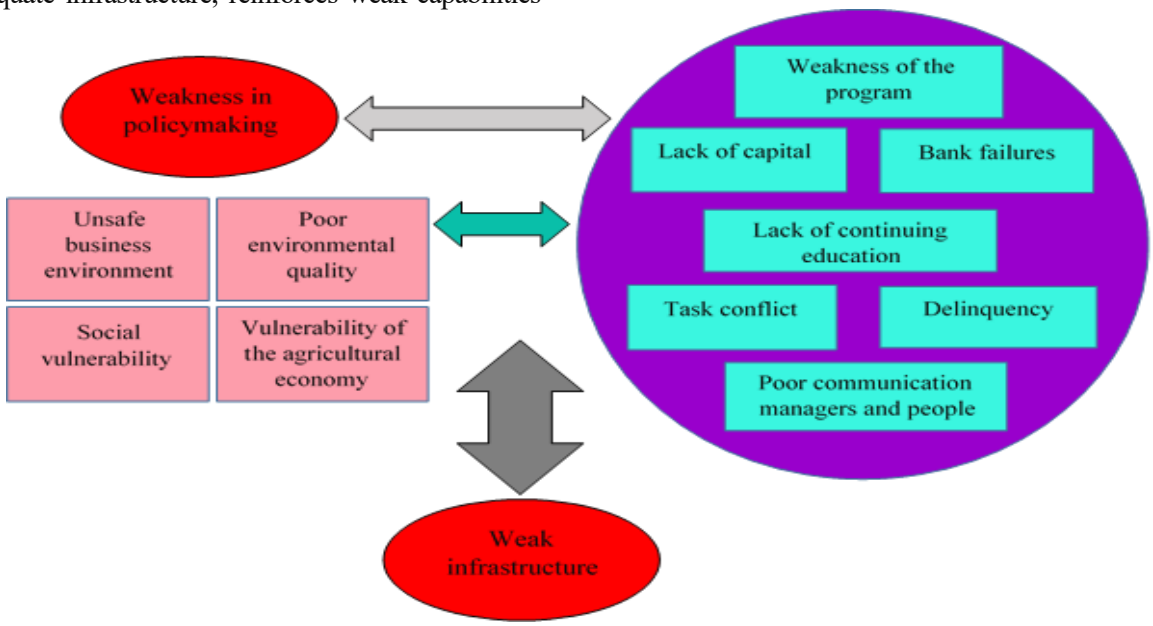


Figure 1. Conceptual Model of Research Challenges

3. Research Methodology

3.1 Geographical Scope of the Research

Dizajabad rural is located at 48°36′ E longitude and 36°38′ N latitude, with an elevation of 1,680 meters above sea level. Politically, the village belongs to the Benab rural district, in the central district of Zanjan County (Figure 2). The distance from the village to the center of the rural district (Benab) is 12 kilometers, and to the district and county center (Zanjan city) is 9 kilometers. According to the 2016 national census (1395 in the Iranian calendar), the village had a population of 4,157 people in 1,294 households. Of the population within the working-age group, 49 percent are women, amounting to 1,204 individuals. However, this female working-age population faces a 93 percent unemployment rate.

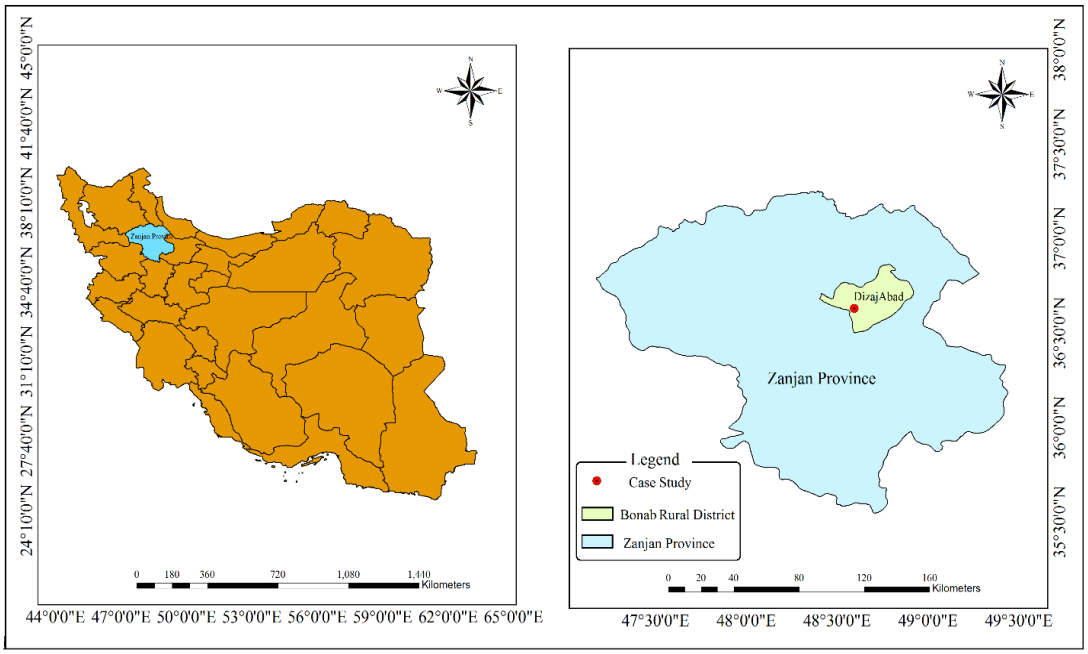


Figure 2. The geographical location of the sample villages in the study area

3.2 Research Method

The present study is applied in purpose and belongs to the group of quantitative and qualitative research paradigms. The statistical population in the quantitative section consisted of women aged 18 to 60 in Dizajabad rural, totaling 1,204 women according to the local health center records. Since all villages had health centers, households were selected using the systematic sampling method. In villages where household heads were listed in sequence or by number (as recorded in the health center), those numbers were treated as codes, and systematic sampling was applied. The required sample size for completing the questionnaire was calculated as 292 women using Cochran's formula. Data collection was carried out between spring and summer 2023. Dizajabad was chosen as the case study due to its relatively large population, women's economic activities, and proximity to the city center. These features made the challenges of women in this village both frequent and observable, while also representative of rural women's challenges in the surrounding areas of Zanjan. Thus, the study aligns directly with its research question of identifying the challenges of rural women's cooperatives. For data collection, a researcher-made questionnaire and interviews were used, designed in two sections according to the study's objectives and variables. The first section assessed the individual characteristics of respondents through descriptive statistics. The second section examined the feasibility dimensions (socio-cultural and economic) using a five-point Likert scale, analysed through inferential statistics. In inferential analysis, the aim was to generalise findings from the sample to the larger population. A one-sample t-test was employed. To ensure the questionnaire's reliability, after confirming its validity, data were processed in SPSS software, and Cronbach's alpha was calculated at 0.78, indicating acceptable reliability.

In the qualitative section, the study employed Grounded Theory, a method widely used in qualitative research. Unlike quantitative studies, qualitative research is unique and not statistically generalizable (Karimi et al., 2014). Data were collected through semi-structured (in-depth) interviews, guided by a checklist of questions and topics. In addition, direct observation, field notes, group discussions, photography, filming, and library documents were used as complementary methods. The qualitative sample included 28 women participating in cooperative training classes in Dizajabad and 15 experts from the Zanjan Province Cooperative Office. These two groups were selected to capture both the grassroots perspective of rural women—who directly experience training, cooperative formation, and economic, social, policy, and personal challenges—and the structural perspective of experts familiar with policies, laws, registration processes, institutional limitations, systemic weaknesses, and cooperative experiences in the province.

Sampling began with purposive sampling and continued with theoretical sampling, whereby knowledgeable individuals were selected using the snowball technique. Data were collected based on grounded theory criteria until theoretical saturation was achieved, as confirmed by women's and experts' insights. The grounded theory process began with defining the research question, followed by data analysis. The main technique for data analysis was coding, a systematic procedure developed by Glaser and Strauss (1968), widely accepted among qualitative researchers (Zobeidi, et al., 2021). In this coding method, a three-stage process is carried out:

Open coding, axial coding, and selective coding. In open coding, conceptualisation occurs; field notes and all written materials collected from interviews are reread, and the main sentences are extracted. Then, phrases and sentences with similar meanings are merged to form subcategories, such as lack of capital, inadequate marketing, women's distrust of cooperatives, lack of financial transparency, and similar issues. In axial coding, the subcategories obtained from the previous stage are grouped into comprehensive categories. The result of this stage is the identification of four main categories explaining the dimensions of challenges facing women's cooperatives in Dizajabad: social challenges including social trust, cultural conflict, sense of place attachment, and social vulnerability; policy challenges including legislation, investment, lack of financial support, lack of organizational coordination, and limited facilities; economic challenges including insufficient agricultural income, vulnerability of the agricultural economy, dependence on agriculture, and marketing issues; and individual characteristics including awareness, risk-taking, and training. In selective coding, all stages are considered together, and the core concept that integrates the data around a central theme is identified. The fifth stage involves designing and validating the model. To ensure the accuracy of results, the prepared model and findings are presented to several respondents, which helps the researcher gain confidence in the study's outcomes (Karimi et al., 2014).

To examine the validity of the data, the triangulation method was used. Triangulation refers to the use of multiple types of data, researchers, theories, and methods (Zobeidi et al., 2021). In this study, validation was achieved through triangulation of data sources, including participant confirmation, researcher reviews and summaries, and audit trails based on notes. Additionally, feedback from faculty members, women cooperative members, and experts from the Cooperative Office was used to ensure the accuracy of the findings.

4. Research Findings

The results obtained from the description of the individual characteristics of respondents in Dizajabad rural show that the average age of respondents was 36.76 years. Among the rural households surveyed, 277 women were married and 15 were single, accounting for 94.87 percent and 5.13 percent respectively. Regarding literacy levels, the findings indicate that the largest proportion of respondents, 33.9 percent, held a high school diploma, while the lowest proportion, 8.9 percent, were illiterate. In addition, 32.53 percent had completed middle school, 10.61 percent had junior high education, and 14.40 percent had university education.

Descriptive findings related to women's occupations in Dizajabad rural show that 89.38 percent were homemakers, 3.76 percent were employees, and 6.84 percent were engaged in other jobs. Concerning the occupations of their husbands, the results reveal that 27.05 percent were farmers, 29.45 percent were workers, 19.86 percent were employed in industry, 9.93 percent were employees, and 13.69 percent were unemployed. Finally, descriptive findings regarding women's experience in starting new businesses in Dizajabad rural show that 2.73 percent had experience in carpet weaving, 1.02 percent in dairy production, and 2.05 percent in tailoring. However, 94.17 percent of women reported having no prior experience in entrepreneurial activities.

4.1. Quantitative Analysis of Findings; Assessing the Desirability of Women's Cooperative Feasibility

To examine and identify the desirability of social and cultural feasibility indicators for establishing women's cooperatives, the one-sample t-test was used. Based on the results (Table 1), the indicators show that most villagers are considered trustworthy, there is complete mutual trust among residents, charitable activities in the village are strong, and most people sincerely fulfil their social responsibilities such as assisting neighbours in

times of need and showing consideration for others. Husbands in the village generally support women's participation in cooperatives. Respondents reported very active involvement in financial, intellectual, and consultative contributions to their community, and there is readiness to accept the perspectives of extension agents. Altogether, the condition of the indicators is favourable.

Table 1. Feasibility of Social and Cultural Indicators Based on One-Sample t-Test

Index	T-statistic	Degree of freedom	Significance	Mean difference	95% confidence coefficient	
					Low	High
Most of the villagers are trustworthy.	3.743	291	0.000	0.22260	0.1056	0.3397
The villagers have complete trust in one another.	3.904	291	0.000	0.25685	0.1274	0.3863
Many of the village's development projects have been carried out with the participation of the residents themselves.	-13.530	291	0.000	-0.83562	0.9572	-0.7141
The villagers have full trust in outsiders who enter the village with the intention of settling permanently (migrants).	-18.021	291	0.000	-1.04795	-1.1624	-0.9335
The level of addiction in the village is low.	-27.519	291	0.000	1.26027	-1.3504	-0.1701
Charitable activities in the village are high.	7.987	291	0.000	0.58562	0.4413	0.7299
To solve problems and issues, many gatherings and meetings are held in the village.	-21.787	291	0.000	-1.22603	-1.3368	-1.1153
Most people sincerely fulfil their social duties such as assisting residents in times of need and considering neighbours' welfare.	4.140	291	0.000	0.36644	0.1922	0.5407
Husbands in the village support women's activities within cooperatives.	5.372	291	0.000	0.43836	0.2777	0.5990
There has been very active participation in financial, intellectual, and consultative support for the village.	6.549	291	0.000	0.50685	0.3545	0.6592
Relations among neighbours in the village are warm and friendly.	-5.314	291	0.000	-0.46575	-0.6382	-0.2933
Interaction and visits with friends and neighbours in the village are frequent.	-15.801	291	0.000	-1.11986	-1.2564	-0.9804
Most people voluntarily fulfil their social duties.	-18.301	291	0.000	-1.19863	-1.3275	-1.0697
Women's self-confidence to start new businesses is high.	-16.680	291	0.000	-1.10616	-1.2367	-0.9756
There are sufficient training courses held.	-20.564	291	0.000	-1.24658	-1.3659	-1.1273
The necessary skills for starting new businesses exist among village women.	-9.694	291	0.000	-0.67808	-0.8757	-0.5404
Women have the appropriate education for forming cooperatives.	-4.893	291	0.000	-0.32192	-0.4514	-0.1924
Adequate and suitable training courses related to forming cooperatives have been held in the village.	-9.101	291	0.000	-0.65068	-0.7914	-0.5100
The transfer of villagers' personal experiences in business exists.	-38.676	291	0.000	-1.50685	-1.5835	-1.4302
There is a readiness to accept the views of extension agents.	2.750	291	0.000	0.18836	0.0535	0.3232

Index	T-statistic	Degree of freedom	Significance	Mean difference	95% confidence coefficient	
					Low	High
The level of responsibility among rural women is high.	-4.671	291	0.000	-0.35274	-0.5014	-0.2041
The village head and the Islamic council carry out appropriate activities in the field to increase women's participation.	-3.523	291	0.000	-0.25685	-0.4004	-0.1133

To examine and identify the desirability of economic feasibility indicators for establishing women's cooperatives, the one-sample t-test was used. Based on the results (Table 2), only the indicator related to motivation for career advancement among village women was found to be in a favourable condition.

Table 2. Feasibility of Economic Indicators Based on One-Sample t-Test

Index	T-statistic	Degree of freedom	Significance	Mean difference	95% confidence coefficient	
					Low	High
There is assurance of purchasing women's products at the village level.	-7.402	291	0.000	-0.62329	-0.7890	-0.4576
Low-interest loans are allocated to women by banks.	-69.862	291	0.000	-1.75685	-1.8063	-1.7074
Women have sufficient financial capital to start activities.	-39.244	291	0.000	-1.45205	-1.5249	-1.3792
Village women have good ideas for starting businesses.	-44.216	291	0.000	-1.45890	-1.5238	-1.3940
Poverty is not an obstacle to forming cooperatives.	-1.7783	291	0.000	-0.11301	-0.2377	0.0117
Banks provide appropriate financial services to help villagers start group businesses	-10.346	291	0.000	-0.69863	-0.8315	-0.5657
Proper marketing for selling products produced by women in the village is available.	-42.312	291	0.000	-1.55137	-1.6235	-1.4792
The products produced by women have a suitable quality for offering to the market.	0.838	291	0.000	0.07534	-0.1015	0.2522
Acceptance of the possibility of cooperative business failure exists among village women.	-12.99	291	0.000	-0.78425	-0.9030	-0.6655
Economic and productive activities among women during adolescence and youth are present.	-14.861	291	0.000	-0.82534	-0.9346	-0.7160
Rural women have sufficient familiarity with new technologies to start businesses.	-7.359	291	0.000	-0.61986	-0.7856	-0.4541
Familiarity with new market needs exists among women.	-70.337	291	0.000	-1.76027	-1.8095	-1.7110
There is motivation for career advancement among village women.	2.863	291	0.000	0.20890	0.0653	0.3525
Hope for the success of cooperative businesses among women is high.	-17.731	291	0.000	-0.73288	-0.8142	-0.6515
If cooperative businesses are started, their profitability is guaranteed.	1.762	291	0.000	1.10274	-0.0120	0.2175

4.2. Qualitative findings

The findings and analyses of the research problem in the qualitative section were obtained through three interview sessions with women participating in training classes for the formation of women's cooperatives (28 women) in Dizajabad rural, Zanjan County, as well as 15 experts from the Zanjan Province Cooperative Office. The most important process in grounded theory is data analysis, which is the core of qualitative research. In this stage, the information obtained from the interview texts was analysed using the grounded theory model. First, the complete interviews were transcribed from the audio files, reviewed multiple times, and accompanied by note-taking. The collected data were examined through content analysis. In this part, the data were categorised in three stages: Open coding, axial coding, and selective coding.

4.2.1. Open coding

In the first stage, using the open coding system, the data were analysed line by line, their processes identified, and each sentence was assigned a separate code. Two approaches were used for coding: a) indicative codes constructed by the researcher based on concepts present in the information, and b) codes taken from the words of the interviewee or the observed individual. In the present study, for open coding, the main sentences were extracted, and each was assigned marked codes. The codes pertain to the views of village headmen and councils, and interviews with the rural women of Dizajabad. The coding procedure is presented in (Table 3). In open coding, each participant's problem was assigned a code, and all data were coded.

"An example of open coding is as follows: Women have little trust in each other in financial matters." Initial open code: Social trust. Explanation of code assignment: Women experience distrust in their financial interactions with one another, and this issue can hinder cooperation and the success of cooperatives.

Table 3. Open Coding

Row	Extracted Statements
1	Due to high delinquency, trust among people has decreased.
2	Women have little trust in each other when it comes to financial matters.
3	Many village development projects have been carried out without considering the participation of the residents.
4	Village residents distrust strangers who come to settle permanently (immigrants).
5	The addiction rate in the village is high.
6	Charity activities in the village are high.
7	Many meetings and gatherings are not held in the village to solve issues and problems.
8	Most people perform their social duties (such as assisting residents in need and considering neighbours) compassionately.
9	Husbands in the village support women's activities in cooperatives.
10	So far, I have not actively participated in financial, intellectual, or advisory assistance for my village.
11	Relationships between neighbours in the village are not warm and friendly.
12	Interactions and visits with friends and neighbours in the village are not frequent
13	Most people do not volunteer for their social duties.
14	Women's self-confidence in starting a new business is not high.
15	There are not enough training courses.
16	Women have the necessary skills to start a new business.
17	There are women with adequate education to form cooperatives.
18	Adequate and appropriate training courses related to forming cooperatives have been held in the village.
19	There is no transfer of personal business experiences among villagers.
20	There is a readiness to accept the viewpoints of promoters.
21	The level of responsibility among rural women is high.
22	The village head and the Islamic council conduct appropriate activities to increase women's participation.
23	There is no guarantee for the purchase of women's produced products in the village.
24	Low-interest loans are not provided to women by banks.
25	Women do not have enough financial capital to start activities.
26	Women in the village have good ideas for starting a business.
27	Poverty is an obstacle to forming cooperatives

Row	Extracted Statements
28	Banks do not provide suitable financial services to help villagers start group businesses
29	Appropriate marketing for selling women's produced products is not available in the village.
30	The products made by women have suitable quality for the market.
31	There is no acceptance of the possibility of business failure among women in the village.
32	Economic and productive activities are not done by women in adolescence and youth.
33	Rural women are not sufficiently familiar with new technologies for starting a business.
34	There is no awareness of new market needs among women.
35	There is a motivation for career advancement among village women
36	Hope for the success of business cooperatives among women is not high.
37	Profitability is not guaranteed if a business cooperative is started.
38	Lack of government support for women's cooperatives in rural areas.
39	The law related to marketing women's cooperative products in rural areas is not transparent.
40	There are intermediaries and brokers in the village.
41	Weak administrative structure of local management in rural areas to support cooperatives.
42	Climatic vulnerability of agricultural products produced for use in cooperatives.
43	Lack of sufficient credit and capital for marketing cooperative products in villages.
44	Low-quality agricultural products for use in cooperatives.
45	Low trust between women willing to form cooperatives and the relevant authorities.
46	The feeling of cooperatives being governmental and lack of sense of belonging among members.
47	Low level of cooperation among village women.
48	Low information among women about marketing products.
49	Low information about the consumer and market status.
50	Unclear scope of duties and activities of cooperatives.
51	Low motivation among women to form cooperatives
52	Low acceptance of new business ideas.
53	Instability of the market for cooperative products.
54	Low level of training for new businesses.
55	A mismatch between the provided training and the needs of rural women.
56	Low spirit of collective work among rural women.
57	Low spirit of innovation and creativity among rural women.
58	The inflexibility of laws and regulations.
59	Low self-confidence among rural women.
60	Everyone is looking out for themselves, and there is favouritism.
61	Why should I join a cooperative when I can do my work alone?
62	No one among rural women accepts responsibility as a leader and manager of the cooperative.
63	We do not accept management by strangers.
64	Decreased affection and sympathy among women has reduced their willingness to form cooperatives.
65	The perception among rural women is that forming cooperatives is meant to exploit them.
66	The village is made up of different clans, which makes group work difficult.
67	Most women in the village have low education.
68	There is a perception of physical weakness in women compared to men among some groups of rural women.
69	When there are fewer troublesome incomes from selling drugs in the village, the willingness to form cooperatives decreases.
70	Low tendency of women and young girls to stay in the village.
71	Some educated women have migrated to Zanjan city in search of job opportunities.
72	Many women do not have a pleasant feeling about living and working in Dizaj Abad rural.
73	Dizaj Abad rural is not well-known for its social and cultural status.

4. 2. 2. Axial Coding

In the second step (axial coding), the identification and coding of points from the interviewees' statements were carried out in accordance with the research question and the initial conceptual framework, helping to answer the research question. At this stage, the codes obtained from the analysis were grouped into new concepts when they shared common themes. In other words, broader categories

were formed, each containing subcategories (Table 4). Coding at this stage was performed using Atlas.ti software. From the interviews, 18 initial concepts related to the challenges of forming women's cooperatives were extracted.

Table 4. Axial Coding

Category	Code (Initial Concept)	Narratives
Social	Social Trust	Social trust in the village is not in an ideal state due to the presence of various ethnic groups and the village's openness to migration. This has led to limited enthusiasm among women for engaging in group activities.
	Cultural Conflict	The village comprises diverse ethnicities and cultural groups, making it challenging to bring individuals together for collective work within the framework of cooperatives.
	Delinquency	Moreover, the possibility of earning income through the sale of narcotics exists in the village, which has discouraged some households from showing interest in pursuing other activities.
	Sense of Place Attachment	Rural women show less inclination to remain and work in the villages, mainly due to the lack of non-agricultural employment opportunities. This leads to villages losing their young and dynamic workforce, as well as their financial resources.
	Social Vulnerability	The high level of poverty in Dizajabad rural has contributed to the emergence of various social issues, which, in turn, act as barriers to the formation of women's cooperatives.
Policy-Making	Investment	So far, no specific government investment has been made to support the establishment of cooperatives in Dizajabad rural. Even some migrated households residing in cities could contribute to service-related investments, but this has not been realised due to the lack of support.
	Regulations	There are no comprehensive regulations concerning women's cooperatives, and even if such regulations exist, there is limited awareness about them. The policies of the government and governmental organisations have failed to create a suitable environment for motivating individuals, equipping local communities, and mobilizing local resources and facilities. When officials or related entities are unaware of the needs and deficiencies of the host community, these cooperatives cannot function successfully and are bound to face failure.
	Lack of Financial Support	The local residents of the region have limited financial capacity to establish and expand cooperatives. A lack of financial and credit support from government organisations is another obstacle to the creation and development of cooperatives and related businesses.
	Lack of Coordination Among Organisations	The institutions involved in cooperatives do not cooperate effectively with one another. Officials and village headmen are dissatisfied with the current situation and the lack of coordination. The absence of alignment in pursuing the goals of cooperatives leads to reduced participation and collaboration among the village's residents in cooperative activities.
	Facilities	The village headman lacks the resources and facilities to take any steps toward establishing cooperatives. The low level of amenities and services provided by rural local institutions, especially village councils, is also a significant factor.
Economic	Insufficiency of Agricultural Income	Rural households, due to the low productivity of agricultural activities and limited access to non-agricultural income sources, perceive themselves to be at a higher level of socio-economic vulnerability and often experience low living standards.
	Agricultural Economic Vulnerability	Agricultural activities, due to the reliance on rain-fed lands, provide farmers with insufficient and unreliable income. This situation is further exacerbated by low product prices, the loss of livestock, and limited access to resources like water and land.

Category	Code (Initial Concept)	Narratives
	Dependence on the Agricultural Sector	Some residents of Dizajabad rural have limited income due to their reliance on an agricultural economy and the use of natural resources. As a result, they lack the capital to establish and launch cooperatives.
	Marketing	Delivering products to the market and understanding market demands are among the most critical factors for the success and growth of women's cooperatives. However, in Dizajabad rural, except for a few instances, there are no proper opportunities for product marketing.
Individual	Individual Ability	Despite the various capabilities of women in Dizajabad rural, challenges such as low self-confidence and a lack of future vision continue to hinder the formation of cooperatives. So far, no studies or research have been conducted by any organization or individual to explore the general and cultural characteristics of the Dizajabad rural community. Such an understanding of the host community's capacities is essential for taking the right steps toward the development of women's cooperatives in the village.
	Awareness	Many women in Dizajabad rural are still unaware of the role and function of cooperatives in establishing businesses, which is an obstacle to the expansion of cooperatives. The creation of new economic activities in rural areas is hindered by residents' insufficient knowledge of key market demands, the need for initial capital to launch such activities, and the lack of savings or working capital—all factors contributing to the underdevelopment of women's cooperatives.
Individual	Risk-Taking	Due to their low income, villagers cannot engage in large-scale activities and tend to focus on ventures with relatively lower returns. This limits their productivity and participation in the market.
	Education	In recent years, training on cooperatives has been provided to rural residents; however, these programs have not included all rural women, and their levels of learning differ based on their age, awareness, and experience. Until the host community is adequately informed, necessary training is delivered, and adequate awareness is provided to the villagers, the growth of women's cooperatives cannot be successfully achieved. Rural people are unlikely to cooperate and participate in this area if they are unaware of the benefits women's cooperatives can bring to them and the rural community.

4. 2. 3. Selective Coding

The third stage involves categorizing different codes into potential themes and organizing all coded data within the identified themes. In fact, the researcher begins analysing the codes and considers how various codes can be combined to create an overarching theme. At this stage, components are formed by bringing concepts together. The sentences that had previously been coded are recombined to identify a category capable of linking other classes or concepts, gradually shaping the conceptual framework of the research. This stage was classified into four categories: policy-making, social, economic, and individual.

4. 2. 3. 1. Policy-Making Category

The concept of the term policy-making is mostly directed toward the government and includes the laws passed for different sectors. In this research, the policy-making category includes the indicators (legislation, lack of financial support, lack of organizational coordination, facilities). Each of these indicators has its own specific concepts, which are separately explained and analysed in relation to the content of the research.

The challenge of weak legislation includes concepts (exhausting administrative bureaucracy for obtaining permits to establish women's cooperatives, lack of legal status for women's cooperatives, lack of attention to the constructive role of women's cooperatives, lack of government attention to women's cooperatives, low importance of the position of women's cooperatives, lack of prioritisation of women's cooperatives).

The main problem that currently exists is that in national and regional programs, the legal status of women's cooperatives is very weak and inadequate, and the absence of strategic and structural policies in them for guiding women's cooperative programs

at the local level is completely evident. The results of the present study show that women's cooperatives have not had a legal position in development programs and have only been mentioned as activities with relative advantage. When an activity does not have a place in the macro and micro development plans of a country, there will be no program or budget for the development of women's cooperatives. Due to the severe administrative bureaucracy that exists in Iran, individuals seeking permits for establishing and developing women's cooperatives must comply with numerous laws and regulations. This causes individuals to lose motivation to pursue these matters.

The challenge of lack of financial support includes concepts (different positions of organisations involved in women's cooperatives, conflicting viewpoints of organisations involved in women's cooperatives, lack of cooperation of organisations involved in the field of women's cooperatives, existence of parallel organisations in women's cooperatives, prioritisation of each organization to achieve its own interests, lack of coordination between provincial offices and local management).

Another challenge raised in the field of women's cooperatives from the interviewees' perspective was the lack of coordination among provincial executive agencies. The interviewees stated that whenever one of us or members of the Islamic council once approached the relevant cooperative organisations, we regretted it. Each of these organisations delegated the follow-up of tasks to one another, and this caused our confusion in achieving our demands. The challenge of weak facilities includes the low level of facilities related to physical quality in rural areas, and also the lack of basic facilities required for the formation of women's cooperatives, such as infrastructure.

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The expenditure of women's cooperatives for purchasing livestock and orchard products has been

very limited and has not satisfied the farmers of the region. All these factors have contributed to the increasing vulnerability of the agricultural economy. The declining population trend in the villages of the region also reflects weak service provision and the spread of unemployment, which is a major obstacle to the development of women's cooperatives in the area. Most farmers also lack accurate knowledge of market and consumer needs and cultivate products based on habit and tradition. According to studies conducted on the performance of some farmers, they do not make appropriate investments in building new accommodations or providing expensive and luxurious facilities. This behavior of farmers is due to the mismatch between their income and the heavy installments imposed on them by investing in the infrastructure needed for cooperatives.

4. 2. 3. 3. Individual Category

The challenge of weak individual capabilities includes concepts (lack of entrepreneurial ideas, lack of readiness to cooperate with villagers, lack of readiness to transfer personal experiences, lack of readiness to accept the views of extension agents, unwillingness to attend entrepreneurship classes, lack of interest in creating new work, lack of familiarity with computers and the internet, not reading newspapers and economic news, not engaging in economic activities during adolescence and youth, limited activity of the village council and Islamic council in creating an entrepreneurial environment, lack of interest in using modern technologies, lack of work experience in production units, lack of experience in creating new businesses, not employing skilled and experienced labor in the production process, lack of skilled and educated human resources, unwillingness to work with family members, lack of experience and skills of villagers in business facilities, lack of interest of residents in creating business facilities). The main input of the facilities development model is planning, management, knowledge, and its application. This model requires basic awareness and readiness, most of which is formed by efficient human capital.

Rural women's cooperatives are often small or medium-sized businesses, most of which are family-based. These types of businesses play an important role in the economies of countries, especially in the growth and development of developing countries, due to their ability to create new jobs, stimulate competition, and generate multiple effects. Interviewees stated that villagers have little willingness to cooperate and start women's cooperative activities, which stems from a lack of trust among them. In addition, villagers lack the knowledge and awareness to create new activities in the village. Because they are unaware of the benefits of attending these classes, they are not interested in participating. Although in recent years some limited training classes have been held for rural women, the situation has improved since then. Residents of these villages seek career advancement and higher income.

The challenge of a lack of risk-taking includes concepts (fear of entrepreneurial failure, lack of strong financial backing, lack of motivation for career advancement, high level of responsibility, lack of certainty about return on investment). Interviewees stated that most villages in Iran are geographically isolated and lack sufficient information about the business world. They have a lower risk-taking capacity. They are less able to tolerate the dangers and events that may arise during investment and the start-up of a new business, due to the lack of financial backing for villagers. Moreover, there is no capital to compensate for losses resulting from investment risks. These factors cause individuals to refrain from starting small businesses.

The challenge and indicator of technical knowledge in the business environment includes concepts (lack of marketing training classes, absence of extension agents to provide entrepreneurship training, lack of training for individuals on starting women's cooperative businesses, lack of associations and unions in various business fields, lack of familiarity with the principles and regulations of registering companies and economic enterprises, lack of government supervision and control over enterprise activities, lack of access to appropriate technical services, lack of assessment of technical knowledge level by banks when granting credits, lack of assessment of production management level by banks when granting credits).

Interviewees stated that villagers are not familiar with entrepreneurship principles in the field of women's cooperative activities and lack awareness of registering small cooperative economic enterprises. Marketing training classes have not been held in any of the target villages. When

villagers lack familiarity and awareness of women's cooperatives, they cannot take steps in this regard.

The challenge of lack of market knowledge includes concepts (lack of familiarity with new market needs, absence of a market for selling village-produced products, absence of a market for selling traditional village goods). Most of the facilities and resources of women's cooperatives are very limited and scattered across vast areas, hindering their appeal to potential investors through marketing and advertising. Therefore, these two factors make it practically impossible to provide appropriate services to large-scale investors. Villagers lack sufficient knowledge of the structure and system governing the marketing of rural cooperative products. Also, due to villagers' unfamiliarity with consumer market needs, low-quality goods are offered, and products that do not meet consumer demand are produced. All these factors prevent villagers from making profits in this way.

The awareness–education indicator includes concepts (lack of appropriate training methods, lack of public meetings regarding the benefits of cooperatives, lack of training and extension courses by local individuals, lack of use of practical training methods for managers, lack of use of experiences from successful rural cooperatives, lack of transferring experiences of successful rural cooperatives to local managers through visits to other regions, absence of specialized and trained human resources, lack of awareness among local people about the benefits of rural cooperatives, lack of awareness among village heads and councils about the impacts of rural cooperatives).

Interviewees stated that local people have no awareness of the positive benefits of women's cooperatives, and the issue of women's cooperatives has not been explained to them. In this regard, no action has been taken by local officials and organisations responsible for rural cooperatives, including the Cooperative Affairs Organization, to hold classes and workshops. For this reason, local people lack awareness and information in this regard, and accepting that rural cooperatives can help increase income and economic profitability is difficult and unimaginable. Village heads stated that local people say, "What benefit do rural cooperatives have for us?" or "What use are rural cooperatives for our village?" This view was also observed among some officials and service providers. Therefore, many local people, officials, and service providers lack a clear definition of rural cooperatives. Some officials and local experts also believed that councils and village administrations should play a more active role in introducing women's cooperatives and developing them in villages, but weak training and lack of awareness are serious obstacles the more active participation of these individuals in creating the groundwork for expanding women's cooperatives in this region.

All these factors show that there is general unawareness of the benefits of women's cooperatives, and one of the reasons for the underdevelopment of this socio-economic phenomenon is the lack of a culture of acceptance of women's cooperatives by villagers. The type of training method is also very important in the matter of rural women's cooperatives. As long as training is not practical, seminar-style training for local managers will not lead women's cooperatives anywhere. Some of this lack of awareness stems from ignorance of advantages and how to start activities, and the absence of specialized human resources not only in the development of women's cooperatives but also in all approaches to diversifying activities in rural areas. This itself indicates weakness in research, training, and the passivity of responsible organisations.

Cooperation is based on fundamental human ideas such as justice, freedom, equality, fairness, and collectivism—ideas rooted in pure human nature and historical human aspirations. The cooperative approach realizes global human ideas within the framework of socio-economic organisations and in a peaceful manner, made possible through the application of specific cooperative methods such as democracy, political, racial, and religious neutrality, attention to community, and collective participation. At the same time, cooperation pursues social goals through economic methods. From this perspective, the difference between cooperative organisations and other economic enterprises is significant, because unlike other commercial enterprises, the goal of cooperatives is not merely to achieve profit and wealth. In cooperatives, in addition to improving living conditions and meeting members' needs, social goals such as justice, responsibility, and group cooperation are also pursued.

The mechanisms used in cooperatives are consistent with the social goals of cooperation. Freedom, democracy, integrity, and collective participation are principles and values that guide the management

of cooperatives. By relying on the principles, goals, and values of cooperation, it can be said that cooperation is a culture and a way of work and life. These principles, goals, and values specific to cooperation have been accepted in all human societies and have spread globally in all countries despite different political and cultural approaches. Therefore, spreading and deepening the culture of cooperation, acquiring skills, and the ability to apply cooperative methods in society can only be achieved through education.

The founders of the global cooperative movement were aware of the role of education in the development and dynamism of cooperative organisations and used education as one of the principles of cooperation to achieve their goals. Even today, education is one of the seven principles of cooperation, aimed at advancing cooperatives and raising public awareness of the nature and benefits of cooperation.

4. 2. 3. 4. Social Category

The World Bank defines social capital as a phenomenon created by the influence of social institutions, human relations, and norms on the quality of social interactions. The organization's experiences have shown that social capital has a significant impact on the economy and the development of various countries. With the expansion of social capital, members of society become connected through networks and gain the opportunity to share common norms and values with other members. The expansion of networks and trust among individuals within them creates opportunities that are considered assets and attract the attention of scholars in various fields, including economics.

Undoubtedly, the growth and prosperity of any social system is achieved through social solidarity and public participation. Sociologists believe that social solidarity and public participation stem from factors such as shared beliefs and emotions, balance and harmony among values, while the main causes of human divergence are conflict, strife, and lack of material resources. From an Islamic perspective, factors that strengthen social solidarity and public participation both theoretically and practically include knowledge, understanding, empathy, and altruism, while threatening factors include suspicion, slander, selfish desires, and other spiritual illnesses.

Due to geographical dispersion and ethnic tendencies, rural communities traditionally have a strong inclination toward segmentation. Women's cooperatives, by increasing cross-group social capital among women and enhancing their participation, can indirectly prevent such situations.

Segmentation in rural communities and the absence of active participation reinforce a dependency mindset on the government and, consequently, state intervention. As findings show, this dependency mindset plays an important role in reducing public participation in cooperatives. Such a situation is more evident in women's cooperatives in rural areas than in industrial cooperatives in urban areas. The high level of dependency mindset among villagers, along with other factors such as weak social relations, nepotism, geographical dispersion, failure of many rural cooperatives, and absence of civil society, plays a significant role in members' reluctance to participate in cooperative affairs actively. Another point is that higher profits lead to increased participation. This finding supports the rational choice theory, as individuals are more inclined to continue participation when they receive greater rewards.

Overall, participation in women's production cooperatives and industrial cooperatives is simultaneously and interactively influenced by several categories of factors: macro-structural factors, meso-level or organizational factors, and micro-level factors related to individual actors. At the structural level, the existence of networks and connections as objective factors, and trust and shared beliefs as subjective factors, are significant. In fact, as the research findings indicate, participation in production cooperatives is more influenced by structural factors than by other factors, which are divided into objective and subjective categories.

Trade unions, professional associations, village and local councils, libraries, scientific and sports associations, environmental groups, business associations, and similar organisations are considered types of social networks. Organizing individuals in these civil institutions strengthens social belonging and achieves higher levels of participation, which indirectly regulates social and economic behaviors and interactions of members and reduces the costs of formal controls. Through forming groups and joining various economic and social organisations, individuals exchange abilities

and expertise, increasing the efficiency and effectiveness of their efforts. Efficient institutions provide many positive functions for members and represent the social capital of their actors, reducing costs and facilitating activities.

Cooperatives are the broadest type of economic and social networks, formed through voluntary cooperation among individuals based on mutual trust, to achieve goals, meet common needs, and improve members' living standards. In these institutions, those who use cooperative services are the owners of the cooperative, and the cooperative must act to meet their needs. Today, the cooperative sector organizes millions of members in the form of cooperative companies and unions to achieve common goals. This vast network, through applying cooperative principles and values and methods based on a culture of participation and collaboration, possesses great potential and capabilities to strengthen social capital and expand public trust at the national level.

5. Discussion and conclusion

Today, rural cooperatives are expanding in many countries. Rural cooperative activities, especially for vulnerable groups such as women, create employment and generate income. Considering the limited water and soil resources in villages, rural cooperatives can be regarded as one of the most important socio-economic development strategies for rural communities. Since Iranian villages possess diverse and abundant resources, the development of women's cooperatives in Iran is inevitable. However, there are challenges that hinder the establishment of women's cooperatives in Dizajabad rural.

The results obtained from the one-sample t-test show that most of the villagers' indicators are reliable: villagers have complete trust in one another, charitable activities in the village are high, most people sincerely fulfil their social duties such as assisting others in times of need and considering neighbours' welfare, husbands in the village support women's participation in cooperatives, and there has been very active participation in financial, intellectual, and consultative support for the village. There is also readiness to accept the views of extension agents, and overall, the indicators are favorable. Furthermore, the research results indicate that social capital indicators such as trust, participation, cohesion, and local networks provide suitable grounds for creating non-agricultural job opportunities, while the situation regarding economic indicators is not favorable.

Based on the findings of the study regarding the challenges of women's cooperatives, the first challenge identified in Dizajabad rural is weak legislation, which aligns with the results of Zamri et al. (2024) regarding legal problems of cooperatives. Success in this area requires fundamental changes in the overall process of national development programs, a matter that demands strong determination from officials and planners at the macro-management level of the country. The second obstacle for women's cooperatives is weak planning. Considering the scales and levels of cooperative development planning, it is necessary to address planning at three levels: national (macro), regional, and local. At the national level, the formulation of macro policies for the development of women's cooperatives with a strategic planning approach is the responsibility of national programs. These policies can guide regional and local programs and projects in the development of women's cooperatives. At the regional level, within the framework of provincial development programs, cooperative development planning should be prepared with a structural approach. Therefore, proper coordination between national, regional, and local programs and projects in the development of rural women's cooperatives—with a bottom-up and participatory planning approach—is essential. Consequently, greater attention from national development planners and managers at various national and regional levels is required in future programs.

Another obstacle in the development of rural women's cooperatives is the lack of investment and financial support, which is consistent with the findings of other researchers such as Obianefo, Osuafor, & Ng'ombe (2021), Ibourk & Hninou (2025), Ahmadpour et al. (2019), and Dash et al. (2020). Providing low-interest loans, government support such as tax exemptions and incentive laws, and the entry of the private sector into the field of women's cooperatives are essential steps toward moving in the direction of a sustainable economy. By designing and implementing serious support mechanisms for long-term investment projects—free from ethnic and geographical biases—government can raise awareness, provide reassurance, and accompany investors, thereby channeling significant capital into villages. This would generate diverse and positive outcomes,

benefiting both the villages and villagers, while at the macro level reducing rural-to-urban migration.

Another obstacle related to rural women's cooperatives is weak local management. Local managers, by properly selecting cooperative projects and acting as advisors to planners, can contribute to the advancement of villages. In the current situation, wise management of rural settlements based on collective wisdom and genuine participation of all stakeholders is of great importance for sustainable development. Therefore, the management of women's cooperatives must be a scientific and practical process aligned with the goals of sustainable and equitable rural development.

According to another part of the research findings, lack of supervision, lack of coordination among agencies, and the existence of parallel organisations are additional obstacles to rural women's cooperatives. Given the cross-sectoral and multi-sectoral nature of cooperative planning, proper division of labor and coordination among all levels of planning, along with an integrated and comprehensive perspective, are necessary. Another obstacle is the lack of facilities, which requires deficiencies and weaknesses to be addressed through cooperation among relevant organisations and institutions.

Based on another part of the research findings, insecurity in the business environment, lack of risk-taking, weak individual capabilities, weak technical knowledge, and lack of market awareness are further obstacles to rural women's cooperatives. These findings are consistent with those of Ibourk & Hninou (2025). In this regard, it is necessary to hold entrepreneurship and marketing training courses in the field of women's cooperatives and provide valid certificates to village residents, so that both local and non-local residents gain knowledge of the economic environment and the overall business climate, enabling them to start new businesses in the field of women's cooperatives.

Another obstacle related to rural women's cooperatives is lack of awareness and training. The findings of this part of the research are consistent with those of Karaturhan et al. (2024), Hanafi et al. (2024), Wafae & Sara (2021), and Movahedi & AliTavakoli (2017). Regarding training, it is recommended that responsible organisations hold continuous training classes in villages. In the field of handicrafts and traditional arts that have become obsolete, experienced individuals in the villages should be engaged to revive this valuable heritage.

Another obstacle defining rural women's cooperatives is participation. To strengthen and unify the host community, grassroots groups and NGOs must be formed. The research results show that rural areas that have benefited more from women's cooperatives have a more positive attitude toward their development in the region.

The final obstacle defining rural women's cooperatives is delinquency. Allocating part of the police force to ensure security and reduce drug-related delinquency in villages is necessary.

Finally, based on the results, practical recommendations are presented as follows:

First, drafting local bylaws with the participation of cooperative women members, experts from the Cooperative Office, and local development institutions can help clarify rights and responsibilities. In this regard, preparing internal guidelines and bylaws is also important for transparency in decision-making and the division of responsibilities. Creating coordination among institutions and preventing duplication of efforts through the establishment of associations, local development institutions, and coordination bodies among organisations provides the basis for reducing resource waste and increasing institutional cohesion.

From a financial perspective, establishing small internal cooperative funds for working capital and supporting members' micro-projects, facilitating access to microloans and grants through banks and microfinance institutions, as well as attracting investment through non-governmental networks and cooperation with local and urban marketplaces, can create a sustainable foundation for women's economic activities. Alongside these measures, providing suitable spaces for production activities and meetings, and preparing equipment and production tools tailored to cooperative needs, are essential requirements.

In the field of capacity building, holding short-term training courses in project management, accounting, marketing, and resource management, along with workshops on rights, laws, financial and managerial skills, plays an important role in enhancing members' capacities. Training in marketing skills, market analysis, and identifying potential customers, creating local brands and appropriate packaging for products, and using local,

urban, and online platforms for product distribution can strengthen the economic position of cooperatives.

On the social dimension, informing families and the local community about the importance of women's participation and the benefits of cooperatives, and presenting successful examples of cooperative women as role models, will increase motivation and social acceptance. In addition, providing legal advice and continuous support for registration, administration, and obtaining legal assistance creates institutional backing for the continuity of activities.

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Authors' contributions

The authors equally contributed to the preparation of this article.

Conflict of interest

The authors declare no conflict of interest.

References

1. Ahmadpour, A. , Arab, F. & Shahraki, M. R. (2019). The Effect of Social Capital Aspects on Entrepreneurial Behavior of the Members of Rural Women Cooperatives in Mazandaran Province. *Journal of Research and Rural Planning*, *8*(3), 45-58. https://doi.org/10.22067/jrrp.v8i3.74844
2. Ajili, A. A., Mangamzadeh, Z., & Ashrafi, P. (2009). Investigating the Problems and Problems of Women's Cooperatives in Khuzestan Province and their quantitative and qualitative upgrades. *Journal of Cooperative*, 20 (208 and 209), 63-79. [In Persian] https://dorl.net/dor/20.1001.1.27835464.1388.20.208209.5.8
3. Apthotp.R. (1982). Policy Evaluation and Meta-Evaluation: The Case of Rural Cooperatives. *World Development*, 10(8), 651-668. https://doi.org/10.1016/0305-750X(82)90091-2
4. Aryana, A., Dastyar, Z. & Tavasoli, A. (2020). Entrepreneur women's role in the development and evolution of the country (Case Study: Hormozgan province). Karafan. J. 16: 101-120. [In Persian] https://jmsd.atu.ac.ir/article_17695.html?lang=fa
5. Azad, N. (2020). *Status of Women in Cooperatives*, retrieved from https://www.indiancooperative.com/cooperative-coffee-shop/status-of-women-in-cooperatives/ on 9 May, 2020
6. Azimi, N., Alibaygi., & Papazan, A. (2022). Assessing rural women's empowerment in Kermanshah Township. Hum. Geog. Res. 55(2), 119-134.
7. Bharti, N. (2021). Role of cooperatives in economic empowerment of women: A review of Indian experiences. *World Journal of Entrepreneurship, Management and Sustainable Development*, *17*(4), 617-631. https://doi.org/10.1108/WJEMSD-07-2020-0095
8. Chikwendu, E. (1997). Women, Cooperation and Recovery in Nigeria, *dialectical Anthropology*, 22(3), 353- 371. https://link.springer.com/article/10.1023/A:1006818609119
9. Dalkıran, G. B. (2017). The support of women work within cooperative enterprises: Sample of Turkey. *SSRJ| Social Sciences Research Journal| e-ISSN: 2147-5237| Frequency: Continuous Publication| Dates of Publication: 2012-9999| International Academic Journal*, *6*(03), 1-11.
10. Dash, B. M., Prashad, L., Singh, K. K., & Dash, M. (2020). Women and poverty in india: Poverty alleviation and empowerment through cooperatives. *Social Work & Society*, *18*(2).1-14. http://nbn-resolving.de/urn:nbn:de:hbz:464-sws-2241
11. Fadaibushehri, M. (2014). Study on factors affecting women's attend to co-op's economy among women's active co-ops, case study in Golestan province, and research project by Golestan Province Administration of Cooperation, Labour and Social Welfare, Gorgan, Iran. [In Persian] https://doi.org/10.22051/jwsps.2017.13849.1391
12. Fallsolayman, M., Mikaniki, J., Sadeghi, H., & Dezgi, A. (2014). Evaluation on the role of rural Women's participation in cooperative companies and its effects on social and economic status of members (case study: Khosf and Khorashad in south khorasan province). Spatial Planning, 3(4), 95-116. [In Persian] https://dor.isc.ac/dor/20.1001.1.22287485.1392.3.4.8.1
13. Firouzabadi, S. A., Imani Jajarmi, H., & Dabbaghi, H. (2018). Rural Women's Cooperatives as a Potential for Social Entrepreneurship (Case Study: Mehr Afarin e Eram as a Rural Women's Cooperative). *Woman*

in Development & Politics, *16*(1), 149-173. [In Persian] https://doi.org/10.22059/jwdp.2018.238461.1007241
14. Gates, M. (2019), The Moment of Lift: How Empowering Women Changes the World. New York: Flatiron Books.
15. Hanafi, A., Mazhoud, H., Chemak, F., Faysse, N., & Kharroubi, F. (2024). Women's development organisations in rural areas of Tunisia: rethinking support to strengthen their autonomy. *Cahiers Agricultures*, *33*, 36. https://doi.,org/10.1051/cagri/2024031
16. Ibourk, A., & Hninou, S. (2025). Empowering women through agricultural cooperatives: a multilevel analysis in Morocco's Marrakech-Safi region. *Discover Sustainability*, *6*(1), 559. https://doi.org/10.1007/s43621-025-01245-2
17. Imani, A., Yaghoubi, N. M. & Mobaraki, M. (2017). Identification and Prioritisation of the Cooperative Sector's Policies of Entrepreneurship Development. *Journal of Entrepreneurship Development*, *10*(1), 21-39. [In Persian] https://doi.org/10.22059/jed.2017.62289
18. Izadi, N., Ataei, P., & Yaghoubi Farani. A. (2018). Explaining the Sociological Problems of Women Cooperatives by Focusing on Managers' Needed Capabilities. *Journal of Women and Cultural*, 37 (10), 25-39. [In Persian] https://www.researchgate.net/publication/339302960
19. Jackson, M.A. (2010). *Empowering Women of Nepal: An Experience of Empowerment in the Land of the Himalaya*. M.A Thesis, Prescott College in Adventure Education.
20. Kahamba, J. S., & Xiuli, X. (2021). Effects of women's cooperatives on capabilities and gender relations: Empirical evidence from women's dairy cooperatives in Kilimanjaro Region, Tanzania. *International Journal of Agricultural Extension and Rural Development Studies*, *8*(4), 62-80. https://doi.org/10.37745/ijaerds.15
21. Karaturhan, B., Yildiz, Ö., Inci, S., & Tanınmış, M. Z. (2024). The Role Of Women's Cooperatives In Rural Areas: The Case Of Izmir Province, Turkiye. *Scientific Papers Series Management, Economic Engineering in Agriculture & Rural Development*, *24*(3).
22. Karimi, B., Salmani, M., Seyedali, B., & Mohammadreza, R. (2014). Impacts Assessment of Transformation of Rural Settlements to Urban ones in Development of Mountainous Regions, Using Grounded Theory Method (Case Study: Dailaman District, Siahkal Township). Journal Housing and Rural Environment. 33(145), 95-110. [In Persian] https://jhre.ir/article-1-519-en.html
23. Martí, E. M., Izquierdo, R. J. S., & Lajara-Camilleri, N. (2015). Spanish Citrus Cooperatives: Keys to Success and Challenges for the Future. *Acta Horticulturae*, 1065, 1871-1876. https://www.researchgate.net/publication/282436177
24. Mashapure, R., Nyagadza, B., Chikazhe, L., Msipa, N., Ngorora, G. K. P., & Gwiza, A. (2022). Challenges hindering women entrepreneurship sustainability in rural livelihoods: Case of Manicaland province. *Cogent Social Sciences*, *8*(1), 2132675. https://doi.org/10.1080/23311886.2022.2132675
25. Meier zu Selhausen, F. (2016). What Determines Women's Participation in Collective Action? Evidence from a Western Ugandan Coffee Cooperative. *Feminist Economics*, 22(1), 130-157. https://doi.org/10.1080/13545701.2015.1088960
26. Merroun, M. A. (2025). Social Entrepreneurship as a Tool for Women's Empowerment in Rural Morocco: Challenges and Prospects. *Revue Internationale de la Recherche Scientifique (Revue-IRS)*, *3*(1), 846-861. https://doi.org/10.5281/zenodo.14918889
27. Monfared, N. (2016). Survey of women,s cooperatives Establishment and investigating the problems of women in cooperatives (Case Study: Bushehr). *Journal of Studies in Entrepreneurship and Sustainable Agricultural Development*, *3*(1), 17-33. [In Persian] https://doi.org/10.22069/jead.2016.2920
28. Montanari, B., Handaine, M., & Id Bourrous, J. (2023). Argan oil trade and access to benefit sharing: a matter of economic survival for rural women of the Souss Massa, Morocco. *Human Ecology*, *51*(5), 995-1007. https://doi.org/10.1007/s10745-023-00453-6
29. Movahedi, R., & Alitavakoli, F. (2017). Analyzing the obstacles of mobilization microfinance (MF) of women rural women's cooperatives in Jiroft County. *Women's Studies Sociological and Psychological* into, *15*(1), 99-133. [In Persian] https://doi.org/10.22051/jwsps.2017.13849.1391

30. Msosa, S. K. (2022). Challenges facing women cooperatives in accessing markets for agricultural products: A systematic literature review. *International Review of Management and Marketing*, *12*(6), 37-43. https://doi.org/10.32479/irmm.13420
31. Nair, N. V., & Moolakkattu, J. S. (2015). Why do women's cooperative societies languish? A study of selected societies in Kottayam, Kerala. *Asian Journal of Women's Studies*, *21*(2), 105-125. https://doi.org/10.1080/12259276.2015.1062262
32. Obianefo, C. A., Osuafor, O. O., & Ng'ombe, J. N. (2021). On the challenges faced by female members of agricultural cooperatives in Southeast Nigeria. *Journal of Agricultural Extension and Rural Development*, *13*(2), 94-106. https://doi.org/10.5897/JAERD2021.1227
33. Pourbafrani, H. (2016). The Analysis of Resilience and Empowerment of Local Communities through Collective Action; Rural Production Cooperatives on Focus, Case Study: The Central District of Naein County, Master of Science, University of Zanjan. [In Persian]
34. Raniga, T. (2017). Participatory Experiences of Women in Economic Development Cooperatives in Bhambayi, KwaZulu-Natal, South Africa. *Research on Social Work Practice*, 27(2), 215- 222. https://doi.org/10.1177/1049731516671595
35. Ranjbari, A., Ebrahimi, M. S., & Khedri, G. (2024). Philosophy and the role of cooperatives in the development of social capital. Case study: rural women's microcredit cooperatives in Iran. *Boletín de la Asociación Internacional de Derecho Cooperativo*, (65), 135-152. https://doi.org/10.18543/baidc.3059
36. Roomi, M.A., & Parrott, G. (2008). Barriers to development and progression of women entrepreneurs in Pakistan. https://doi.org/10.1177/097135570701700105
37. Stovkstd, G. (2002). Cooperative Income Allocation in Multiput, Multu-input Setting, Oregon State University, Corvallis or USA, Norwegin Agricultural Economics Research Institute ,Norway, 53-67.
38. Tennakoon, W. D. N. S. M., Lasanthika, W. J. A. J. M., & Praveenic, S. M. N. (2024). The Role of Cooperatives In Fostering the Rural Women Empowerment. *The Journal of Business Studies 08*(01), 90-113. https://www.researchgate.net/publication/382591296
39. Theeuwen, A., Duplat, V., Wickert, C., & Tjemkes, B. (2021). How Do Women Overcome Gender Inequality by Forming Small−Scale Cooperatives? The Case of the Agricultural Sector in Uganda. Sustainability, 13(4), 1797. https://doi.org/10.3390/su13041797
40. Tyagi, S., & Jaryal, R. D. (2024). The empowerment of rural women through cooperatives: dimensions and prospects. *AgriGate- An International Multidisciplinary e-Magazine, 4* (8), 269-274. https://www.allresearchjournal.com/archives/2016/vol2issue8/PartF/2-8-67-973.pdf
41. Wafae, T., & Sara, R. (2021). Women's rural cooperatives in Morocco: Challenges and collapses. *International Journal of Interdisciplinary Gender Studies*, *2*(1), 85-103. https://journals.imist.ma/index.php/contemporarymedusa/article/download/1655/1081/2953
42. Xuchu XU. Ke. Shao, & Q., Llang, H., Guo, Z., uhui. (2011). Chinese Small Farmers' Entry into Big Markets: From Led by Leading Enterprises to Relying on Farmer Cooperatives. New Opportunities for Cooperatives. *Global Research Conference*. 24–27.
43. Zamri, N. M., Andrew, L., Borhani, N., Latiff, S. F. A., & Mathew, D. H. (2024). Women's Cooperatives in Turkey: Challenges, Success Stories, and Policy Recommendations. *International Journal of Academic Reserach in Economics and Management Sciences*, *13*(3). http://dx.doi.org/10.6007/IJAREMS/v13-i3/22853
44. Zobeidi, T. , Yaghoubi, J. and Yazdanpanah, M. (2021). Investigating Typology of Adaptation Strategies of Villagers to Water Shortage in Khuzestan Province: Application of Grounded Theory. *Journal of Rural Researches*, *12*(2), 246-257. [In Persain] https://jrur.ut.ac.ir/issue_10726_10903.html?lang=en

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Original Article

تبیین چالش‌های تشکیل تعاونی‌های زنان در مناطق روستایی مطالعه موردی: روستای دیزج‌آباد، شهرستان زنجان

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چکیده مبسوط

۱. مقدمه

امروزه بسیاری از نظریه‌پردازان و صاحب‌نظران علوم اجتماعی بر این باورند دستیابی به توسعه پایدار، بدون مشارکت فعال زنان در عرصه‌های سیاسی، اجتماعی و اقتصادی امکان‌پذیر نیست. اگر قرار است توسعه پایدار حاصل شود، زنان باید به طور کامل در تصمیم‌گیری و سیاست‌ها گنجانده شوند. دستیابی به توسعه اجتماعی، تسریع روند توسعه اقتصادی و تحقق عدالت اجتماعی زمانی امکان‌پذیر است که زنان به‌عنوان نیروهای فعال و مولد در جامعه دیده شوند. زنان، به‌ویژه در کشورهای در حال توسعه، ضعیف‌ترین گروه اجتماعی محسوب می‌شوند. آنان تقریباً نیمی از نیروی کار فعال در بخش کشاورزی و روستایی جهان را تشکیل می‌دهند و نیمی از محصولات این بخش را تولید می‌کنند. بدیهی است که اگر زیرساخت‌های تولیدی تقویت شوند، زنان می‌توانند بهره‌وری بیشتری داشته باشند، تولید خود را افزایش دهند و هم خود و هم جامعه را توانمند سازند. با وجود این مزایا و ظرفیت‌ها، تعاونی‌های زنان روستایی با چالش‌های متعددی مواجه‌اند. عوامل اجتماعی و فرهنگی در خانواده و جامعه اغلب میزان بهره‌مندی زنان از بازدهی تعاونی‌ها را محدود می‌سازند و حتی توان آنان برای سازماندهی تعاونی‌ها را تحت تأثیر قرار می‌دهند. کمبود آموزش، مهارت و توانایی‌های مدیریتی، هنجارهای اجتماعی-اقتصادی، مسئولیت‌های خانگی، موانع فرهنگی و سلطه نظام پدرسالار از مهم‌ترین موانع مشارکت زنان در تعاونی‌ها هستند.

روستای دیزج‌آباد به دلیل نزدیکی به شهر زنجان جمعیت قابل توجه و برخورداری از ظرفیت های تولیدی در حوزه هایی مانند صنایع دستی و فعالیت های خدماتی از جمله مناطق دارای پتانسیل مناسب برای رشد تعاونی های زنان به شمار می‌رود. با توجه به این نکته که نقش تعاونی‌های زنان در این روستا می‌تواند کارکردهای متنوع و متکثری داشته باشد و علاوه بر کارکردهای اصلی به دلیل اینکه زنان بیشتر از مردان درآمد خود را صرف آموزش و بهداشت خانواده می‌کنند می‌تواند منتهی به ارتقاء سطح سلامت، آموزش و بهداشت خانواده و جامعه گردد. علیرغم کاهش چشمگیر زنان شاغل در دهه گذشته در روستای دیزج‌آباد شاهدیم زنان در فرهنگ سنتی و روستایی حضور پررنگ و توانمندی در عرصه‌های مختلف بصورت کارگروهی و تعاونی داشته‌اند. با وجود این ظرفیت‌ها، تعاونی زنان در روستای دیزج‌آباد همچنان با مجموعه‌ای از چالش‌های ساختاری، اقتصادی، اجتماعی و مدیریتی مواجه است که می‌تواند بر پایداری فعالیت‌ها و موفقیت بلندمدت آن اثر بگذارد. محدودیت در دسترسی به سرمایه مشکلات بازاریابی و فروش، ضعف زیرساخت‌های تولیدی و کمبود آموزش‌های لازم از جمله عواملی است که روند پیشرفت این تعاونی‌ها را با دشواری روبه‌رو می‌سازند. بررسی دقیق این چالش‌ها نه تنها به درک بهتر وضعیت موجود کمک می‌کند بلکه می‌تواند مبنایی برای ارائه راهکارهای عملی و قابل اجرا جهت تقویت زنان در توسعه روستایی، تقویت توانمندسازی اقتصادی و افزایش کارایی تعاونی‌ها فراهم آورد.

۲. مبانی نظری تحقیق

واژه *Cooperation* را اولین‌بار رابرت اون (۱۷۷۱-۸۵۸۱) در مقابل واژه رقابت (*Competition*) به‌کار گرفت. تعاون در لغت به معنی «یاوری و همراهی متقابل» است. تعاونی یک مؤسسه خودمختار و مبتنی بر اتحاد داوطلبانه برای برآورده کردن نیازهای عمومی اقتصادی، اجتماعی، فرهنگی و آرزوها از طریق یک مالکیت مشترک و تحت کنترل دموکراتیک شرکت می‌باشد. اتحادیه بین‌المللی تعاون (*ICA*) تعاونی را اینگونه تعریف کرده است: «تشکلی مستقل از اشخاصی که برای رفع نیازها و آمال مشترک اقتصادی، اجتماعی و فرهنگی خود از طریق یک بنگاه اقتصادی با مالکیت مشترک و تحت کنترل دموکراتیک، داوطلبانه با هم متحد شده‌اند». بسط و توسعه

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فعالیت‌های مولد و پویا، یکی از اهداف مهم تعاونی‌ها است. زیرا تعاونی‌ها با سرمایه‌گذاری موجب ایجاد فعالیت‌های اقتصادی و اجتماعی خاصی می‌شوند. می‌توان ابراز داشت که شرکت‌ها و موسسه‌های مشارکتی (تعاونی‌ها) معمولاً درآمد خود را متناسب با ارزش منابعی که اعضاء شرکت با تشریک مساعی بدست آورده‌اند، تقسیم می‌کنند. منابع و درآمد خالص میان کلیه اعضاء شرکت بصورت عادلانه تخصیص یافته و هیچ عضوی از تعاونی درآمدش بالاتر از بقیه اعضاء نیست. تعاونی‌ها و از جمله تعاونی زنان روستایی در موارد مختلفی از جمله؛ اهداف چندگانه اقتصادی، اجتماعی و اکولوژیکی، ابزار مناسب جهت همکاری و مشارکت مردم، آسیب کمتر به محیط، ایجاد فضای مناسب جهت سرمایه‌گذاری، کاهش نابرابری، تقویت گروه‌های حاشیه‌ای و دموکراسی اقتصادی، ارتباط قوی با جوامع محلی و... تاثیر گذار هستند. تعاونی‌های زنان، به‌عنوان نمونه‌ای از کارآفرینی اجتماعی، پاسخی ملموس برای تشویق توانمندسازی اقتصادی و اجتماعی زنان ارائه می‌دهند. این‌ها یک مدل کسب‌وکار هستند که به زنان امکان می‌دهد به‌صورت جمعی سازماندهی شوند، منابع خود را جمع‌آوری کنند و محصولات خود را بازاریابی کنند و در عین حال از حمایت متقابل و اشتراک دانش بهره‌مند شوند.

۳. روش تحقیق

این پژوهش با رویکرد کاربردی و ترکیبی (کمی و کیفی) به بررسی چالش‌های تعاونی زنان روستایی دیزج‌آباد در استان زنجان پرداخته است. در بخش کمی، جامعه آماری شامل زنان ۱۸ تا ۶۰ سال روستا (۱۲۰۴ نفر) بوده و با استفاده از فرمول کوکران، ۲۹۲ نفر به‌عنوان نمونه انتخاب شدند. داده‌ها در بهار و تابستان ۱۴۰۲ از طریق پرسشنامه محقق‌ساخته و مصاحبه گردآوری شد. پرسشنامه در دو بخش ویژگی‌های فردی و ابعاد امکان‌سنجی اجتماعی، فرهنگی و اقتصادی طراحی گردید و پایایی آن با آلفای کرونباخ ۰/۷۸ تأیید شد. در بخش کیفی، روش نظریه بنیانی به کار گرفته شد. داده‌ها از طریق مصاحبه نیمه‌ساختاریافته، مشاهده، یادداشت‌های میدانی، بحث گروهی و اسناد تکمیلی جمع‌آوری شد. جامعه آماری شامل ۲۸ زن عضو کلاس‌های آموزشی تعاونی و ۱۵ کارشناس اداره تعاون استان بود. نمونه‌گیری به‌صورت هدفمند و سپس نظری انجام شد و تحلیل داده‌ها با کدگذاری سه‌مرحله‌ای (باز، محوری و انتخابی) صورت گرفت.یافته‌ها نشان داد چالش‌های تعاونی زنان در چهار دسته اصلی قرار می‌گیرند: اجتماعی (اعتماد، تضاد فرهنگی، تعلق مکانی)، سیاست‌گذاری (قانون‌گذاری، سرمایه‌گذاری، نبود حمایت مالی)، اقتصادی (درآمد ناکافی کشاورزی، وابستگی به کشاورزی، ضعف بازاریابی) و فردی (آگاهی، ریسک‌پذیری، آموزش). اعتبار نتایج با مثلث‌سازی داده‌ها و تأیید شرکت‌کنندگان و کارشناسان تثبیت شد. این پژوهش مدلی معتبر برای شناخت و تحلیل چالش‌های تعاونی زنان روستایی ارائه می‌دهد.

۴. بحث و نتیجه‌گیری

بر اساس نتایج پژوهش، توسعه تعاونی زنان در روستای دیزج‌آباد با چالش‌هایی جدی مواجه است که مهم‌ترین آن‌ها شامل ضعف قانون‌گذاری، نبود برنامه‌ریزی چندسطحی (ملی، منطقه‌ای، محلی)، کمبود سرمایه‌گذاری و حمایت‌های مالی، ضعف مدیریت محلی، نبود نظارت و هماهنگی بین دستگاه‌ها، کمبود امکانات، ناامنی فضای کسب‌وکار، ضعف دانش فنی و شناخت بازار، نبود آموزش‌های تخصصی، مشارکت پایین اجتماعی و بزهکاری است. برای رفع این موانع، نیاز به اصلاحات ساختاری، تدوین سیاست‌های راهبردی، آموزش مستمر، حمایت‌های دولتی و خصوصی، و تقویت نهادهای محلی و مردمی وجود دارد تا زمینه توسعه پایدار و عادلانه تعاونی‌های زنان روستایی فراهم شود.

کلیدواژه‌ها: توسعه روستایی، مشارکت زنان، تعاونی، استان زنجان

تشکر و قدردانی

پژوهش حاضر حاصل فعالیت علمی نویسندگان و با حمایت اداره تعاون، کار و رفاه اجتماعی استان زنجان انجام شده است.

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Original Article

Spatial Analysis of Poverty and Food Insecurity in Rural Iran: Assessing Status and Food Insecurity Determinants

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Abstract

Purpose- This study aims to analyze the spatial patterns of poverty and food insecurity in rural areas of Iran, focusing on their current status and the key determinants affecting household food security in 2023. The research seeks to provide an evidence-based foundation for designing targeted policies to reduce poverty and improve food security in rural regions.

Design/Methods/Approach- The study calculates household food security indicators for rural areas of Iran using the Aggregate Household Food Security Index (AHFSI) and a calorie-based criterion. Food poverty is assessed using the Foster–Greer–Thorbecke (FGT) index, which is then used to map the spatial distribution of rural food poverty. To identify determinants of food insecurity, a logistic regression model is applied, incorporating socio-economic and demographic household characteristics.

Findings- The AHFSI for rural areas in 2023 was 68.8, indicating a low level of food security compared to over 90 in the early 2000s. Food poverty has increased substantially, with the poverty rate reaching 50.3%, compared to about 40% in the early 2000s. The poverty gap and poverty severity were estimated at 14.2% and 5.8%, respectively. Spatial analysis revealed significant disparities, with provinces such as Gilan, Hormozgan, and West Azerbaijan experiencing the highest food poverty levels, while Ilam, Semnan, and Kermanshah showed relatively better conditions. The logistic model results indicated that factors such as household head's age, dietary diversity, employment, subsidies, and income significantly improve food security, whereas gender and education of the household head showed no significant effect. Larger household size was associated with higher food insecurity.

Practical implications- The findings highlight an alarming decline in rural food security over the past two decades, driven by reduced dietary diversity, rising poverty, and reliance on low-cost, low-nutrition foods. Policymakers should adopt region-specific strategies, focusing on job creation, income enhancement, dietary diversification, and reforming the subsidy system to improve rural food security.

Original/Value- This study provides one of the most recent and comprehensive spatial analyses of rural poverty and food insecurity in Iran, combining national and provincial-level indicators with econometric modeling. By integrating spatial mapping with socio-economic determinants, it offers valuable insights for evidence-based, targeted policy interventions in rural food security.

Keywords- Food poverty, Food security, Rural areas of Iran, Logit model.

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1. Introduction

Nutrition directly affects human health. The type, quality, and diversity of daily consumed foods significantly influence both health status and disease prevention. Dietary diversity, particularly in providing essential micronutrients, is a cornerstone of healthy diets. Studies indicate that diverse food consumption can reduce the risk of malnutrition-related diseases and infections (Wen et al., 2024). Globally, over 3.5 billion people lived in rural areas in 2024, highlighting the importance of rural food security. In Iran, over 24 million people live in rural regions, facing unique economic and structural challenges (Sheibani & Karbasi, 2020). Given the pivotal role of rural areas in food production, ensuring food security and adequate nutrition in these regions is critically important.

Rural households in Iran constitute a substantial portion of the country's population, playing a key role in its economic, social, and cultural structure.(Iran Statistical Center, 2024). Despite this importance, rural households face a range of structural and economic challenges, including limited access to stable income opportunities, public services, and diversified food markets. These constraints increase their vulnerability to poverty and food insecurity and reduce their resilience to economic shocks and food price fluctuations (Siddique et al., 2020).Several national and international reports indicate that a considerable share of the population experiencing food-related deprivation and nutritional vulnerability resides in rural areas, reflecting persistent spatial inequalities and livelihood constraints (UNICEF, 2024).Such conditions restrict access to sufficient, safe, and diverse foods and adversely affect dietary quality. Over time, these limitations can undermine the health, nutritional status, and labor productivity of the agricultural workforce, thereby reinforcing cycles of poverty and food insecurity in rural regions.

The continuous increase in food prices over the past decade, driven by both domestic and international factors, has raised the cost of healthy diets in Iran. A joint report by international organizations shows that the daily cost of a healthy diet in Iran increased from $3.005 in 2017 to $4.167 in 2021, while the proportion of people unable to afford such a diet rose from 14.4% to 30% (FAO et al., 2023). These economic changes have negatively impacted household consumption patterns, especially among low-income deciles, resulting in reduced intake of nutritious foods (Ghahremanzadeh et al., 2016; Ghorbanian & Bakhshoodeh, 2016; Ashktorab & Nematollahi, 2019; Kiani Dehkiani et al., 2022; Ghasemi & Fa'al Jalali, 2023).

Although it is commonly assumed that farmers in rural areas can improve their families' diets by producing diverse crops, empirical evidence does not conclusively confirm a direct link between farm production diversity and dietary diversity (Snapp & Fisher, 2015; Hirvonen & Hoddinott, 2017; Zanello et al., 2019). Moreover, many smallholder farmers sell their products and purchase food items from markets, and increases in productivity of main crops have had limited impact on improving food security (Webb & Kennedy, 2014; Ruel et al., 2017; Usman & Callo-Concha, 2021).

Previous studies in Iran regarding food consumption, poverty, and food security have generally been sporadic and limited in scope (e.g., Ahmadi Javid et al., 2014; Rostami et al., 2015; Abdi et al., 2015; Farshidi et al., 2020; Shahraki & Ghaderi, 2021; Shabanzadeh-Khoshrody et al., 2022; Azmayesh Asiabasri et al., 2023). Limited research has addressed the spatial distribution of poverty and food insecurity in rural Iran, often focusing on specific aspects and based on outdated data (Mehrabi Bushrabadi & Mousavi Mohammadi, 2009; Pakravan et al., 2015; Nosratabadi et al., 2015; Rezaeifar et al., 2022). Given that food security is a critical necessity for independent countries like Iran, it is essential for policymakers to manage this issue systematically and with informed approaches. Accordingly, understanding the current situation is not only vital for designing future programs but also necessary for monitoring and evaluating the outcomes of implemented interventions.

Therefore, this study aims to analyze the spatial patterns of food poverty and food insecurity in rural Iran using up-to-date and comprehensive data. Initially, food security and food poverty indices will be calculated and analyzed, followed by identifying the determinants of food security in rural areas across the country. Furthermore, the results will be compared with previous studies to elucidate trends and changes over time.

2. Research Theoretical Literature

2.1. Food Poverty

Food poverty, often conceptualized as food insecurity, refers to the inability of individuals or households to secure adequate, safe, and nutritious

food for a healthy and active life due to financial constraints or inadequate physical access (Jandaghian Bidgoli et al., 2024). Unlike transient hunger, food poverty reflects structural and persistent deprivation with significant physical, psychological, and social consequences (Seligman & Berkowitz, 2021). In 2021, over 2.3 billion people worldwide experienced moderate to severe food insecurity, including nearly 20% of the population in high-income countries (WHO, 2025). The health impacts of food poverty are wide-ranging: in adults, it is associated with anemia, type 2 diabetes, hypertension, cardiovascular disease, and multimorbidity; among older adults, it leads to reduced physical function and increased depression; in children, particularly during early life, it is linked to obesity, cognitive delays, poor educational performance, anxiety, and depression (Fram et al., 2024). Climate change, food price volatility, and intra-household inequalities in food allocation further exacerbate the problem (Seligman & Berkowitz, 2021).

2.2. Food Security

The Food and Agriculture Organization (FAO) and the World Health Organization (WHO) define food security as a condition in which all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their dietary needs for an active and healthy life (FAO, 2015). Food security encompasses four interrelated dimensions:

1. Availability: The presence of adequate food supply through domestic production, imports, or food aid.
2. Access: The economic, physical, and social means to obtain food.
3. Utilization: Proper use of food supported by dietary diversity, safe water, sanitation, and health care.
4. Stability: Reliable access to food over time, without risks from economic, political, or environmental shocks.

Food insecurity can be transitory, seasonal, or chronic. Chronic food insecurity, in which households consistently lack access to adequate and nutritious food, is particularly damaging due to its long-term health and development consequences (World Bank, 2024).

2.3. Determinants of Food Security

Food security in rural households is shaped by a complex interaction of socio-economic and demographic characteristics, each influencing the ability to obtain and utilize adequate, safe, and nutritious food. Based on the variables examined in the present study, key determinants include:

- Age of the head of household – Age can affect food security in two contrasting ways. Greater age often brings farming experience, social capital, and accumulated assets that may improve household resilience; however, in later life, reduced physical capacity and income-generating potential may increase vulnerability to food insecurity (Mango et al., 2014; Chinnakali et al., 2014).
- Gender of the head of household – Gender plays an important role in access to resources, employment opportunities, and decision-making power. In many rural contexts, female-headed households may face structural disadvantages such as limited access to land, credit, and formal employment, which heighten food insecurity risks (Quisumbing et al., 2014; Nowak et al., 2020).
- Literacy of the household head – Literacy improves access to information, enhances nutritional knowledge, and facilitates better financial and agricultural management, thereby contributing to more diversified and nutritious diets (Smith & Subandoro, 2007; Bashir & Schilizzi, 2013).
- Household size – Larger households typically face higher food requirements, potentially increasing the strain on available resources. When income and food production do not grow proportionally, household size can become a significant predictor of food insecurity (Olayemi, 2012; Mango et al., 2014).
- Food diversity – Dietary diversity is a direct indicator of food utilization and nutritional adequacy. Households with greater dietary diversity generally have better micronutrient intake and improved health outcomes, reflecting higher food security status (Ruel, 2003; FAO, 2011).
- Household subsidy – In rural Iran, targeted government subsidies can play an important role in mitigating food insecurity by reducing the effective cost of basic goods and freeing household resources for diversified food purchases (Safarpour et al., 2014; Ghobadi et al., 2018).

- Employment status of the head of household – Stable employment, particularly in sectors with regular wages, is positively associated with household food security. Unemployment or reliance on seasonal and informal work increases income volatility and the risk of inadequate food access (Mango et al., 2014; Babatunde et al., 2007).
- Household income – Income remains the most critical determinant, influencing both the quantity and quality of food consumed. Higher income levels enable households to afford diverse diets, invest in food storage and preparation, and cope with price fluctuations (Smith & Subandoro, 2007; Babatunde et al., 2007).

This set of determinants forms the analytical foundation for examining spatial variations in food insecurity across rural Iran, allowing the study to assess both structural and household-level factors that shape food access and utilization.

3. Research Methodology

3.1. Data Collection and Estimation of Caloric Intake

This study adopts a quantitative analytical approach to investigate food security and food poverty in rural Iran for the year 2023. The spatial coverage encompasses rural areas across all 31 provinces of the country. A total of 18,321 rural households were included in the analysis, based on data from the Household Income and Expenditure Survey (HIES) conducted by the Statistical Center of Iran (SCI).

The research design combines a comprehensive literature review and secondary data analysis. The literature review draws upon scholarly books, peer-reviewed journal articles, and academic theses related to food security, food poverty, and rural livelihoods. The quantitative dataset contains detailed household-level information on food consumption, demographic characteristics, and socioeconomic conditions.

The minimum dietary energy requirement was set at 2,400 kilocalories per capita per day, as established by the Ministry of Health and Medical Education of the Islamic Republic of Iran. This threshold reflects the dietary standards recommended for the average adult in the Iranian context, taking into account typical activity levels and body composition. The same value has been adopted in previous studies on food consumption and food security in Iran, including Pakravan et al. (2020), Rafati et al. (2021) and Shabanzadeh-Khoshrody et al. (2024), providing consistency with national research practices. This threshold served as the benchmark for classifying households into food-secure and food-insecure categories.

To estimate the caloric content of rural households' food baskets, a nutritional performance matrix was constructed using consumption data for 222 distinct food items. This matrix was obtained by multiplying two component matrices:

1. Food Consumption Matrix – rows represent individual food items, and columns correspond to the quantities of each item consumed by rural households.
2. Nutrient Content Matrix – rows contain caloric values, and columns indicate the amount of energy (in kilocalories) per 100 grams of each corresponding food item.

Multiplication of these matrices yields the nutritional performance matrix for rural households, representing total caloric intake from all consumed food items. Assuming a linear functional form, the caloric content model is expressed as follows (Smed et al., 2005; Akerele, 2011; Shabanzadeh-Khoshrody et al., 2022):

$$L_h^* = \sum_{j=1}^{n=k} \beta_j X_{hj} + \varepsilon_h \quad (1)$$

Where:

L_h^*: total caloric intake of household h

X_{hj}: quantity of food item j consumed by household h

β_j : energy content (kcal) of food item j per unit of measurement

ε_h: random error term

To obtain per capita monthly caloric intake, the total household caloric intake matrix was divided by the average household size. Subsequently, dividing each element by 30 provided the average daily per capita caloric intake across different food items.

3.2. Aggregate Household Food Security Index (AHFSI)

To assess food security at the macro level, the Aggregate Household Food Security Index (AHFSI), developed by the Food and Agriculture Organization (FAO) and grounded in the works of Sen (1976) and Bigman (1993), was applied. The AHFSI is defined as:

$$AHFSI = 100 - [H\{G + (1-G)I^P\} + 0.5\Omega\{1 - H[G - (1-G)I^P]\}]100 \quad (2)$$

Where:

$H = \frac{P_U}{P_T}$: Headcount ratio, proportion of individuals consuming less than the energy requirement.

$G = \frac{C_S - C_{AU}}{C_S H}$: Severity of food poverty, were C_S is the standard energy requirement (kcal/day) and C_{AU} is the average energy intake of those below the standard.

$\Omega = \frac{S}{\bar{X}}$: Temporal variation in energy supply, where S is the standard deviation and $\bar{X}$ is the mean energy supply over time.

I^P: Inequality in the distribution of food gaps among the food-insecure population, measured using the Gini coefficient derived from the Lorenz curve.

The AHFSI ranges from 0 to 100, where values below 65% indicate critical food insecurity, 65%-75% denote low food security, and above 75% represent high food security (Mehrabi Bushrabadi & Mousavi Mohammadi, 2009; Amirzadeh Moradabadi et al., 2020).

In addition, this study employed a calorie-based criterion to classify households as food-secure or food-insecure. Following the World Food Programme (WFP) guidelines, households with per capita daily calorie intake exceeding the minimum requirement are considered food secure. Households with calorie intake at least 30% below this threshold are categorized as food insecure, while those with intake levels falling between these two ranges are classified as being on the borderline of food insecurity (Huang et al., 2015).

3.3. Foster–Greer–Thorbecke (FGT) Index

Food poverty was measured using the Foster–Greer–Thorbecke (FGT) index, widely used in poverty and food insecurity analysis (Foster et al., 2010). The general formula is:

$$FGT = P(a) = \frac{1}{n}\sum_{i=1}^{q}\left(\frac{Z - T_h^*}{Z}\right)^a \quad (3)$$

Where:

n: Total population size.

q: Number of food-insecure individuals.

Z: Calorie threshold for food security (2,400 kcal/day per capita).

T_h^*: Calorie intake of individual h.

a: Parameter defining the index type:

$a = 0$: Headcount ratio (incidence of food poverty)

$a = 1$: Poverty gap (depth of food poverty)

$a = 2$: Poverty severity (distribution-sensitive measure)

3.4. Logit model

To identify socioeconomic determinants of household food security, a binary logistic regression (logit) model was estimated. The dependent variable is defined as:

$$y_i = \begin{cases} 0 \text{ if household is food} - \text{secure (per capita calorie} > 2{,}400 \text{ kcal)} \\ 1 \text{ if household is food} - \text{insecure (per capita calorie} < 2{,}400 \text{ kcal)} \end{cases} \quad (4)$$

The probability model is given by:

$$\Pr(y_i = 1) = \frac{e^{\beta' X_i}}{1 + e^{\beta' X_i}} = \psi(\beta' X_i) \quad (5)$$

Where:

X_i: Vector of explanatory variables (age, gender, education of household head, household size, employment status, subsidy receipt, income, dietary diversity).

β: Vector of coefficients to be estimated.

ψ : Logistic cumulative distribution function.

Marginal effects were calculated as:

$$\mathrm{ME}_L = \frac{\partial P_i}{\partial X_i} = \frac{e^{\beta' X}}{(1 + e^{\beta' X})^2}\beta_i \quad (6)$$

The model's goodness-of-fit was evaluated using the Likelihood Ratio (LR) test:

$$\mathrm{LR} = 2[\mathrm{LL_{UR}} - \mathrm{LL_R}] \quad (7)$$

where $\mathrm{LL_{UR}}$ and $\mathrm{LL_R}$ represent the log-likelihood values of the unrestricted and restricted models, respectively. The LR statistic follows a chi-square distribution and tests the overall significance of the regression (Agresti, 2003).

4. Research Findings

4.1. AHFSI and Food Security Status in Rural Iran

The components of the Aggregate Household Food Security Index (AHFSI) for rural areas of Iran in 2023 were first calculated as follows: the Headcount ratio (H), the Severity of food poverty (G), and the Temporal variation in energy supply (Ω). Based on these components, the AHFSI for rural areas was estimated at 68.8 (Table 1). According to the FAO classification, this value falls within the 65–75 range, indicating a low level of food security in rural regions. Historical comparisons show a marked decline over the past two decades, with Mehrabi Bushrabadi and Mousavi Mohammadi (2009) reporting an AHFSI of approximately 92 in the early 2000s, and Heidary (2018) estimating around 82 in the early 2010s. These results suggest a transition from high to low food security in rural Iran during this period.

The downward trend appears to be associated with persistent economic challenges, including high

inflation and income stagnation. In particular, the escalation of sanctions in 2018 led to reduced foreign exchange revenues, currency depreciation, and rising food prices. Meanwhile, wage growth did not keep pace with inflation, reducing purchasing power, especially among rural households with lower income levels.

Table 1. AHFSI Index for Rural Areas of Iran in 2023

Headcount Ratio (H)	Severity of Food Poverty (G)	Temporal Variation (Ω)	Aggregate Household Food Security Index Index (%) (AHFSI)
0.445	0.634	0.017	68.8

It should be noted that while Table 1 reports the aggregate AHFSI for rural areas (68.8%), Figure 1 depicts the proportion of individuals classified as food secure, borderline, or food insecure based on the 2400 kcal per capita threshold. Therefore, the values presented in Figure 1 are not directly comparable to the AHFSI, as they reflect individual-level classification rather than a population-level aggregate index.

In addition to AHFSI, the proportion of food-secure households was calculated (Figure 1). The results indicate that in 2023, only about 45% of rural residents were food secure, while more than 55% experienced either food insecurity or were on the borderline. In contrast, Akbari et al. (2016) reported that approximately 76% of rural households were food secure in the early 2010s, underscoring a substantial decline in rural food security over the past decade.

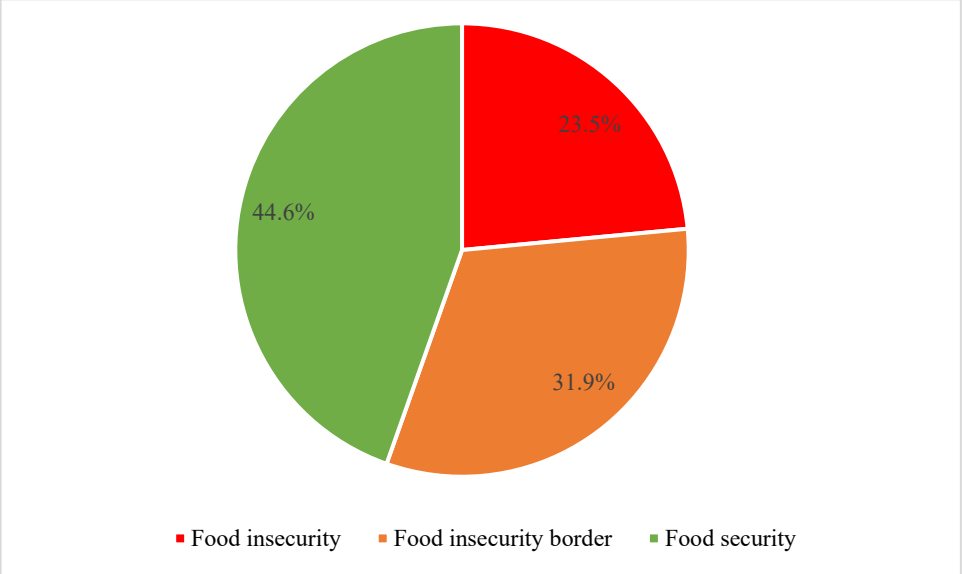


Figure 1. Percentage of Food Secure Individuals in Rural Areas of Iran in 2023

4.2. Daily Calorie Intake by Province

Figure 2 presents the average daily calorie intake per adult in rural areas of different provinces of Iran in 2023, based on data from the Statistical Center of Iran. It should be noted that Figure 2 presents average daily calorie intake per adult in rural areas of each province. These values reflect individual-level caloric consumption and are not directly comparable to the aggregate AHFSI index (68.8%), which is calculated at the population level using headcount ratio, severity, and temporal variation. In line with national nutritional guidelines, a daily energy intake of 2,400 kcal per capita is considered the minimum requirement for maintaining adequate metabolic function. The results indicate that-with the exception of ten provinces: Hamadan, Kohgiluyeh and Boyer-Ahmad, Qazvin, Tehran, Golestan, Sistan and Baluchestan, Alborz, Gilan,

Hormozgan, and West Azerbaijan-all other provinces met or exceeded this threshold. This suggests that most rural residents during the study period achieved at least the basic caloric requirement for food security. However, a noteworthy pattern is observed in provinces such as South Khorasan and Ilam, which, despite being classified as economically deprived, exhibited relatively high average calorie intakes. Further analysis suggests that in these cases, elevated calorie levels are largely attributable to the consumption of energy-dense but nutrient-poor foods, increasing total caloric intake without ensuring adequate micronutrient consumption. This underscores the limitation of calorie-based measures in fully capturing the nutritional dimension of food security, indicating that caloric adequacy does not necessarily equate to nutritional adequacy.

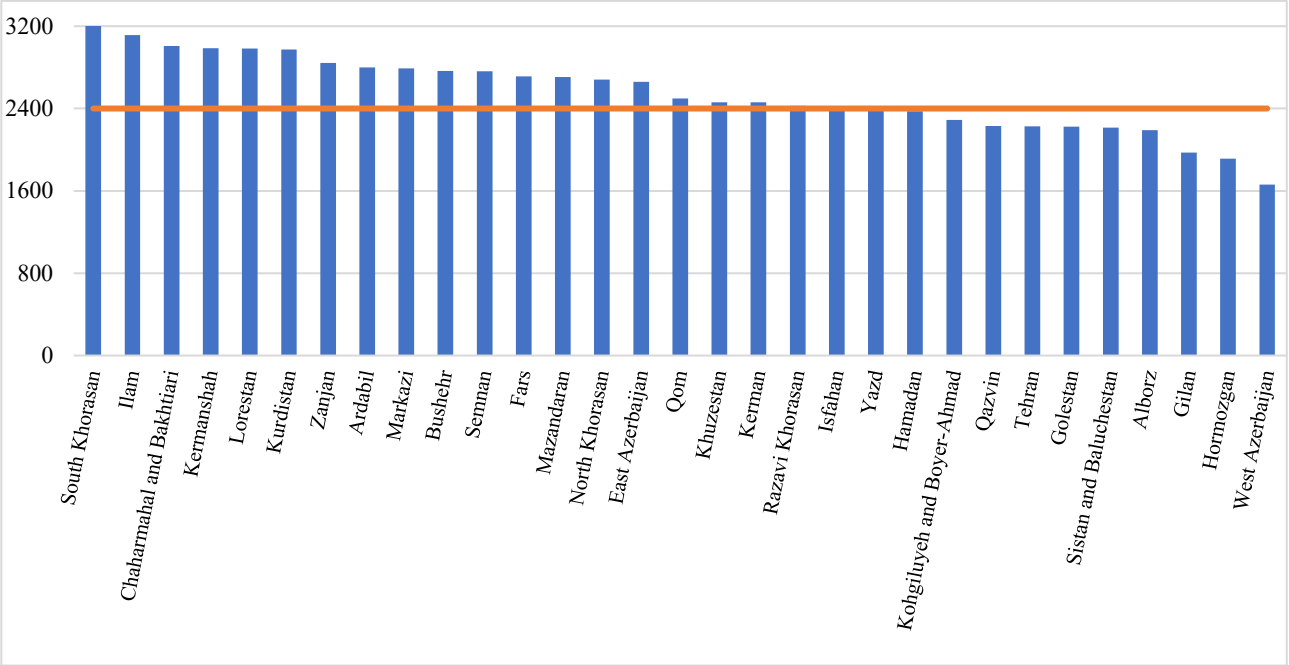


Figure 2. Calorie intake in rural areas of Iran in 2023 (kcal/day per capita)

4.3. Food Poverty Indicators

Table 2 presents key food poverty indicators for rural Iran in 2023. The average food poverty rate was calculated at 50.3%, indicating that approximately half of the rural population faced food poverty during this period. Comparisons with earlier studies by Nosratabadi et al. (2015), who reported rates of 40% and 46% in 2004 and 2012 respectively, suggest a significant worsening trend over the past two decades. The poverty gap was estimated at 14.2%, meaning that on average, calorie intake among food-poor households falls 14.2% below the minimum required level. To eradicate food poverty entirely, calorie intake for these households must increase by this proportion. The severity of food poverty, measured by the squared poverty gap index, stood at 5.8%, reflecting the distribution of calorie deprivation among the poorest households and placing greater emphasis on those furthest below the threshold. A positive correlation exists between the poverty gap and severity indices, with provinces exhibiting higher poverty gaps generally also experiencing higher severity. Among provinces, Hormozgan, Gilan, and West Azerbaijan showed the highest food poverty rates, whereas Kermanshah, Semnan, and Ilam had the lowest. Spatial analysis highlights considerable heterogeneity across provinces, with poverty rates ranging from 19.6% to 79.4%, poverty gaps from 3% to 29.7%, and severity indices from 0.7% to 14%. Earlier studies (Jafari Sani & Bakhshoodeh, 2008; Rezaeefar et al., 2022) reported narrower ranges, indicating a deterioration in food poverty conditions in rural Iran over time.

Table 2. Food poverty indicators in rural areas of Iran in 2023

Povince	Poverty Rate	Poverty Gap	Squared Poverty Gap
Hormozgan	79.4	29.7	14.0
Gilan	70.1	21.4	9.0
West Azerbaijan	68.1	24.6	11.3
Golestan	64.3	20.3	8.9
Tehran	64.0	15.3	5.1
Kerman	62.6	17.2	6.1
Qazvin	61.3	15.8	5.5
Alborz	60.9	21.9	10.7
Isfahan	60.1	16.7	6.4
Kohgiluyeh and Boyer-Ahmad	57.2	17.2	7.8
Qom	55.9	13.0	4.2
Yazd	54.0	17.7	8.1
East Azerbaijan	53.4	15.1	6.2
Khuzestan	53.1	10.4	3.2
Sistan and Baluchestan	53.0	17.9	8.9
Mazandaran	52.9	11.9	3.8
Hamadan	52.0	17.4	8.0
Ardabil	51.4	10.9	3.5
Razavi Khorasan	50.0	13.2	5.0
Kurdistan	48.1	15.7	7.2
Bushehr	45.0	12.2	5.0
Fars	43.0	12.8	5.7
Markazi	42.4	12.9	5.5
North Khorasan	40.6	10.3	3.9
Chaharmahal and Bakhtiari	37.2	7.8	2.6
Zanjan	36.9	9.3	3.4
Lorestan	35.1	7.8	2.6
South Khorasan	34.9	8.9	3.5
Ilam	28.5	4.8	1.2
Semnan	27.2	6.0	1.9
Kermanshah	19.6	3.0	0.7
Average	50.3	14.2	5.8

Figure 3 illustrates the food poverty map of rural Iran in 2023, highlighting that West Azerbaijan, Hormozgan, and Gilan have the highest poverty rates, whereas Kermanshah, Ilam, Semnan, and South Khorasan display relatively lower rates.

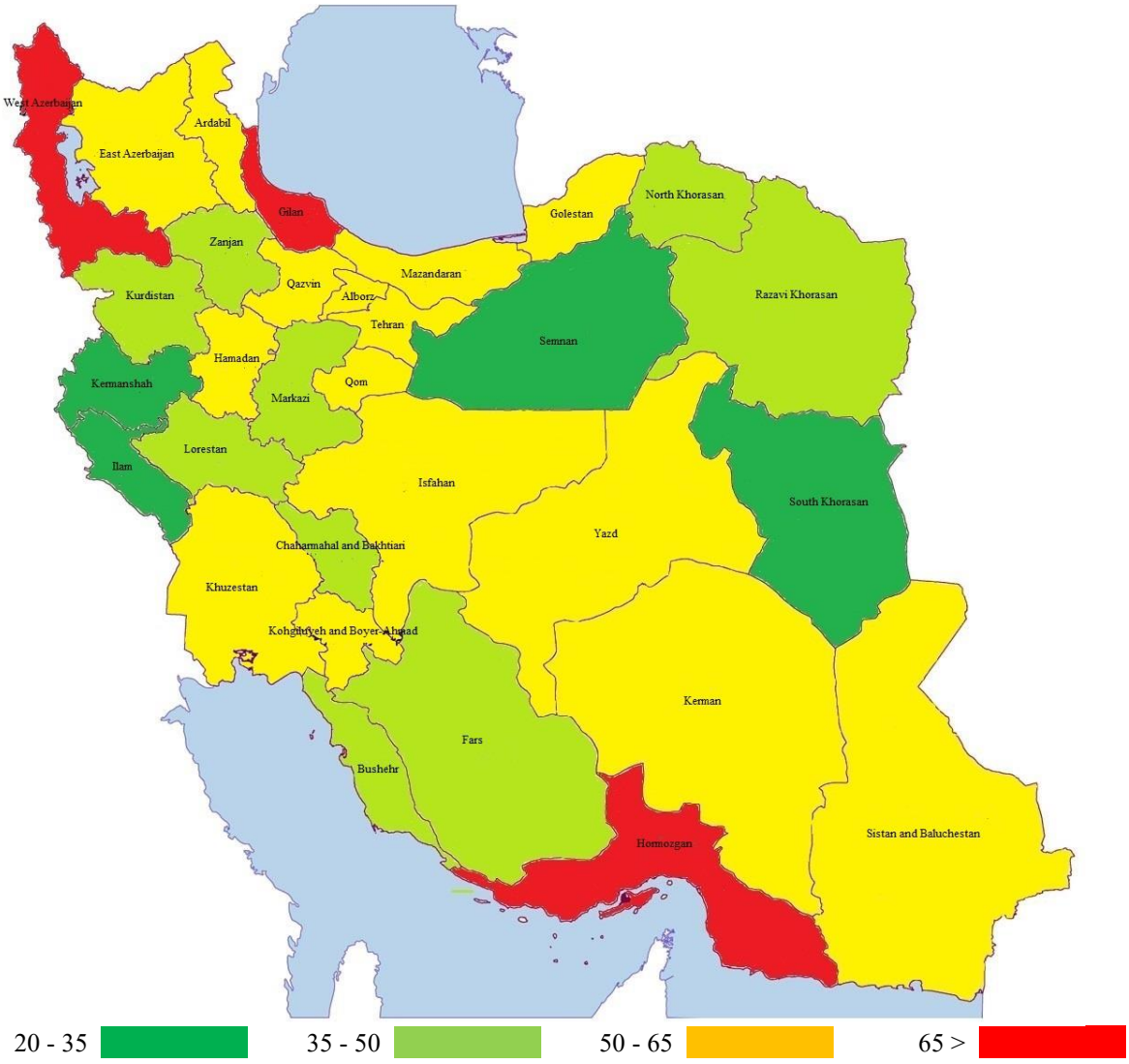


Figure 3. Food Poverty Map of Rural Areas of Iran in 2023

4.4. Determinants of Household Food Security

To identify the factors affecting household food security in rural Iran, a logistic regression model was estimated, with results summarized in Table 3. Goodness-of-fit measures-including pseudo R-squared, classification accuracy, deviance, and Pearson chi-square tests -indicate a good model fit, confirming the robustness of the estimates.

Economic, demographic, and social variables collectively shape food security status. In rural settings, where livelihoods depend largely on agriculture, livestock, or seasonal work, disruptions in income or household composition directly impact food access and purchasing power.

Key findings include:

- Age of household head is negatively associated with food insecurity, consistent with Akbari et al. (2016) and Hashemitabar et al. (2018). Older heads often have greater economic stability, land ownership, social networks, and livelihood experience, which reduce vulnerability. Unlike urban areas where aging might reduce income, in rural Iran it tends to increase social capital and stability.
- Gender of household head shows no statistically significant effect on food security in this model, possibly reflecting rural social norms and support systems that moderate gender disparities. While female-headed households often face vulnerability, gender effects may be mediated through income or employment status.
- Literacy of household head is not significant, perhaps due to the narrow definition of literacy (basic reading and writing). In rural areas, practical skills and informal knowledge may

have a greater influence on livelihoods than formal education alone.

- Household size significantly increases the likelihood of food insecurity, echoing previous research (Akbari et al., 2016; Hashemitabar et al., 2018; Razmavar et al., 2023). Larger households demand more food and resources, and limited job opportunities can increase dependency ratios, lowering per capita availability.
- Dietary diversity strongly reduces food insecurity risk. Households with varied diets-rich in fruits, vegetables, protein, and dairy-tend to have more stable nutrition and better economic conditions. In contrast, monotonous diets signal chronic poverty and vulnerability to shocks.
- Receipt of government subsidies significantly improves food security, supporting findings by Okati et al. (2020). Subsidies provide stable income for many rural families with irregular earnings, helping meet basic nutritional needs and reduce vulnerability.
- Employment status of the household head is a strong determinant. Employed heads, even if informally or seasonally, secure essential income for food purchase. Unemployment raises food insecurity risks due to unstable income and limited access to social support (Pakravan et al., 2020).
- Household income level is among the most critical factors. Higher and stable incomes enable better food access, while low or volatile income exposes households to insecurity amid economic crises or environmental shocks. This aligns with prior studies (Hashemitabar et al., 2018; Okati et al., 2020).

In summary, rural food security in Iran depends heavily on economic stability, household demographics, social support, and effective resource management. Policies aimed at enhancing food security should focus on job creation, income stabilization, dietary diversification, and targeted social assistance.

Table 3. The results of the logit model

Variable	Coefficient	Z-statistic	p-value	Marginal Effect
Age of the head of household	-0.029	-14.894	0.000	-0.010
Gender of the head of household (male=1, female=2)	-0.134	-1.052	0.292	-0.048
Literacy of the household head (literate=1, illiterate=2)	0.063	0.967	0.333	0.023
Household size	0.398	11.542	0.000	0.144
Food diversity	-1.755	-10.466	0.000	-0.635
Logarithm of household subsidy	-1.141	-5.281	0.000	-0.413
Employment status of the head of household (employed=1, unemployed=2)	0.215	2.264	0.023	0.078
Logarithm of household income	-0.244	-3.741	0.000	-0.088
Pseudo R-squared	0.60	Deviance	0.95	
AN R-squared	0.76	Pearson	0.82	
Percentage of correct predictions	74.3%	Likelihood Ratio (LR)	4.845 (0.04)	

5. Discussion and Conclusion

As discussed in Section 4, our results have been compared with previous studies in Iran, highlighting temporal trends and differences in rural food security and poverty levels. These comparisons provide context for interpreting the current findings and reinforce the evidence-based insights presented in this study. Overall, the findings answer the research question by highlighting spatial disparities in food insecurity across rural Iran and identifying key household-level determinants of food security.

Food security, defined as universal access to a healthy, balanced, and sufficient diet, holds particular importance in Iran due to the country's unique political and economic challenges. The critical significance of food security extends beyond

its intrinsic connection to various dimensions of sustainable development; it also arises from the severe adverse impacts that food insecurity can have on public health, social cohesion, and even national security. In this context, adopting a data-driven and evidence-based approach to managing and improving food security becomes an unavoidable necessity.

This study calculated household food security indicators for rural areas of Iran using the Aggregate Household Food Security Index (AHFSI) and a calorie-based criterion. Food poverty was assessed using the Foster–Greer–Thorbecke (FGT) index, which facilitated mapping the spatial distribution of rural food poverty. Finally, a logistic regression model was applied, incorporating socio-economic and demographic household characteristics, to identify key determinants influencing rural household food security status.

The results of this study clearly demonstrate that rural food security in Iran depends heavily on several critical factors: economic stability, household demographics, social support mechanisms, and effective management of food resources. Economic conditions-especially stable income and employment-play a foundational role in ensuring access to adequate and diverse diets. Demographic factors such as household size and age of the household head influence vulnerability to food insecurity, while social supports, including government subsidies, substantially mitigate risks. Effective resource management, exemplified by dietary diversity, further reduces food insecurity risk by improving nutritional quality.

The concerning deterioration observed-marked by declining dietary diversity, rising food poverty rates, and reliance on low-cost, nutrient-poor foods-underscores the urgency of policy action. Enhancing rural food security requires a multifaceted approach focused on:

1. Job creation and income stabilization to ensure households have the means to access adequate food.
2. Promoting dietary diversification to improve nutrition and reduce dependence on calorie-dense but nutrient-poor foods.
3. Expanding targeted social assistance programs, including subsidies and support for vulnerable groups.

Based on these findings, we propose the following practical policy recommendations:

1. *Reforming the Subsidy System with a Focus on Food Security:* Transition from general subsidies toward targeted nutrition subsidies that directly assist low-income groups in purchasing nutrient-rich foods such as dairy, white meat, eggs, fruits, and vegetables. The introduction of a "Rural Healthy Nutrition Card" could facilitate access to quality foods for vulnerable households. Additionally, conditional subsidies rewarding dietary diversity could incentivize healthier eating habits.
2. *Developing Short Supply Chains for Food in Rural Areas:* Establishment of local producer-to-consumer markets and agricultural cooperatives can reduce intermediary costs and improve access to fresh foods. Supporting small-scale and home gardening, poultry, and livestock farming enhances micronutrient availability and diversifies food sources.
3. *Nutrition Education and Promotion of Healthy Consumption Patterns:* Implement educational programs in rural schools and community centers focusing on dietary diversity and affordable, nutrient-rich food preparation methods. Utilizing local media and agricultural extension services to disseminate practical cooking and food preservation techniques is crucial.
4. *Supporting Income Generation and Employment in Rural Communities:* Promote sustainable rural employment by developing small-scale agricultural industries, especially those empowering women, such as home-based dairy production and processing of herbal products. Access to low-interest microloans conditioned on healthy food production can encourage investment in productive activities like greenhouse farming and poultry rearing. Agricultural tourism can be another complementary income source.
5. *Continuous Monitoring and Surveillance of Food Security and Poverty:* Establish a national food security monitoring system that regularly collects and analyzes household data on consumption, income, and health, leveraging local health centers and rural administrations. Annual publication of detailed food poverty atlases at the provincial and village levels will guide resource allocation and intervention targeting.
6. *Focused Interventions in High-Risk Regions:* Special support programs for provinces

identified as critical, including free or subsidized nutritional packages for vulnerable groups such as children and the elderly, micronutrient supplementation in schools and health homes, and infrastructure improvements to facilitate market access.

7. *Attention to Large and Female-Headed Households:* Enhance social safety nets by increasing food aid quotas and subsidies for larger families and designing specific programs supporting female-headed households through training, home-based employment opportunities, and nutritional assistance.
8. *Multi-sectoral and Coordinated Actions:* Formation of provincial and district food security council's involving agricultural, health, welfare, local governance, and academic stakeholders is essential. Such coordination ensures synergy between poverty alleviation programs and public health initiatives, such as integrating poverty reduction with maternal and child nutrition supplementation.

In conclusion, this study highlights the complex and multifactorial nature of food security challenges in rural Iran. By emphasizing the central role of economic and demographic factors alongside social support and nutrition education, our findings stress the need for data-driven, context-specific, and integrated policy responses. Addressing these dimensions holistically will foster sustainable improvements in rural nutrition and wellbeing, ultimately advancing national development and social stability.

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Authors' contributions

The authors equally contributed to the preparation of this article.

Conflict of interest

The author declares no conflict of interest.

References

1. Abdi, F., Atarodi Kashani, Z., Mirmiran, P. & Esteki, T. (2015). Surveying Global and Iranian Food Consumption Patterns: A Review of the Literature. *Journal of Fasa University of Medical Sciences, 5*(2), 159-167. [In Persian] https://sid.ir/paper/203903/en
2. Agresti, A. (2003). Categorical data analysis. John Wiley & Sons.
3. Ahmadi Javid, M., Akbari, A. & Ziaei, M.B. (2014). Studying the pattern of consumption of food products in urban households of Sistan and Baluchestan province with a food security approach. *Journal of Agricultural Economics Research, 6*(23), 143-158. [In Persian] https://jead.um.ac.ir/article_46664_80356e623c57e35dad3f357971ef3bfb.pdf
4. Akbari, M., Pishbahar, E. and Dashti, G. (2016). Identifying the effective factors on food insafety in Iranian Rural Households:Application of generalized ordered logit model. *Journal of Applied Economics Studies in Iran, 9*(35), 91-125. [In Persian] https://doi.org/10.22084/aes.2020.21656.3058
5. Akerele, D. (2011). Intra-household food distribution patterns and calorie inadequacy in South-Western Nigeria. *International journal of consumer studies, 35*(5), 545-551. https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1470-6431.2010.00981.x
6. Amirzadeh Moradabadi, S., Ziaee, S., Mehrabi Boshr Abadi, H. and Kehkha, A. (2020). Effect of Agricultural Sustainability on Food Security of Urban Households in Iran: A Spatial Analysis at Provincial Level. *Agricultural Economics and Development, 28*(2), 25-48. [In Persian] https://doi.org/10.30490/aead.2020.262222.1005
7. Ashktorab, N. and Nematollahi, Z. (2019). The Effects of Increasing Food Commodities Prices on the Welfare and Poverty of Iranian Urban Households. *Journal of Agricultural Economics & Development*, 32(4), 287-298. [In Persian] https://doi.org/10.22067/jead2.v32i4.69715
8. Azmayesh Asiabasri, M., Moti-Haghshenas, N. & Rostamalizadeh, V. (2023). Government Policy and Changes in Food Consumption Patterns; A Study of Households in Rasht City during 2005-2010: Results of a Qualitative Analysis. *Development Strategy Quarterly, 19* (2), 193-220. [In Persian] https://journal.eri.acecr.ir/en/Article/45379
9. Babatunde, R. O., Omotesho, O. A., & Sholotan, O. S. (2007). Socio-economic characteristics and food security status of farming households in Kwara State, North-Central Nigeria. *Pakistan Journal of Nutrition*, 6(1), 49–58. https://doi.org/10.3923/pjn.2007.49.58

10.Bashir, M. K., & Schilizzi, S. (2013). Determinants of rural household food security: A comparative analysis of African and Asian studies. *Journal of the Science of Food and Agriculture, 93*(6), 1251–1258. https://doi.org/10.1002/jsfa.6038
11.Bigman, D. (1993). The measurement of food insecurity: chronic undernutrition and temporary food deficiencies.
12.Chinnakali, P., Upadhyay, R. P., Shokeen, D., Singh, K., Kaur, M., Singh, A. K., & Goswami, A. (2014). Prevalence of household-level food insecurity and its determinants in an urban resettlement colony in North India. *Journal of Health, Population, and Nutrition, 32*(2), 227–236. https://doi.org/10.3329/jhpn.v32i2.2627
13.Farshidi, H., Madani, A., Ezati Rad, R., Montaseri, M., Rostami Qeshmi, I. & Iqbal Eftekhari, T. (2020). Pattern of fish consumption in the food table of households in Hormozgan province. *J Prevent, 7* (1), 31-24 [In Persian]
14.FAO. (2011). Guidelines for measuring household and individual dietary diversity. FAO. http://www.fao.org/3/i1983e/i1983e.pdf
15.FAO, (2015). *The State of Food Insecurity in the World 2015, Meeting the 2015 international hunger targets: taking stock of uneven progress*, Food and Agriculture Organization Publications, Rome.
16.FAO, IFAD, UNICEF, WFP & WHO., (2023). The state of food security and nutrition in the world 2023.
17.Foster, J., Greer, J., & Thorbecke, E. (2010). The Foster–Greer–Thorbecke (FGT) poverty measures: 25 years later. *The Journal of Economic Inequality, 8*(4), 491-524. https://link.springer.com/article/10.1007/s10888-010-9136-1
18.Fram, M. S., Frongillo, E. A., Jones, S. J., Williams, R. C., Burke, M. P., & DeLoach, K. P. (2024). Children are aware of food insecurity and its impact on their well-being. *Journal of Nutrition, 154*(4), 999–1006. https://doi.org/10.1093/jn/nxaa123
19.Ghasemi, M. and Fa'al Jalali, A. (2023). Comparing the Effects of Inflation on the Expenditure and Income of Urban and Rural Families in Iran. *Journal of Research and Rural Planning, 12*(3), 17-32. [In Persian] https://doi.org/10.22067/jrrp.v12i3.2212-1066
20.Ghahremanzadeh, M., Pish Bahar, E., & Khalili Malekshah, S. (2016). The Effect of Macroeconomic Variables on Food Inflation in Iran: An Application of Structural Vector Error Correction Model (SVECM). *Iranian Journal of Agricultural Economics and Development Research, 47*(4), 773-784. [In Persian] https://doi.org/10.22059/ijaedr.2016.61308
21.Ghobadi, N., Safarpour, M., & Yazdanpanah, M. (2018). The impact of targeted subsidies on food security in rural Iran. *Iranian Journal of Agricultural Economics and Development Research, 49*(2), 311–326. [In Persian] https://doi.org/10.22059/ijaedr.2018.66747
22.Ghorbanian, A. and Bakhshoodeh, M. (2016). The Effect of Price Increases on Food Security in the Rural Society of Iran. *Agricultural Economics and Development, 24*(2), 165-189. [In Persian] https://doi.org/10.30490/aead.2016.59037
23.Hashmitbar, M., Akbari, A. & Darini, M. (2018). Analysis of factors affecting food security in rural areas in the south of Kerman province. *Spatial Economics and Rural Development, 7*(2), 1-18. [In Persian]
24.Heidary, K. (2018). Evaluation the impact of US sanctions on food security in Iranian households. Social Security Journal ,14(3), 35-52. [In Persian] https://serd.khu.ac.ir/article-1-4084-en.html
25.Hirvonen, K., & Hoddinott, J. (2017). Agricultural production and children's diets: Evidence from rural Ethiopia. *Agricultural Economics, 48*(4), 469-480. https://onlinelibrary.wiley.com/doi/abs/10.1111/agec.12348
26.Huang, J., Nie, F., & Bi, J. (2015). Comparison of food consumption score (FCS) and calorie intake indicators to measure food security. *In 2015 International Conference on Social Science, Education Management and Sports Education* (pp. 1152-1158). Atlantis Press.
27.Jafari Sani, M. & Bakhshoodeh, M. (2008). Investigating poverty and food insecurity distribution over space in rural and urban areas of Iran. *Agricultural Economics and Development, 16*(1), 103-123. [In Persian] https://doi.org/10.30490/aead.2008.126904
28.Jandaghian Bidgoli, H., Norouzi, A., & Jalilian, M. (2024). Climate Change and Household Food Security: Evidence from Malaysia. *International Journal of Environmental Research and Public Health*, 21(2), 201–218. https://www.emerald.com/jes/article/43/3/458/220576

29. Kiani Deh Kiani, M., Khalilian, S., Najafi Alamdarlo, H. and Vakilpor, M. H. (2022). Evaluating the impact of rising food prices on the cost of living of Iranian households. *Journal of Economic Research (Tahghighat-E- Eghtesadi), 56*(4), 771-802. [In Persian] https://doi.org/10.22059/jte.2022.332477.1008563
30. Mango, N., Zamasiya, B., Makate, C., Nyikahadzoi, K., & Siziba, S. (2014). Factors influencing household food security among smallholder farmers in the Mudzi district of Zimbabwe. *Development Southern Africa, 31*(4), 625-640. https://www.tandfonline.com/doi/full/10.1080/0376835X.2014.911694
31. Mehrabi Bushrabadi, H. & Mousavi Mohammadi, H. (2009). Studying the effect of trade liberalization on food security of rural households in Iran. *Village and Development, 12*(2), 1-13. [In Persian] https://www.sid.ir/fa/VEWSSID/J_pdf/547139710107.pdf
32. Nosratabadi, M., Sharifian Sani, M., Raghfar, H., Negin, V., Rahgozar, M. & Babapour M. (2015). Measuring and Analyzing Nutritional Poverty Trend among Households with Child in Iran Using Generational Approach: 1984-2012. *Refahj. 15*(56), 39-65. [In Persian] https://refahj.uswr.ac.ir/article-1-2078-fa.html
33. Nowak, V., Kolsteren, P., & Briend, A. (2020). Undernutrition in low-income countries: An overview of causes and potential solutions. *Food Security, 12*(4), 865–878. https://doi.org/10.1007/s12571-020-01036-3
34. Okati, M., ahmadpour borazjani, M. and Sarani, V. (2020). Recognizing the factors affecting on food security in rural areas (Case study of villages in Zahak region in Sistan and Baluchestan province). *Rural Development Strategies, 7*(2), 199-209. [In Persian] https://doi.org/10.22048/rdsj.2020.243527.1865
35. Olayemi, A. O. (2012). Effects of family size on household food security in Osun State, Nigeria. Asian *Journal of Agriculture and Rural Development, 2*(2), 136–141. https://archive.aessweb.com/index.php/5005/article/view/514
36. Pakravan, M. R., Hosseini, S. S., Salami, H. and Yazdani, S. (2015). Identifying effective factors on food security of Iranian's rural and urban household. *Iranian Journal of Agricultural Economics and Development Research, 46*(3), 395-408. [In Persian] https://doi.org/10.22059/ijaedr.2015.55514
37. Pakravan, M. R., Hosseini, S. S. and Nori Naeini, S. (2020). Determining Socio-economic Factors Associated with Household Food Security in Rural and Urban Areas in Khuzestan Province. *Iranian Journal of Economic Research, 25*(83), 113-136. [In Persian] https://doi.org/10.22054/ijer.2020.46842.794
38. Quisumbing, A. R., Meinzen-Dick, R., Raney, T. L., Croppenstedt, A., Behrman, J. A., & Peterman, A. (2014). Gender in agriculture: Closing the knowledge gap. Springer. https://doi.org/10.1007/978-94-017-8616-4
39. Rafati, M., Shabanzadeh-Khoshrody, M. and Javdan, E. (2021). Nutrient Consumption, Diversity and Food Security of the Income deciles of Tehran Province. *Journal of Agricultural Economics & Development, 35*(2), 147-160. [In Persian] https://doi.org/10.22067/jead.2021.69156.1019
40. Razmavar, F., Abdeshahi, A., savari, M. and Bayat, P. (2023). Food Security and Factors Affecting it in Rural Societies of Bushehr Province. *Journal of Rural Research, 14*(3), 444-467. [In Persian] https://doi.org/10.22059/jrur.2022.333184.1693
41. Rezaeifar, M., Khalilian, S. and Najafi Alamdarlo, H. (2022). Spatial distribution of food insecurity in urban and rural areas of Iran. *Agricultural Economics, 16*(1), 99-121. [In Persian] https://doi.org/10.22034/iaes.2022.540824.1881
42. Rostami, E., Taghdis, M.H., Dehdari, T. & Shirzad, M. (2015). Exploring Household Food Consumption Patterns in Rural Areas of Felard in Lordegan in 2015. *RSJ, 1* (2), 25-36. [In Persian]
43. Ruel, M. T. (2003). Operationalizing dietary diversity: A review of measurement issues and research priorities. *The Journal of Nutrition, 133*(11), 3911S–3926S. https://doi.org/10.1093/jn/133.11.3911S
44. Ruel, M. T., Garrett, J., Yosef, S., & Olivier, M. (2017). Urbanization, food security and nutrition. Nutrition and health in a developing world, 705-735.
45. Safarpour, M., Yazdanpanah, M., & Ahmadi, S. (2014). The role of rural development policies in food security: The case of targeted subsidies in Iran. *Journal of Rural Development Strategies, 1*(2), 53–67. [In Persian] https://rdsj.torbath.ac.ir/
46. Sen, A. (1976). Poverty: an ordinal approach to measurement. Econometrica: *Journal of the Econometric Society*, 219-231.

47. Shabanzadeh-Khoshrody, M., Javdan, E. and Rafati, M. (2022). Evaluation of Dietary Diversity of Households and its Effective Factors in Tehran Province. *Journal of Agricultural Economics & Development, 36*(1), 83-97. [In Persian] https://doi.org/10.22067/jead.2021.73240.1093
48. Shabanzadeh-Khoshrody, M., Javdan, E. and Shemshadi, K. (2024). Spatial Distribution of Poverty, Food Insecurity and Effective Factors in Urban Areas of Iran. *Journal of Agricultural Economics & Development, 38*(3), 277-261. [In Persian] https://doi.org/10.22067/jead.2024.87214.1257
49. Shahraki, M. & Ghaderi, S. (2021). Determinants of health expenditures of female-headed households in urban areas of Iran. *Iran J Health Educ Health Promotion, 9* (2), 133-144. [In Persian] https://journal.ihepsa.ir/browse.php?a_id=1596&sid=1&slc_lang=en&ftxt=0
50. Sheibani, M. and Karbasi, A. (2020). Investigating the changes in food consumption patterns of rural households in Khorasan Razavi. *Rural Development Strategies, 7*(3), 239-252. [In Persian] https://doi.org/10.22048/rdsj.2021.242180.1862
51. Siddique, H. M. A., Moheyuddin, G., & Kiani, A. (2020). Human health and worker productivity: Evidence from middle-income countries. *International Journal of Innovation, Creativity and Change, 14*(11), 523-544. https://www.researchgate.net/publication/347139492
52. Seligman, H. K., & Berkowitz, S. A. (2021). Aligning programs and policies to support food security and public health goals in the United States. *Annual Review of Public Health, 42*, 319–337. https://doi.org/10.1146/annurev-publhealth-090419-103711
53. Smed, S., Jensen, J. D., & Denver, S. (2007). Socio-economic characteristics and the effect of taxation as a health policy instrument. *Food Policy, 32*(5-6), 624-639. https://www.sciencedirect.com/science/article/pii/S030691920700019X
54. Smith, L. C., & Subandoro, A. (2007). Measuring food security using household expenditure surveys (Vol. 3). Intl Food Policy Res Inst.
55. Snapp, S. S., & Fisher, M. (2015). Filling the maize basket" supports crop diversity and quality of household diet in Malawi. *Food Security*, 7, 83-96. https://www.researchgate.net/publication/269776074
56. Statistical Center of Iran. (1403). Statistical data and information. www.amar.org.ir.
57. UNICEF. (2024). The state of food security and nutrition in the world 2023.
58. Usman, M. A., & Callo-Concha, D. (2021). Does market access improve dietary diversity and food security? Evidence from Southwestern Ethiopian smallholder coffee producers. *Agricultural and Food Economics, 9*(1), 18. https://www.researchgate.net/publication/350877688
59. Webb, P., & Kennedy, E. (2014). Impacts of agriculture on nutrition: nature of the evidence and research gaps. *Food and nutrition bulletin, 35*(1), 126-132. https://journals.sagepub.com/doi/10.1177/156482651403500113
60. Wen, P., Zhu, N., & Jia, M. (2024). Changes in food consumption and nutrition intake of rural residents in central China. *Heliyon, 10*(16). https://doi.org/10.1016/j.heliyon.2024.e36523
61. WHO. (2025). The State of Food Security and Nutrition in the World. World Health Organization. Retrieved from https://www.who.int
62. World Bank. (2024, May 13). What is food security? World Bank. https://www.worldbank.org/en/topic/agriculture/brief/food-security-update/what-is-food-security
63. Zanello, G., Shankar, B., & Poole, N. (2019). Buy or make? Agricultural production diversity, markets and dietary diversity in Afghanistan. *Food Policy,* 87, 101731. https://www.sciencedirect.com/science/article/pii/S030691921830575X

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Original Article

تحلیل فضایی فقر و ناامنی غذایی در مناطق روستایی ایران: ارزیابی وضعیت و عوامل مؤثر بر ناامنی غذایی

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چکیده مبسوط

۱. مقدمه

مناطق روستایی در ایران با جمعیتی بالغ بر ۲۴ میلیون نفر، نقش حیاتی در ساختار اجتماعی، اقتصادی و فرهنگی کشور ایفا می‌کنند. در ایران، اگرچه به صورت دیرینه مناطق روستایی از نظر دسترسی به منابع غذایی، عادات غذایی و فرهنگ‌های محلی، دارای الگوهای خاص خود بوده‌اند، اما با نفوذ تغییرات اقتصادی و اجتماعی، عادات غذایی در این مناطق نیز دستخوش تحولات قابل توجهی شده است. اگر چه دولت در ایران همواره سعی کرده است تا سیاست‌های حمایتی را به خصوص در مناطق روستایی، در جهت بهبود وضعیت معیشت خانوارها اتخاذ کند، اما کارشناسان معتقدند به دلیل شرایط تورمی و به دنبال آن تاثیرپذیری درآمد واقعی و قدرت خرید مصرف‌کنندگان، این برنامه ها در خصوص کاهش فقر و ناامنی غذایی اثرگذاری لازم را نداشته‌اند. این در حالی است که کاهش فقر و افزایش ضریب امنیت غذایی یک الزام برای کشورهای مستقل نظیر ایران به شمار می‌رود. ازاین‌رو، اتخاذ رویکردی علمی، مبتنی بر شواهد و داده‌محور در مدیریت این حوزه، ضرورتی انکارناپذیر دارد. گام نخست در این مسیر، شناخت دقیق وضعیت کنونی است تا بتوان سیاست‌های کارآمد و هدفمندی را طراحی و اجرا کرد. پژوهش حاضر با همین هدف، به بررسی و تحلیل فقر و ناامنی غذایی در مناطق روستایی ایران در سال ۱۴۰۲ پرداخته است.

۲. مبانی نظری تحقیق

مبانی نظری این پژوهش بر بررسی ارتباط میان فقر غذایی و ناامنی غذایی با رویکرد فضایی استوار است. فقر غذایی، به‌عنوان ناتوانی پایدار خانوارها در تأمین غذای کافی، سالم و متنوع برای حفظ زندگی سالم و فعال، یکی از مهم‌ترین ابعاد محرومیت در مناطق روستایی به شمار می‌آید. بر اساس تعریف سازمان خواربار و کشاورزی ملل متحد (FAO)، ناامنی غذایی زمانی رخ می‌دهد که افراد همواره به غذای کافی و مغذی، با دسترسی فیزیکی، اقتصادی و اجتماعی مناسب، دسترسی نداشته باشند. این وضعیت تحت تأثیر مجموعه‌ای از عوامل جمعیتی، اقتصادی و اجتماعی نظیر سن، جنس، سطح سواد سرپرست، اندازه خانوار، تنوع غذایی، میزان یارانه دریافتی، وضعیت اشتغال و درآمد خانوار شکل می‌گیرد. تحلیل فضایی با شناسایی الگوهای مکانی و مناطق دارای بیشترین آسیب‌پذیری، زمینه‌ساز تدوین سیاست‌های هدفمند برای کاهش فقر غذایی و ارتقای امنیت غذایی در جوامع روستایی می‌شود.

۳. روش تحقیق

در این مطالعه، ابتدا شاخص‌های امنیت غذایی و فقر غذایی برای مناطق روستایی ایران محاسبه و سپس عوامل موثر بر ناامنی غذایی خانوار بررسی شد. برای سنجش امنیت غذایی، از شاخص کلی امنیت غذایی خانوار (AHFSI) و معیار کالری استفاده شد. همچنین، فقر غذایی با استفاده از شاخص فوستر، گریر و توربک (FGT) مورد ارزیابی قرار گرفت و بر مبنای آن، اطلس فقر غذایی مناطق روستایی ایران ترسیم گردید. در نهایت، به‌منظور شناسایی عوامل مؤثر بر ناامنی غذایی، مدل اقتصادسنجی لاجیت مورد استفاده قرار گرفت.

۴. یافته‌های تحقیق

بررسی شاخص AHFSI نشان می‌دهد که امنیت غذایی در سطح ملی برای مناطق روستایی ایران در سال ۱۴۰۲ معادل ۶۸.۸ بوده که بیانگر سطح پایین امنیت غذایی است. این رقم در مقایسه با مقادیر بالای دهه ۸۰ (بیش از ۹۰)، کاهش چشمگیری را نشان می‌دهد. از سوی دیگر، بررسی شاخص‌های فقر غذایی نشان‌دهنده افزایش چشمگیر فقر در مناطق روستایی در دو دهه گذشته است. نرخ فقر غذایی در سال ۱۴۰۲ به ۵۰.۳ درصد رسیده که در مقایسه با حدود ۴۰ درصد در اوایل دهه ۱۳۸۰، افزایش قابل‌توجهی دارد. شکاف فقر ۱۴.۲ درصد و شدت فقر نیز ۵.۸ درصد برآورد شده که به‌روشنی گویای عمیق‌تر شدن فقر در میان اقشار آسیب‌پذیر است. توزیع مکانی فقر نیز ناهمگونی زیادی را نشان می‌دهد؛ استان‌هایی مانند گیلان، هرمزگان و آذربایجان غربی در بدترین وضعیت قرار دارند، در حالی‌که ایلام، سمنان و کرمانشاه از نرخ فقر پایین‌تری برخوردارند. در نهایت نیز تحلیل مدل

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لاجیت نشان داد که عواملی همچون سن سرپرست خانوار، تنوع غذایی، اشتغال، دریافت یارانه و سطح درآمد تأثیر معناداری در بهبود وضعیت امنیت غذایی دارند. در مقابل، جنسیت و سطح سواد سرپرست خانوار تأثیر معناداری نداشته‌اند. همچنین افزایش بعد خانوار افزایش ناامنی غذایی را به همراه دارد. در مجموع، نتایج پژوهش حاکی از آن است که وضعیت اقتصادی خانوار مهم‌ترین عامل تعیین‌کننده سطح امنیت غذایی در مناطق روستایی ایران است.

۵. بحث و نتیجه‌گیری

با توجه به یافته‌های پژوهش، می‌توان نتیجه گرفت که وضعیت امنیت غذایی در مناطق روستایی ایران طی دو دهه گذشته روندی نگران‌کننده داشته است. کاهش تنوع غذایی، گسترش فقر و تکیه بر مواد غذایی ارزان‌قیمت با ارزش تغذیه‌ای پایین، از چالش‌های اصلی خانوارهای روستایی به‌شمار می‌روند. ازاین‌رو، پیشنهاد می‌شود سیاست‌گذاران با رویکردی منطقه‌محور، اقدام به طراحی برنامه‌هایی در زمینه اشتغال‌زایی، افزایش درآمد، ارتقای تنوع غذایی و بازنگری در نظام یارانه‌ای کنند تا به بهبود امنیت غذایی در این مناطق دست یابند.

کلید واژه‌ها: فقر غذایی، امنیت غذایی، مناطق روستایی ایران، مدل لاجیت.

تشکر و قدردانی

مطالعه حاضر حامی مالی نداشته و حاصل فعالیت علمی نویسنده است.

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Original Article

Investigating the Impact of Economic, Social-cultural, Environmental and Spatial Factors on Return Migration in Rural Areas (Case Study: Bandar Khamir County)

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Abstract

Purpose- Increasing economic pressures, environmental degradation, and public health challenges in urban areas have been identified as key drivers motivating individuals to return to rural regions. This study examines the influence of economic, socio-cultural, environmental, and spatial factors on return migration to rural areas, focusing on Bandar Khamir County in Iran as a case study.

Design/methodology/approach- This study employed a descriptive-analytical approach and a quantitative method. The statistical population included Bandar Khamir residents, and a sample of 300 people was selected using a simple random sampling method. A researcher-developed Return Migration Questionnaire was utilised to examine the research variables. This questionnaire was designed to cover four factors: economic, social-cultural, environmental, and spatial factors. Several professors and experts verified the face validity of this scale, and its reliability was assessed using Cronbach's alpha, which produced a coefficient of 0.90. This is regarded as a highly satisfactory value for the questionnaire. The study utilized LISREL for structural analysis to verify the measurement model's validity, and SPSS for statistical processing. Specifically, the Chi-square test was calculated using SPSS version 23.

Findings- The results showed that economic, socio-cultural, environmental, and spatial factors all have a positive and statistically significant effect on return migration. Economic factors had the strongest impact ($\beta = 0.929$; $R^2 = 0.863$), explaining 86.3% of the variance in return migration. Environmental ($\beta = 0.923$; $R^2 = 0.852$) and socio-cultural factors ($\beta = 0.907$; $R^2 = 0.822$) also demonstrated strong explanatory power, while spatial factors showed a comparatively lower but still significant effect ($\beta = 0.805$; $R^2 = 0.648$). Chi-square test results confirmed all four hypotheses at $p < 0.001$ ($df = 299$). Economic factors had the highest association with return migration ($\chi^2 = 172.534$), followed by spatial ($\chi^2 = 118.421$), environmental ($\chi^2 = 97.842$), and socio-cultural factors ($\chi^2 = 83.327$). Overall, the findings indicate that all four dimensions significantly influence return migration behavior, with economic determinants playing the most prominent role.

Research limitations/implications- The study relied exclusively on a self-report questionnaire as the sole instrument for data collection. Participant selection was limited to migrants, meaning the findings reflect only this specific group's perceptions rather than a multi-stakeholder perspective.

Practical implications- The results of this study have a significant impact on the development of public policies related to return migration. In conclusion, this study demonstrated that return migration to Bandar Khamir is driven by a complex set of issues, influenced by economic, social-cultural, environmental and spatial factors. Return migration represents a viable strategy for rural revitalization and balanced regional development. The findings suggest that addressing urban crises requires investing in rural alternatives.

Keywords- Return Migration, Economic factors, Spatial factors, Bandar Khamir County.

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1. Introduction

The current situation in Iran has made urban life more difficult for city residents due to numerous issues. Many of these residents travel to rural areas to relax or to avoid city traffic and other problems. Urban dwellers often buy gardens in nearby villages and develop leisure and living spaces by building houses or villas with gardens. Since most villages are equipped with basic facilities such as water, electricity, and gas, they are a popular destination for many visitors and residents throughout the year (Afrakhteh et al., 2016). Additionally, many residents have moved permanently to their villages, creating new lives to escape urban sprawl, high rents, and other city-related issues. This has led to the transformation of rural areas, resulting in changes to the layout of houses and rural life (Anabestani et al., 2025), which will ultimately improve living conditions in these villages (Fayyaz et al., 2020).

Migration manifests in various ways within society, including moves from rural to urban areas, from urban to rural regions, and between small towns and large cities. In most developing countries, such as Iran, the dominant migration pattern is a one-way, typically permanent, transfer of rural populations to urban centres. However, over the past decade, a new trend called “return migration” has emerged in rural parts of the country(Sadeghi & Amani, 2023). The most recent population and housing census in Iran (2011) indicated that the number of return migrants (from urban to rural) exceeded those migrating from rural to urban areas. During this period, 755,546 individuals moved from urban to rural zones, compared to 655,251 who moved from rural to urban areas. Unlike earlier periods, return migration outnumbered rural-to-urban migration by more than 100,000 people in this cycle. Since all policymaking and planning in rural regions are directly or indirectly linked to population structure, understanding where returnees go, and analysing patterns of displacement and underlying factors is critically important (Shayan et al., 2021).

Return migration is a key national trend in which people move from urban centres back to their rural origins. This urban-to-rural shift is often a spatial response driven by urban residents seeking leisure and escape from the psychological stresses of urban life (Donaire et al., 2025). Critically, investment in the economic, cultural, and political infrastructure of these rural areas can trigger this "return migration," reversing historic demographic flows (Yunus et al., 2025; Awasthi & Mehta, 2020).

The renewed international focus on the migration-development link is prompting a critical re-evaluation of return migration. Policymakers are increasingly recognising that urban crises often stem from rural neglect and that the socio-economic significance of rural areas has been consistently underestimated. Consequently, rural development is now viewed as equally important as managing urbanisation(Wilson et al., 2025). Return migration is motivated by the attractiveness of new rural opportunities, such as income from agriculture, pensions, and an improved quality of life, and by the pull of urban centres, which are marked by high costs, pollution, and psychological stress (Yaghoubi & Zobeidi, 2018). The economic recovery and infrastructural development of rural regions are crucial drivers in making it a feasible and desirable option to return home. This process is further supported by improved transport networks, which facilitate easier movement and permanent settlement in one’s native communities. Ultimately, return migration is voluntary and reflects migrants’ deliberate choice to go back to their place of origin after a period away (Kaiser & Barstow, 2022).

The phenomenon of return migration is becoming more visible in Khamir County, a rural administrative area in the south of Hormozgan Province in Iran. These demographic changes reflect national trends. The region's capital, Bandar Khamir, formerly known as Jamir, has a rich heritage and historical significance due to its strategic maritime and commercial location. Important archaeological sites, such as the Sedar Wall and Khamir Fortress, illustrate this legacy (Bastenegar, 2023). In recent years, the momentum of return migration to the region has increased, mainly driven by strategic development in eco-tourism and marine agri-tourism. These initiatives have made the region more attractive as a destination for both returning local residents and new arrivals. Simultaneously, deliberate efforts by government agencies, such as housing foundations in remote villages and the enhancement of rural social services by local authorities, have created favourable conditions for this demographic shift. These policies aim to promote rural re-population and reduce out-migration to larger urban centres. However, two demographic trends are evident. While rural areas are experiencing population

growth, the city centre of Bandar Khamir continues to attract approximately 1,000 new residents each year from surrounding neighbourhoods (Bastenegar, 2023). The fact that some of these migrants settle in peri-urban areas highlights the complex nature of rural renewal alongside urban sprawl. Ultimately, the rise in return migration in Bandar Khamir can be attributed to a combination of factors, including targeted economic diversification through tourism and robust rural development policies, that have supported the revitalisation of the rural population.

Despite return migration emerging as a significant demographic phenomenon in Iran, with urban-to-rural flows surpassing rural-to-urban migration since 2011, critical knowledge gaps persist. First, existing studies concentrate on western, northern, and northwestern Iran, leaving southern coastal regions empirically unexamined despite their distinctive ecological characteristics and eco-tourism potential. Second, prior research emphasizes singular factor categories, typically economic, without systematically integrating and comparing economic, socio-cultural, environmental, and spatial factors within unified analytical frameworks. Third, while environmental quality increasingly motivates counter-urbanization globally (Hussain et al., 2025), empirical quantification of environmental factors' influence remains absent from Iranian migration scholarship. Fourth, despite government investment in rural development initiatives, evidence linking policy interventions to migration outcomes in coastal regions is lacking. This study addresses these gaps by providing the first empirical examination of return migration determinants in Bandar Khamir County, Iran.

2. Research Theoretical Literature

Migration is the movement of people across residential boundaries to settle in a new location, whether temporarily or permanently (Stockdale, 2016). Following historical rural-to-urban flows, a reverse trend of counter-urbanisation or return migration is now evident. This phenomenon impacts both urban and rural areas, meaning its study cannot be limited to a rural-centric perspective (Scott et al., 2025). The key drivers of return migration fall into four main factors including: Economic, Social and cultural, Environmental and Spatial factors.

1. Economic Factors: Economic factors are paramount in driving return migration. This is reflected in variables such as unemployment at the place of origin, income differences, employment opportunities at the place of destination (town), the decline in urban income, and occupational restrictions. Lu Yao (2010) pointed to both behavioural and normative motivations for return migration. Behavioural motivations arise from an individual's value judgments about urban versus rural life, often in the context of a second home. Normative motivations suggest that an individual's behaviour is a function of expectations, intellectual trends, and subjective norms. Lu Yao (2010) states that migration and relocation are purposeful and rational acts, spontaneously undertaken to improve or maintain one's quality of life (Lu, 2010). In other words, applicants for second homes are seeking subjective well-being (non-material, rural) to complement their objective well-being (material, urban). Economists argue that the migrating individual, as the agent of migration, evaluates their actions based on a cost-benefit principle. In this calculation, all conceivable costs are considered, both tangible (e.g., job search, travel) and intangible (e.g., adapting to a new environment). Migration is pursued only if the associated benefits outweigh the costs (Mannan & Kazlov, 2001).

2. Social and Cultural Factors: Socio-cultural factors that influence return migration include the maintenance of public health - a key pillar of social welfare - as well as equitable access to and distribution of health resources within society and educational development that encourages people to adopt healthier lifestyles. Achieving cultural-based self-sufficiency and maintaining social balance are also essential for social well-being. From a socio-cultural point of view, return migration is motivated by a variety of factors, including family formation or reunification, changes in marital status, family obligations, intolerable living conditions and the desire to live in alternative settings.

3. Environmental Factors: The impact of environmental fsctors on return migration has gained both academic and public interest in recent years. Many people returning to their home of origin due to facing multiple environmental challenges, such as soil degradation or exposure to natural hazards, many of which are aggravated by climate change. These environmental factors may be the driving forces behind the initial migration decision

of returnees, but they are increasingly likely to be the driving forces behind return migration (Hussain et al.,2025). Contemporary urban industrialisation, combined with the spread of noise and air pollution from greenhouse gas emissions and peri-urban industrial activity, has seriously compromised the urban life and mental and physical health of its inhabitants. As a result, a demographic shift is visible, with urban residents moving to pastoral environments to relieve stress and escape urban sprawl. This return migration not only provides the tranquility of rural life, but also, through the increased rural demography, encourages the development of green technologies and helps to preserve the environment (Maleki et al., 2020).

4. Spatial Factors: The characteristics of return population flows and the types of villages they affect show that spatial interactions and functional relationships between metropolises and their peripheral rural areas lead to gradual changes in the demographic, functional, economic, and physical structures of rural communities (Anabestani et al., 2024). The new and growing phenomenon of return migration has recently gained governmental attention, with successful examples observable worldwide (Liu et al., 2023). The development of rural amenities through government planning, including financial incentives such as bank loans and housing subsidies, as well as infrastructures such as gas, access roads and implementation of rural master plans (HADI plans) can be seen as an effective element in the drive of return migration (Ebrahimzadeh et al., 2020). Moreover, the ability to design a house in accordance with individual preferences in rural areas - facilitated by less restrictive building regulations - and the different size of land parcels, combined with low rural density versus high urban density and congestion, also act as a physical push and pull factor in the return migration. In Germany, suitable land on the urban fringe is equipped in 1000-2000 square meter plots and provided to retirees interested in production. In the Netherlands, retired teachers are invited to villages to provide tutoring and simplified instruction. In California, 10-hectare plots with water and cultivation facilities are prepared for applicants (including retirees, the unemployed, and workers) interested in returning to rural life. Consequently, various measures have always been taken globally to reduce rural-to-urban migration. Policies focused on employment and income, job creation, technological changes in production, various infrastructure projects, and attention to welfare and health indicators have been instrumental in this regard, fostering rural development and, in turn, reverse migration (Selod & Shilpi, 2021).

Over the twentieth century, several theoretical perspectives on migration have evolved. Different theories have been developed to explain the causes and effects of return migration. Despite their conceptual differences, the frameworks do share a common thread: migration is presented as a mechanism for reallocating labour. The first scientific contribution to migration was two articles by the nineteenth-century geographer Ravenstein (1885; 1889), in which he formulated his migration laws. Migratory patterns were further expected to be influenced by factors such as distance and population density (De Haas, 2021; Skeldon, 2014). These theories can be broadly divided into two schools. Macro-level approaches attribute migration to overarching structural constraints, while micro-level views portray migrants as rational actors who carry out cost-benefit analyses to improve their lives. At a macro level, neoclassical economic theory explains migration by geographic differences in labour supply and demand. The resulting wage gap causes workers to move from regions with a high-wage surplus to regions with a low-wage surplus. Migration will make labour less scarce at the place of destination and more scarce at the place of dispatch. At the micro level, neo-classical migration theory views migrants as individuals, rational actors, who make decisions about their migration based on cost-benefit considerations. Assuming freedom of choice and full access to information, they are expected to go where they can be most productive, i.e. where they can earn the highest salaries (De Haas, 2021). While numerous explanatory models exist—ranging from dual-sector and dependency theories to systems approaches—the push-pull model is especially relevant for this type of migration. Lee (1966) revised the 19th-century Ravenstein Laws on Migration and proposed a new analytical framework for migration. In his opinion, the decision to emigrate is determined by the following factors: factors relating to the area of origin; factors relating to the area of destination; factors acting as barriers to emigration (e.g. distance, physical obstacles, immigration legislation, etc); and personal factors (De Haas, 2021). Every location has push factors (negative factors) and pull factors

(positive factors). Migration occurs when the push factors at the origin and the pull factors at the destination prevail. This is reinforced by Ravenstein's law, which states that every migration stream generates a counter-stream; thus, urban-to-rural migration is a natural counterpart to rural-to-urban movement. According to Lee (1966), individuals will choose to migrate if the perceived benefits at the destination, balanced against the negatives of their origin and the obstacles between them, create a net positive outcome. This logic is formalised in human capital theory, which frames migration as a rational investment based on a cost-benefit calculation (Lee, 1966; Stockdale, 2014).

The theoretical discussions of Geyer (1996) and Moseley (1984) regarding the fundamental factors behind population concentration and deconcentration processes provide a valuable framework for selecting relevant variables (Lindgren, 2002). Geyer (1996) argues that human life can be characterised by two important and necessary phases, each corresponding to a separate period. In the "productionism" phase, concerns such as education, job opportunities, and higher income take priority over standards of living. Once individuals have improved their labour market position and achieved their expected income, they turn their attention to their housing situation, which belongs to the "environmentalist" phase. He thus develops the relationship between productionism and environmentalism (Geyer, 1996).

Unlike Geyer's analysis, Moseley (1984) does not focus on different life stages but instead emphasises the importance of jobs, employment opportunities, and their spatial distribution. From his perspective, the explanation for return migration flows is categorised into "people-led" and "job-led" types. Retirees, the unemployed, and those not participating in the labour force are not obliged to remain tied to their work environment. This group can choose their place of residence freely, regardless of the principle of living according to the geography of job opportunities (Moseley, 1984).

The relationship between economic cycles and employment redistribution can explain the population's return to rural areas. A positive correlation exists between the state of the economy and urbanisation trends. When the economy is expanding, the rate of urbanisation increases. Conversely, during an economic downturn, urbanisation may decelerate or even reverse (Awasthi & Mehta, 2020; Sosanidze et al., 2025). According to the Post-Fordist approach, the trend of counter-urbanisation occurs when the urban industrial sector loses its significance and efficiency. In this context, the demand for labour diminishes. Due to reduced reliance on the industrial sector, many people lose their jobs due to bankruptcy and layoffs. Few employment opportunities are available in cities, and new production centres tend to shift to rural areas. Meanwhile, the service sector experiences substantial growth, resulting in a swift rise in service-related jobs (Roost & Jeckel, 2021).

Olfati et al. (2022), in their study titled "Explaining the Social, Cultural, and Economic Factors of Return Migration from City to Village (Case Study: Sarpol-e Zahab County)," demonstrated a significant relationship between return migration and factors such as social cohesion, educational facilities, urban issues, tourist attractions, and new communication technologies (Olfati et al., 2022). Maleki et al. (2020) conducted a study on the environmental and physical impacts of return migration in the coastal villages of Rasht County, showing that rural migration has increased in recent years, with families returning at a high rate. This trend is more prominent in coastal villages due to their climate, and has resulted in social, economic, physical, and cultural impacts, with the most noticeable effects seen in the physical domain (Maleki et al., 2020).

In their research, Manafiazar et al. (2017) found that economic and infrastructural-social factors exerted the most significant influence on return migration to the Baruq district of Miandoab County, while cultural-ethnic factors had the least effect. Quantitative analysis revealed that return migrants had the most significant impact on physical infrastructure indices and the least on the social index. The findings highlight the importance of economic and infrastructural factors in encouraging reverse migration and shaping the physical development of villages (Manafiazar et al., 2017). Afrakhteh et al. (2016) identified economic factors as the most crucial drivers of return migration, with migrants making decisions based on a cost-benefit analysis and perceptions of greater benefits. Social, psychological, and infrastructural factors also influence these decisions. The consequences of return migration include the renovation of rural housing, revitalisation of agricultural lands,

conversion of rain-fed farms into orchards, mechanisation of agriculture, livestock development, and the establishment of production workshops, all of which contribute to the spatial restructuring of villages (Afrakhteh et al., 2016). Alibabaiee and Jomepour (2017) found that urban push factors, such as a lack of housing and failure to attain social status, alongside rural pull factors, such as opportunities to participate in social hierarchies to gain status, are key drivers of migrants' return from the city to rural areas (Alibabaiee & Jom'epour, 2017).

Weldemariam et al. (2023) in their article" Dynamics and factors influencing return migration to Sub-Saharan Africa: A systematic review" showed that the decision to return to the region was influenced by complex scenarios, with a combination of drivers and disincentives for return. Social, personal, economic and political factors were identified as the main drivers of return migration, but it was found that social and personal factors, as opposed to political and economic ones, were the main drivers of the decision to return to the SSA. The observed drivers and obstacles for return migration in the SSA have been categorised and discussed in thematic sections that take structural, individual and political issues into account (Weldemariam et al., 2023).

Albright and Naybor (2010), in their article "Return Migration, the Impact of Returning Home," discussed the gendered migration. They argue that there is a common misconception that most migrant workers are male, but many women migrate abroad or to urban areas within their own country to find work. Migrant work is also divided along gender lines by types of work and wages. They concluded that since the 1960s, nearly half of all migrant workers have been women. However, since 2000, there has been a significant increase in women migrating independently as income earners, with their migration rates now equal to those of men (Albright & Naybor, 2010).

Liu (2011) found that the return migration of Chinese nationals to China is mainly linked to two key factors. First, China's high economic growth, which continued after the 2008 financial crisis, provided more jobs and economic opportunities domestically while other global economies were in recession. Second, the Chinese government has paid particular attention to talent development through the National Plan for Talent Development (2001-2010), which, as the first comprehensive human resources development plan in China, created a framework for attracting returning migrants. The results showed that these factors played a significant role in encouraging migrant returns and in strengthening China's national economy and social development (Liu, 2011).

2.1. The Conceptual Research Model

This study aimed to investigate the driving factors impacting on the return migration of residents from urban to rural areas in Bandar Khamir County. Following a review of existing theories on return migration, the conceptual model was adopted. In this model, both migrants and interacting institutions are viewed within a holistic framework; consequently, a set of interacting components, along with their characteristics and relationships, are considered within a coherent structure that incorporates economic, social-cultural, environmental and spatial factors. Thus, the conceptual model of the research is illustrated in Figure 2.

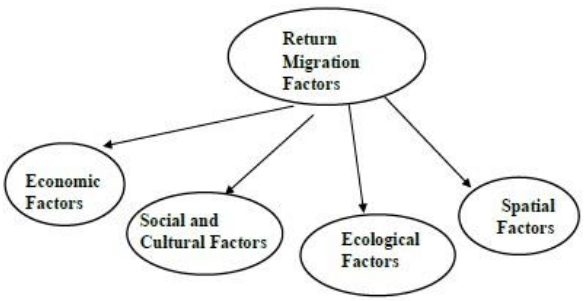


Figure 1. The Conceptual Research Model

3. Research Methodology

3.1. Geographical Scope of the Research

Bandar Khamir is a port city on the shores of the Persian Gulf in the Central District of Khamir County, Hormozgan province, Iran, serving as the

capital of both the county and the district. At the time of the 2006 National Census, the city's population was 11,307 in 2,441 households. The 2011 census recorded 14,617 residents in 3,453 households. The 2016 census counted the city's population at 15,320 people in 4,161 households. This historic port is the largest city near the Khoorkhooran wetland, the largest in the Middle East, and features the widest mangrove forests in Iran (MirzaNiknam, 2014). Bandar Khamir has the longest wetland shoreline in Iran. Thanks to years of environmental efforts and widespread public participation in preserving and developing this wetland, the city was recognised as Iran's first national wetland city. It became a World Wetland City in 2022. Additionally, the city was designated a UNESCO Learning City in 2021 for its broad educational initiatives targeting various segments of the population. Today, it is recognised both within Iran and internationally as a model of sustainable development driven by community involvement (Bastenegar, 2023).



Figure 2. The geographical location of Bandar Khamir in Hormozgan province, Iran (source: Wikipedia)

3.2. Methodology

This study employed a descriptive-analytical approach and a quantitative method. The study population consists of 1,358 immigrants in Bandar Khamir (Bastenegar, 2023). Utilizing the Cochran formula with a specific margin of error, a sample size of 300 was determined. Data collection utilized a multi-stage cluster sampling approach. After defining the regional clusters, participants were randomly selected to complete the survey instruments. The following formula illustrates the sample size derivation:

$$n=\frac{N Z^2 \propto/_2 \times p\,(1-p)}{E^2(N-1)+ Z^2\ \propto/_2 \times\ p(1-p)}$$

$$\frac{1358(1/96)^2 \times 0/5 * 0/5}{(0/06)^2(1358-1)+(1/96)^2 * 0/5 * 0/5} = 299.8$$

Figure 3. Cochran's Modified Formula for Finite Populations

3.2.1. The Researcher-developed Return Migration Questionnaire

In the present study, a researcher-developed Return Migration Questionnaire was utilised to examine the research variables. Theoretical data were gathered through a documentary review of reputable Persian and English books and articles. The data collection method was a questionnaire survey. The instrument contains 35 items. Instrument scoring was based on a five-point Likert scale (1 = very low, 2 = low, 3 = moderate, 4 = high, 5 = very high). The questionnaire consists of four distinct subscales representing economic, socio-cultural, environmental, and spatial factors.Several professors and experts verified the face validity of this scale, and its reliability was assessed using Cronbach's alpha, which produced a coefficient of 0.90. This is regarded as a highly satisfactory value for the questionnaire. The Cronbach's alpha coefficient for all factors (variables), internal consistency (construct validity, convergent/divergent validity), the Average Variance Extracted (AVE), fit indices (CFI, TLI, RMSEA, SRMR), and Confirmatory Factor Analysis (CFA) were reported (Tables, 3,5,8).

4. Research Findings

The collected data were analyzed in two stages. Initially, descriptive statistics were used to profile the participants' demographic characteristics. This was followed by inferential analysis to facilitate the generalization of results to the broader statistical population. Specifically, Chi-square tests, Confirmatory Factor Analysis (CFA), and Structural Equation Modeling (SEM) were performed using SPSS 24 and LISREL software to validate the research hypotheses.

4.1. Demographic Characteristics

According to the data in Table 1, the sample consisted of 180 male respondents (60%) and 120 female respondents (40%), indicating a higher participation of men in the phenomenon of return migration. Based on Table 1, the educational distribution of participants was as follows: 120 individuals (40%) held a Bachelor's degree, 90 (30%) a Master's degree, 45 (15%) a high school diploma or less, and 45 (15%) a doctorate or higher. This distribution suggests a relatively high level of education within the sample, which could influence social outcomes. The occupational status of participants included employees (30%, n=90), freelance/self-employed workers (25%, n=75), students (20%, n=60), unemployed individuals (10%, n=30), and others in different occupations (15%, n=45). This occupational diversity indicates economic dynamism among the migrants. According to Table 1, 105 individuals (35%) had 5 to 10 years of work experience, 90 (30%) had less than 5 years, 60 (20%) had between 10 and 15 years, and 45 (15%) had more than 15 years. Based on the information in Table 2, participants rated the impact of economic incentives as moderate (30%, n=90), high (25%, n=75), very high (15%, n=45), low (20%, n=60), and very low (10%, n=30). Overall, 40% of respondents considered the impact of these incentives to be high or very high, highlighting the significance of economic factors. Table 1 summarises the demographic characteristics, categories, frequencies, and percentages of the respondents in the study.

Table 1. The demographic characteristics of participants

Variable	Group / Level	Frequency	Percentage
Gender	Male	180	60%
	Female	120	40%
	Total	**300**	**100%**
Education Level	High School Diploma or less	45	15%
	Bachelor's Degree	120	40%
	Master's Degree	90	30%
	PhD or higher	45	15%
	Total	**300**	**100%**
Occupation	Employee	90	30%
	Freelancer/Self-employed	75	25%
	Student	60	20%
	Unemployed	30	10%
	Other	45	15%
	Total	**300**	**100%**
Monthly Income (Million Tomans)	Less than 5	60	20%
	5 to 10	105	35%
	10 to 15	75	25%
	Over 15	60	20%
	Total	**300**	**100%**
Work Experience (Years)	Less than 5	90	30%
	5 to 10	105	35%
	10 to 15	60	20%
	Over 15	45	15%
	Total	**300**	**100%**
Economic Income	Very low	30	10%
	Low	60	20%
	Medium	90	30%
	High	75	25%
	Very high	45	15%*
	Total	**300**	**100%**

Table 2. Descriptive statistics of driving factors impacting on return migration

Factors	Mean	Standard Deviation	Minimum Score	Maximum Score
Economic Factors	43.47	10.18	19	65
Social-cultural Factors	30.28	6.51	16	45
Environmental Factors	29.57	7.30	13	45
Spatial Factors	17.02	4.24	5	25
Total Score	117.20	24.91	56	175

The descriptive findings, including the mean, standard deviation, and the maximum and minimum scores for each component and their respective factors, are presented in (Table 2).

Following Hoogland's (1999) framework, a two-stage Partial Least Squares (PLS) modeling procedure was applied to the inferential analysis. Stage one assessed the measurement model's reliability and validity, while stage two evaluated the structural model using fit indices, R^2, and path analysis. The measurement model validation employed Confirmatory Factor Analysis (CFA) to verify indicator adequacy and data-structure congruence. The structural model was subsequently tested through path coefficients, goodness-of-fit statistics, and determination coefficients.

Prior to hypothesis testing, the validity of the measurement instrument must be established using Confirmatory Factor Analysis (CFA). The CFA results for the questionnaire items are shown in (Table 3). All standardized factor loadings were statistically significant ($p < 0.05$, 95% CI) and exceeded 0.5, thus all items were retained for structural model estimation.

Table 3. Results of Confirmatory Factor Analysis (CFA)

Item	Factor Loading	t-statistic
1. Economic Factors		
Q01	0.529	7.889
Q02	0.815	36.391
Q03	0.719	25.077
Q04	0.693	21.317
Q05	0.721	24.393
Q06	0.799	33.250
Q07	0.843	35.789
Q08	0.798	30.047
Q09	0.803	37.516
Q10	0.740	19.742
Q11	0.721	21.381
Q12	0.813	36.922
Q13	0.812	31.802
2. Social and Cultural Factors		
Q14	0.724	26.556
Q15	0.733	23.747
Q16	0.819	42.095
Q17	0.816	41.374
Q18	0.812	33.980
Q19	0.784	27.128
Q20	0.747	25.042
Q21	0.802	26.364
Q22	0.739	24.205
3. Environmental Factors		
Q23	0.538	11.650
Q24	0.728	22.815
Q25	0.842	45.067
Q26	0.869	48.508
Q27	0.903	104.534

Item	Factor Loading	t-statistic
Q28	0.859	43.378
Q29	0.782	26.552
Q30	0.635	16.191
4. Spatial Factors		
Q31	0.841	45.548
Q32	0.863	49.003
Q33	0.876	55.093
Q34	0.856	50.704
Q35	0.797	29.353

To obtain convergent validity, values higher than 0.5 indicate the consistency or internal validity of the measurement models. The Average Variance Extracted (AVE) value pertains to the constructs. Since these numbers in (Table 4) are greater than 0.5, the validity of the measurement instrument is acceptable.

Table 4. Composite reliability, Cronbach's Alpa, Homogenous Reliability and Average Variance Extracted of the model

Variable	Cronbach's Alpha	Homogenous Reliability Coefficient (rho)	Composite reliability	Average Variance Extracted (AVE)
Economic Factors	0.937	0.884	0.876	0.576
Social -cultural Factors	0.917	0.845	0.834	0.603
Environmental Factors	0.902	0.854	0.821	0.608
Spatial Factors	0.892	0.853	0.864	0.719

The composite reliability and convergent validity occured when the composite reliability was greater than 0.7. In addition, the composite reliability should be greater than the average variance extracted (AVE). In this case, all conditions for conferral of concurrent effect are fulfilled. The coefficient of congeneric reliability (rho) is also used to measure the internal consistency of constructs. According to Chin (1998), the Rho coefficient is considered more reliable than Cronbach's alpha (Chin, 1998). The value of the Rho coefficient should be greater than 0.7. In addition, the values of Cronbach's alpha should also exceed 0.7 and the average variance extracted should be greater than 0.5 for validation. According to Table (4), all of these coefficients for the research variables are at acceptable levels in relation to the minimum requirements.

Table 5. Discriminant Validity Assessment Matrix

Variables	Economic Factors	cial and Cultural Factors	Ecological Factors	Spatial Factors
Economic Factors	.0758			
Social -Cultural Factors	.0789	.0776		
Environmental Factors	.0776	.0794	.0779	
Spatial Factors	.0640	.0660	.0751	.0847

As shown in (Table 5), which displays the inter-correlations among research construct dimensions, the variance explained by each construct exceeds its shared variance with other constructs. This demonstrates satisfactory discriminant validity and confirms the adequate fit of the measurement models.

A normal distribution exhibits symmetry around the mean, forming a characteristic bell-shaped curve. When distributions violate normality assumptions—evidenced by skewness toward the left or right tail—the choice of statistical tests shifts from parametric to non-parametric methods.

Table 6. Results of the Kolmogorov-Smirnov test to examine the assumption of normality of variable distribution

Variables	K-S Statistic	Significance Level
Economic Factors	0.078	0.001
Social- cultural Factors	0.069	0.008
Environmental Factors	0.065	0.014
Spatial Factors	0.107	0.000
Total Score	0.067	0.010

Results of normality assessment (Table 6) using Kolmogorov-Smirnov test indicated significant deviations from normality ($p < 0.05$), at the 95% confidence level, thus rejecting the null hypothesis of normal distribution. Accordigly, non-parametric test (Chi-Square) was employed for hyphoteses testing.

To examine the relationships between predictor variables (economic, socio-cultural, ecological, and spatial factors) and return migration, chi-square tests of independence were performed. The results are summarized in Table (7).

Table 7. Chi-Square Test Results for Research Hypotheses

Hypothesis	Independent Variable	χ^2	df	p-value	Results
H1	Economic factors	172.534	299	<0.001	Confirmed
H2	Socio-cultural factors	83.327	299	<0.001	Confirmed
H3	Environmental factors	97.842	299	<0.001	Confirmed
H4	Spatial factors	118.421	299	<0.001	Confirmed

H1: Economic factors and return migration. The chi-square test yielded a highly significant result ($\chi^2 = 172.534$, $df = 299$, $p < 0.001$), confirming that economic factors are significantly associated with return migration decisions.

H2: Socio-Cultural factors and return migration. A significant relationship was observed between socio-cultural factors and return migration ($\chi^2 = 83.327$, $df = 299$, $p < 0.001$), supporting the second hypothesis.

H3: Environmental factors and return migration. The analysis revealed a statistically significant association between environmental factors and return migration ($\chi^2 = 97.842$, $df = 299$, $p < 0.001$), thereby confirming the third hypothesis.

H4: Spatial factors and return migration. Spatial factors demonstrated a significant relationship with return migration ($\chi^2 = 118.421$, $df = 299$, $p < 0.001$), validating the fourth hypothesis.

In summary, all four hypotheses were empirically supported, with economic factors exhibiting the strongest association with return migration, followed by spatial, ecological, and socio-cultural factors, respectively.

The structural equation model's adequacy was evaluated using a comprehensive set of goodness-of-fit indices across three categories: absolute, comparative, and parsimonious fit measures (Table 8). All indices met or exceeded their respective acceptable thresholds, providing strong evidence for the model's overall fit to the data.

Absolute fit indices demonstrated excellent model fit. The Goodness-of-Fit Index (GFI = 0.99) and Adjusted Goodness-of-Fit Index (AGFI = 0.93) substantially exceeded the recommended thresholds of 0.90 and 0.80, respectively. The Standardized Root Mean Square Residual (SRMR = 0.012) was well below the acceptable cutoff of 0.05, indicating minimal discrepancy between observed and predicted covariances.

Comparative fit indices further supported model adequacy. The Comparative Fit Index (CFI = 0.98), Normed Fit Index (NFI = 0.95), and Non-Normed Fit Index (NNFI = 0.94) all exceeded the recommended threshold of 0.90, suggesting that the proposed model fits the data substantially better than a null model.

Parsimonious fit indices confirmed that the model achieves good fit without unnecessary complexity. The chi-square to degrees of freedom ratio ($\chi^2/df = 1.88$) fell well within the acceptable range (< 3), the Parsimonious Normed Fit Index (PNFI = 0.96) exceeded the 0.60 threshold, and the Root Mean Square Error of Approximation (RMSEA = 0.026) was considerably below the 0.08 cutoff, indicating excellent approximate fit.

Table 8. Goodness-of-fit indices for the tested research model

Index Category	Index	Model Estimates	Acceptable Threshold	Result
Absolute Fit Indices	GFI	0.99	> 0.90	Confirmed
	AGFI	0.93	> 0.80	Confirmed
	SRMR	0.012	< 0.05	Confirmed
Comparative Fit Indices	CFI	0.98	> 0.90	Confirmed
	NFI	0.95	> 0.90	Confirmed
	NNFI	0.94	> 0.90	Confirmed
Parsimonious/Adjusted Fit Indices*	χ^2/df	1.88	< 3	Confirmed
	PNFI	0.96	> 0.60	Confirmed
	RMSEA	0.026	< 0.08	Confirmed

Structural model fit was evaluated using multiple indices (Table 8). All metrics exceeded recommended thresholds, confirming excellent model-data fit: GFI = 0.99, AGFI = 0.93, SRMR = 0.012, CFI = 0.98, NFI = 0.95, NNFI = 0.94, χ^2/df = 1.88, PNFI = 0.96, and RMSEA = 0.026. The combination of low residual-based indices (SRMR, RMSEA) and high comparative indices (CFI, NFI) provides robust evidence for model adequacy (Hu & Bentler, 1999).

Note: All indices met or substantially exceeded recommended thresholds.

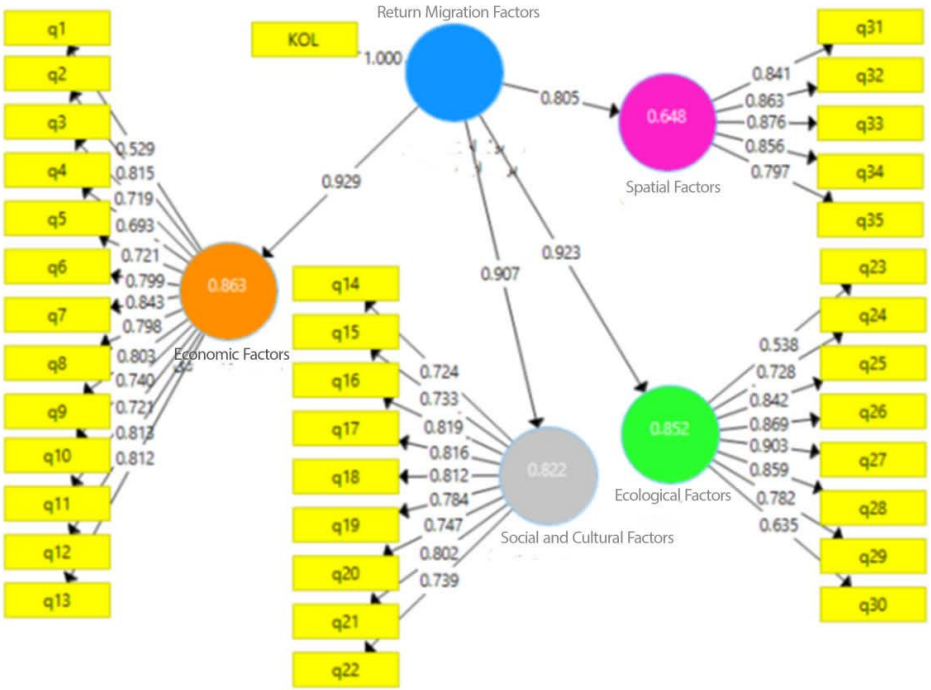


Figure 4. Path Coefficients of the Research Model

Based on the fitted structural model presented in Figure (4), the path coefficient for the economic factors variable is 0.929, indicating that economic factors have a 92.9% impact on return migration. Furthermore, social-cultural factors account for a 90.7% impact, environmental factors for 92.3%, and spatial factors for 80.5%. The findings demonstrated that all economic, social-cultural, environmental, and spatial factors have a positive impact on return migration.

Based on the fitted structural model (Figure 4), the coefficient of determination (R^2) for economic factors is 0.863, indicating that 86.3% of the variance in return migration is explained by economic determinants. Social and cultural factors explain 82.2% (R^2 = 0.822), environmental factors

85.2% ($R^2 = 0.852$), and spatial factors 64.8% ($R^2 = 0.648$) of the variance. All factors demonstrated statistically significant positive effects on return migration.

Path coefficients, equivalent to standardized regression weights (β), were evaluated for magnitude, direction, and statistical significance. Positive coefficients indicate direct relationships, while negative coefficients represent inverse associations between endogenous and exogenous latent variables. Figure (5) illustrates the t-statistic values for the research model.

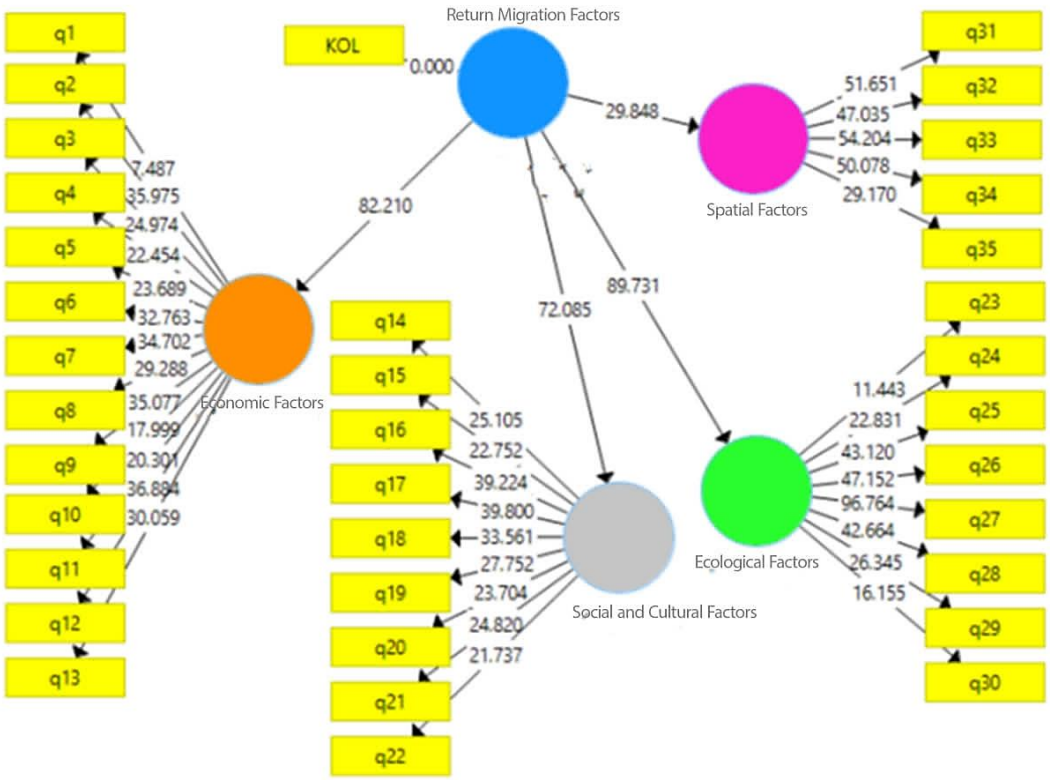


Figure 5. T-test Results of the Research Model

The measurement model demonstrated acceptable fit, with all goodness-of-fit indices falling within recommended thresholds (e.g., CFI > 0.90, RMSEA < 0.08, SRMR < 0.08). Thus, the measurement model is validated and suitable for structural path analysis.

5. Discussion and Conclusion

This study aimed to investigate the impact of economic, social-cultural, environmental and spatial factors on return migration in rural areas (Case Study: Bandar Khamir County), Iran. The results showed a significant positive relationship between economic, social-cultural, environmental and spatial factors and return migration. The regression coefficients for the economic, social-cultural, environmental and spatial factors were 0.929, 0.907, 0.923 and 0.805, respectively. The coefficient of determination (R^2) for economic factors is 0.863, indicating that 86.3% of the variance in return migration is explained by economic determinants. Social and cultural factors explain 82.2% ($R^2 = 0.822$), environmental factors 85.2% ($R^2 = 0.852$), and spatial factors 64.8% ($R^2 = 0.648$) of the variance. The economic factors showed the strongest association with return migration in Bandar Khamir County, Iran. The positive regression coefficients in the model indicated a constructive and direct relationship between return migration and economic, social-cultural, environmental and spatial factors. Therefore, the hypotheses that economic, social-cultural, environmental and spatial factors impacted the return migration in Bandar Khamir County were supported with a confidence level of 95%.

Chi-square tests also confirmed all four research hypotheses at $p < 0.001$. Economic factors showed the strongest association with return migration ($\chi^2 = 172.534$), followed by spatial ($\chi^2 = 118.421$),

environmental (χ^2 = 97.842), and socio-cultural factors (χ^2 = 83.327). All relationships were statistically significant (df = 299, $p < 0.001$), indicating that economic, spatial, environmental, and socio-cultural dimensions significantly influence return migration behavior.

The analysis showed a strong positive association between economic factors and return migration intentions, with economic variables accounting for 86.3 per cent of the variation in response to migration. Specifically, respondents who reported a higher perception of economic instability in their city (e.g. unemployment, high cost of living, income stagnation) were more likely to express a desire to return to rural areas. This pattern is in line with the findings of previous Iranian studies, such as that of Afrakhteh et al. (2016) and Manafiazhar et al. (2017), which similarly documented the strong correlation between economic conditions and return migration flows. However, a distinction must be made between the observed statistical relationship and the potential mechanisms. The data show that economic perceptions and migration intentions coexist and definitively demonstrate that economic factors are the driving factors behind migration decisions. The theory of human capital (Sjaastad, 1962) and the push-pull framework (Lee, 1966) offer theoretical mechanisms to explain this association: individuals can carry out implicit cost-benefit analyses that combine deteriorating urban economic conditions (a push factor) with perceived rural opportunities in agriculture, eco-tourism, and small businesses (a pull factor) to motivate relocation. In the context of Bandar Khamir, strategic investments in marine agri-tourism and eco-tourism infrastructure (Bastenegar, 2023) can increase the perceived economic viability of rural life and thus strengthen the association.

Social-cultural factors showed a substantial positive association with return migration (β = 0.907, R^2 = 0.822; χ^2 = 83.327, $p < 0.001$), indicating that participants who valued family ties, community cohesion, and cultural identity were more likely to report their intention to return migration. This finding aligns with international evidence, including Weldemariam et al. (2023) systematic review, which identified social and personal factors as main determinants of return migration in Sub-Saharan Africa, and Olfati et al. (2022) Iranian case study linking social cohesion with return migration. The observed association does not indicate causality but indicates a statistical relationship in which social and cultural variables and migration intentions are correlated. Theoretical frameworks offer a potential explanation of this pattern. Moseley (1984) suggests that individuals who are not tied to a particular place of employment (e.g. pensioners, remote workers) can prefer social ties to economic geography when choosing a place of residence. According to this view, strong family networks and cultural ties can be a facilitator that enables individuals to overcome the spatial and economic obstacles to rural renewal. Similarly, Geyer (1996) suggests that once individuals have achieved economic security (the production phase), they turn to quality of life considerations, including social relations and cultural affinities.

Environmental factors were strongly positively correlated with return migration (β = 0.923, R^2 = 0.852; and χ^2 = 97.842, $p<0.001$), with 85.2 percent of the variance in the likelihood of return migration being related to environmental exposure. Participants who reported concerns about urban pollution, noise and environmental degradation were more likely to express their intention to return to the countryside. This model is in line with the global trend towards urbanisation (Hussain et al., 2025) and with previous Iranian coastal research (Maleki et al., 2020). This observed association suggests a statistical relationship rather than a causal link. In theory, Geyer (1996) offers a plausible mechanism: as individuals attain economic stability, they can put environmental quality and psychological well-being ahead of material considerations. Urban environmental pressures - including air pollution from industrial emissions, traffic congestion and limited green areas - can act as a pull factor, while rural environmental benefits (quiet, clean air, natural landscapes) can act as a pull factor. In Bandar Khamir, the unique environmental assets of the area - including the designation of the area as Iran's first national wetland city and UNESCO World Wetland City status in 2022 (Bastenegar, 2023), are likely to increase the perceived attractiveness of the rural environment.

Spatial factors showed a significant positive correlation with return migration (β = 0.805, R^2 = 0.648; χ^2 = 118.421, $p < 0.001$), though less pronounced than economic, environmental, or social-cultural dimensions. These findings indicated that infrastructure elements including transport networks, housing affordability and access to public services, are correlated with return migration

intentions, but account for a smaller share (64.8 percent). The observed association is consistent with previous research linking spatial infrastructure to demographic change. Anabestani et al. (2024) documented the correlation between metropolitan-rural spatial interactions and demographic changes in rural areas. Ebrahimzadeh et al. (2020) identified links between government rural development programmes (e.g. HADI Master Plans, housing subsidies) and return migration patterns. Lee (1966) in his push-pull framework offers a theoretical mechanism that spatial barriers (e.g. distance, poor roads) can act as barriers to return migration, while improvements in spatial infrastructure reduce these barriers and increase accessibility to rural areas.

At the macro level, research findings can be analysed along four basic dimensions: economic, social-cultural, environmental and spatial. From an economic point of view, migration is seen as a function of the labour and employment gap between the place of origin and the place of destination, which suggests that migration will stop only when wage and labour balances are achieved. This view assumes that migrants assess their movements on the basis of a cost-benefit analysis. On the contrary, the new economics of labour migration suggests that migration continues, even in the absence of wage differentiation, driven by the desire for economic stability and diversification of income. The social and cultural perspectives emphasise the factors of push and pull; it takes into account, in addition to economics, social motivations, family reunification, educational opportunities and negative conditions of origin.

Moreover, while the environmental perspective often focuses on international movements, it recognises migration as a multi-dimensional phenomenon, affected by territorial attachments. These findings align with Ravenstein's "Push-Pull" theory, which argues that migrants are rational in seeking better economic conditions (De Haas, 2021; Skeldon, 2014). While Ravenstein emphasized distance, he also identified social and economic fragility as the main drivers. Ravenstein's framework incorporates variables such as social capital and native ownership (place-based attachment), both of which are confirmed by the findings of the study on migration laws, distance and the predominance of economic motivations.

According to the human capital theory of (Sjaastad, 1962), an individual will only choose to move if the perceived benefits outweigh the costs. This decision-making process covers all dimensions of life, especially the socio-economic sphere, and is, in essence, geared to the maximisation of well-being. In other words, migrants are motivated by potential benefits such as higher incomes, a peaceful environment, favourable psycho-social conditions and proximity to family networks. Consequently, findings on the economic capital hypothesis, the reverse migration incentive, domestic attachment, distance and the role of services and amenities serve to empirically confirm this theoretical framework.

Conversely, several studies from other regions showed different patterns among migrants and outcomes. Boateng et al. (2019) examined return migration in rural regions of Ghana, found that social ties, family responsibilities, and community identity were more influential than economic factors in the decision to return. They observed only limited evidence of increased social issues post-return. In their communities, returnees re-integrate into well-established family networks that appear to absorb demographic changes without causing significant tensions. This finding contrasts with Bandar Khamir, where a swift influx of relatively educated and economically active returnees can disrupt the social fabric and heighten competition for land, employment, and political influence, thereby contributing to social decay. Similarly, Pinilla et al. (2022), who investigated lifestyle migration in depopulated Spanish villages, reported that environmental and cultural amenities mainly attracted migrants rather than economic advantages. They noted that such migration tends to promote civic engagement and social cohesion. Their context involves slower, more amenity-driven in-migration to relatively established rural areas, which sharply differs from the politically and economically motivated, faster return movements observed in Bandar Khamir.

Yaghoubi and Zobeidi (2023) found that motives for return migration mainly include welfare improvement, natural attractions, and employment, leading to infrastructural development and increased social participation. These findings are consistent with the current study's focus on economic and social factors. However, Manafiazar et al. (2017) discovered that environmental pollution and social issues were significant drivers in Tehran for leaving the city, whereas economic factors were not. This partially differs from our

results, where economic incentives were prominent; this discrepancy likely stems from differences in the target populations (Tehran metropolis versus Bandar Khamir County) and the types of migration (urban exit versus reverse migration). Studies by Olfati et al. (2022), Manafi Azar et al. (2017), Afrakhteh et al. (2016), Weldemariam et al. (2023), and Liu (2011) also highlight the importance of economic factors, native attachment, and the positive impact of returnees on rural development, all supporting the current findings of this research. Additionally, Alibabaiee and Jomepour (2017) identified urban push factors (high housing costs, pollution) and rural pull factors (cheap land, clean air) as effective drivers, which correspond to the environmental and economic incentives found in this study. Liu (2011) in China demonstrated that economic growth and talent development policies increased return migration, aligning with the economic factors observed in this research.

Several limitations should be considered when interpreting these results. The study relied exclusively on a self-report questionnaire as the sole instrument for data collection. Participant selection was confined exclusively to return migrants, meaning the findings reflect only this specific group's perceptions rather than a comprehensive multi-stakeholder perspective. The study was conducted exclusively in Bandar Khamir County, a coastal region in Hormozgan Province with unique characteristics that may limit the transferability of findings.

Despite these limitations, the findings have important practical and policy implications. This study provides empirical evidence to guide rural development policy in Iran and similar developing contexts. Three key policy recommendations emerge: First, prioritize economic interventions. Economic factors explained 86.3% of return migration variance, confirming that employment opportunities, affordable housing, and rural livelihood diversification are paramount. Policymakers should implement targeted financial incentives—including housing subsidies, low-interest loans, and rural entrepreneurship support—to capitalize on this primary driver. Second, preserve environmental quality. Environmental factors (85.2% variance explained) highlight that urban residents increasingly seek refuge from pollution, congestion, and psychological stress. Policies protecting rural environmental amenities, promoting sustainable development, and marketing the health benefits of rural living can attract return migrants while ensuring long-term sustainability. Third, invest in integrated infrastructure. While spatial factors showed lower explanatory power (64.8%), continued investment in transportation, utilities, telecommunications, and flexible building regulations creates enabling conditions for return migration. The success of government initiatives in Bandar Khamir—including eco-tourism development and HADI plan implementation—demonstrates the effectiveness of coordinated spatial planning.

Future research can expand in several directions. Mixed-Methods Designs: Future studies should integrate qualitative approaches (interviews, focus groups, ethnography) with quantitative surveys to provide deeper contextual understanding. Longitudinal Studies: Panel designs tracking migrants over time would enable causal inference and analysis of temporal dynamics. Multi-Stakeholder Perspectives: Including non-migrant residents, local authorities, and other stakeholders would provide a more comprehensive understanding of return migration impacts.

In conclusion, this study highlights the complex and multifaceted nature of return migration in Bandar Khamir County, showing strong links across economic, social, cultural, environmental and spatial factors. By carefully differentiating observed statistical relationships from potential causal mechanisms, and acknowledging methodological limitations, the research provides a rigorous foundation for future scholarship and evidence-based policymaking. Return migration is a promising route to rural renewal and balanced regional development in Iran and beyond, but realizing its potential requires continued investment, integrated planning, and continuous empirical research to turn associations into practical interventions.

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Authors' Contributions

This paper is extracted from a PhD. Dissertation. All authors have contributed significantly to research process and the development of the manuscript.

Conflict of interest

The authors report no conflict of interest.

References

1. Abrahimzadeh Asmin, H., Ashtari Mehrjerdi, A., & Eslami, I. (2020). Rural reverse migration with changing urban lifestyle. *Scientific and Research Quarterly Journal of New Approaches in Human Geography*, 12(1), 169-186. [In Persian] https://www.sid.ir/paper/521772/fa
2. Afrakhteh, H., Manafiazar, R., & Valaei, M. (2016). The Spatial-Local Effects of Return Migration in Miyandoab County. *Journal of Research and Rural Planning*, 5(1), 83-98. https://doi.org/10.22067/jrrp.v5i1.43612
3. Albright, A., & Naybor, D. (2010). Reverse Migration: The Impact of Returning Home.
4. Alibabaiee, M., & Jom'epour, M. (2017). The Process and Pattern of Return Migration and Factors Affecting It. Case Study: Hajilou Dehestan- Kabodarahang County. *Journal of Research and Rural Planning*, 5(4), 91-105. https://doi.org/10.22067/jrrp.v5i4.52717
5. Anabestani, A., Hosieni, S. P., Shayan, H., & Kharazmi, O. A. (2025). Spatial Analysis of Spatial Identity Indicators in Peri-urban Rural Settlements (Case Study: Villages around the City of Shirvan). *Physical Social Planning*, 12(1), https://doi.org/10.30473/psp.2025.73204.2753
6. Anabestani, A., Zolfaghari, M., & Jamileh, T. (2024). Spatial Analysis of Smart Village Indicators in Urban Peripheral Settlements (Case Study: Peripheral Villages of Tehran Metropolitan). *Village and Space Sustainable Development*, 5(4), 25-46. https://doi.org/10.22077/vssd.2023.6482.1197
7. Awasthi, I., & Mehta, B. S. (2020). Forced Out-Migration from Hill Regions and Return Migration During the Pandemic: Evidence from Uttarakhand. *Indian J Labour Econ*, 63(4), 1107- https://doi.org/10.1007/s41027-020-00291-w
8. Bastenegar, M. (2023). Development of Agritourism in the Wetland City of Bandar Khamir Using Strategic Analysis of SOAR. *Tourism of Culture*, 4(13), 24-33. https://doi.org/10.22034/toc.2023.394621.1118
9. Boateng, K., Agyei-Baffour, P., Boateng, D., Rockson, G., Mensah, K., & Edusei Kwaku, A. (2019). Household Willingness-to-Pay for Improved Solid Waste Management Services in Four Major Metropolitan Cities in Ghana. *Journal of Environmental and Public Health*, 2019, 1-9. https://doi.org/10.1155/2019/5468381
10. Chin, W. W. (1998). *The partial least squares approach to structural equation modeling*. In Modern methods for business research (pp. 295-336). Psychology Press.
11. De Haas, H. (2021). A theory of migration: the aspirations-capabilities framework. *Comparative Migration Studies*, 9(1), 8. https://doi.org/10.1186/s40878-020-00210-4
12. Donaire, J. A., Galí, N., & del Romero, L. (2025). The endurance of the rural idyll. The Evolution of Urban-Rural Migrants' Images of Rural Areas in Mediterranean Spain. *Journal of Rural Studies*, 119, 103730. https://doi.org/10.1016/j.jrurstud.2025.103730
13. Fayyaz, Z. S., Shahivandi, A., & Shafiei, Z. (2020). The Analysis of the Ecosystem Capacity of Semirom County in the direction of Return Migration Planning. *Journal of Research and Rural Planning*, 9(1), 91-112. . https://doi.org/10.22067/jrrp.v9i1.80672
14. Geyer, H. (1996). Expanding the theoretical foundation of differential urbanisation. *Tijdschrift voor economische en sociale geografie*, 87(1), 44-59. https://doi.org/10.1111/j.1467-9663.1998.tb01536.x
15. Hoogland, J. J. (1999). *The robustness of estimation methods for covariance structure analysis*. [Thesis fully internal (DIV), University of Groningen]. s.n
16. Hussain, Z., Raza, N., Shah, T. H., Nazir, M., & Abbas, G. (2025). Return Migration and Sustainable Development: Exploring the Socio-Economic and Environmental Impact of Reintegration in Pakistan. *Journal of Asian Development Studies*, 14(3), 34-48. https://doi.org/10.62345/jads.2025.14.3.3
17. Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis. *Structural Equation Modeling*, 6(1), 1-55.
18. Kaiser, N., & Barstow, C. K. (2022). Rural transportation infrastructure in low-and middle-income countries: a review of impacts, implications, and interventions. *Sustainability*, 14(4), https://doi.org/https://doi.org/10.3390/su14042149
19. Lee, E. S. (1966). A theory of migration. *Demography*, 3(1), 47-57. https://doi.org/10.2307/2060063
20. Lindgren, U. (2002). *Counter-urban migration in the Swedish urban system*. CERUM, Umeå University.
21. Liu, J. (2011). Human Capital, Migration and Rural Entrepreneurship in China. Indian Growth and Development Review, 4, 100-122. https://doi.org/10.1108/17538251111172023
22. Liu, N., Chen, Y., & Su, F. (2023). Research on the spatial differences and influencing factors of integrated urban-rural development in the Yangtze River Delta [Original Research]. *Frontiers in Sustainable Cities*, 4(1). https://doi.org/10.3389/frsc.2022.1077653

23. Lu, Y. (2010). Mental health and risk behaviours of rural-urban migrants: Longitudinal evidence from Indonesia. *Popul Stud (Camb),* 64(2), 147-163. https://doi.org/10.1080/00324721003734100
24. Maleki, Z., Mollaei Hashjin, N., & Bsed Qorshei, M. (2020). A New Perspective in Human Geography, 12(1), 635-656. https://sanad.iau.ir/fa/Article/860048
25. Manafiazar, R., Abdollahee, A., Alizadeh, T., Valaei, M., & Gasemi Ardehayi, A. (2017). Return migration and its impact on rural settlements: Case study: Barough district in Miandoab county. *Journal of Studies of Human Settlements Planning*, 12(1), 179-197. https://sanad.iau.ir/fa/Article/1030711
26. Mannan, D., & Kazlov, V. (2001). The Cost-Benefit Analysis of International Migration: Modelling and Empirical Study between Bangladesh and Italy. 12, 29-52.
27. MirzaNiknam, H. (2014). Special Verbs in Bandar Khamiri Dialect [Cultural Articles]. *Cultural Journal of Hormozgan*, 4(8), 24-40. http://rdch.ir/article-1-28-en.html
28. Moseley, M. J. (1984). The revival of rural areas in advanced economies: a review of some causes and consequences. *Geoforum*, 15(3), 447-456. https://doi.org/https://doi.org/10.1016/0016-7185(84)90050-2
29. Pinilla, V., Silvestre, J., & Palacios-Mateo, A. (2022). Emigrating to Depopulated Regions in Mediterranean Europe: Demographic Impact and Choice of Destination in a Case Study in North-East Spain (Aragon)., 14, 258 *European Countryside* -280. https://doi.org/10.2478/euco-2022-0013
30. Olfati, M., Haghighatian, M., & Hejazi, S. (2022). Explaining the Social, Cultural and Economic Factors of Reverse Migration From City to Village (Case study: Sarpole Zahab city). *Political and International Research Quarterly*, 13(50), 161-182. https://sanad.iau.ir/fa/Article/945037
31. Roost, F., & Jeckel, E. (2021). Post-Fordist Production and Urban Industrial Land Use Patterns. *Urban Planning*, 6, 321-333. https://doi.org/10.17645/up.v6i3.4272
32. Sadeghi, Rasoul, & Amani, M. (2023). Selective Migration in Iran: Patterns and Differences. *Human Geography Research*, 55(4), 139-153. https://doi.org/10.22059/jhgr.2022.344373.1008515
33. Scott, M., Kelleher, L., Fox-Rogers, L., & Gkartzios, M. (2025). From 'counterurbanisation as practice the 'governance of counterurbanisation': Structuring pro-rural relocations through planning regulation of housing. *Journal of Rural Studies*, 120, 103868. https://doi.org/https://doi.org/10.1016/j.jrurstud.2025.103868
34. Selod, H., & Shilpi, F. (2021). Rural-urban migration in developing countries: Lessons from the literature. *Regional Science and Urban Economics*, 91, 103713. https://doi.org/10.1016/j.regsciurbeco.2021.103713
35. Shayan, H., Erfani, Z., & Sojasi Ghidari, H. (2021). Comparative analysis of reverse migration (urban-rural) in Iran on a provincial scale. *Village and Space Sustainable Development*, 2(3), 1-18. https://doi.org/10.22077/vssd.2021.4791.1044
36. Sjaastad, L. A. (1962). The costs and returns of human migration. *Journal of political Economy*, 70(5, Part 2), 80-93.
37. Skeldon, R. (2014). *Migration and development: A global perspective*. Routledge
38. Sosanidze, M., Kokashvili, N., & Mamulashvili, L. (2025). Impact of urbanisation on the country's economic development: opportunities and challenges. *Economic Bulletin of Dnipro University of Technology*, 211-217. https://doi.org/10.33271/ebdut/90.211
39. Stockdale, A. (2014). Unravelling the migration decision-making process: English early retirees moving to rural mid-Wales. *Journal of Rural Studies*, 34, 161-171. https://doi.org/https://doi.org/10.1016/j.jrurstud.2014.01.010
40. Stockdale, A. (2016). Contemporary and 'messy'rural in-migration processes: Comparing counterurban and lateral rural migration. *Population, space and place*, 22(6), 599-616. https://doi.org/https://doi.org/10.1002/psp.1947
41. Weldemariam, L. F., Ayanlade, A., Borderon, M., & Möslinger, K. (2023). Dynamics and factors influencing return migration to Sub-Saharan Africa: A systematic review. *Heliyon*, 9(8), e18791. https://doi.org/https://doi.org/10.1016/j.heliyon.2023.e18791
42. Wilson, R., Noble, C., & Currie, M. (2025). The changing rural idyll and the ideal migrant: The case of Scotland during COVID-19. *Journal of Rural Studies*, 114, 103497.
43. Yaghoubi, J., & Zobeidi, T. (2018). Assessing Return Migration's Motivations and Consequences in Ijroud County, Zanjan Province. *Journal of Rural Research*, 9(2), 196-209. https://doi.org/10.22059/jrur.2018.229925.1118
44. Yunus, J., Bamidele, J., Joel, A., Joel, O., Oyediji, B., & Sennuga, O. (2025). Impact of Migration on Rural Social Structures: A Critical Review. *Journal of Biotechnology & Bioinformatics Research*, 7, 1-9. https://doi.org/10.47363/JBBR/2025(7)195

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Original Article

بررسی تأثیر عوامل اقتصادی، اجتماعی-فرهنگی، محیطی و کالبدی بر مهاجرت معکوس در مناطق روستایی (مطالعه موردی: شهرستان بندر خمیر)

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چکیده مبسوط

۱. مقدمه

مهاجرت به اشکال گوناگونی در جامعه نمود می‌یابد، از جمله جابه‌جایی از مناطق روستایی به شهری، از مناطق شهری به روستایی، و بین شهرهای کوچک و شهرهای بزرگ. در اکثر کشورهای در حال توسعه مانند ایران، الگوی غالب مهاجرت، انتقال یک‌طرفه و معمولاً دائمی جمعیت روستایی به مراکز شهری است. با این حال، طی دهه گذشته، روند جدیدی به نام «مهاجرت معکوس» در بخش‌های روستایی کشور پدیدار شده است. پدیده مهاجرت معکوس در شهرستان خمیر، یک منطقه روستایی در جنوب استان هرمزگان ایران، بیشتر مشهود است. مرکز این منطقه، بندر خمیر (که قبلاً با نام جمیر شناخته می‌شد)، به دلیل موقعیت استراتژیک دریایی و تجاری خود دارای میراثی غنی و اهمیت تاریخی است. سایت‌های باستان‌شناسی مهمی مانند دیوار سِدار و قلعه خمیر گویای این میراث هستند. در سال‌های اخیر، شتاب مهاجرت معکوس به این منطقه افزایش یافته است که عمدتاً ناشی از توسعه استراتژیک در بوم‌گردی (اکوتوریسم) و گردشگری کشاورزی دریایی است. این ابتکارات منطقه را به مقصدی جذاب‌تر هم برای ساکنان بومیِ بازگشته و هم برای تازه‌واردان تبدیل کرده است. هم‌زمان، تلاش‌های عامدانه نهادهای دولتی، مانند بنیاد مسکن در روستاهای دورافتاده و ارتقای خدمات اجتماعی روستایی توسط مقامات محلی، شرایط مساعدی را برای این تغییر جمعیتی فراهم کرده است. هدف این سیاست‌ها ترویج بازاسکان‌دهی روستایی و کاهش مهاجرت به مراکز شهری بزرگ‌تر است هدف این پژوهش بررسی تأثیر عوامل اقتصادی، اجتماعی-فرهنگی، محیط‌زیستی و فضایی بر مهاجرت معکوس در نواحی روستایی (مطالعه موردی: شهرستان بندر خمیر، ایران) بود.

۲. مبانی نظری تحقیق

مهاجرت به‌عنوان یکی از عوامل کلیدی تحولات جمعیتی، از دیرباز مورد توجه پژوهشگران بوده و به‌ویژه پس از جنگ جهانی دوم به دلیل تأثیرات گسترده‌اش بر ساختارهای اجتماعی، اقتصادی و فرهنگی جوامع، اهمیت بیشتری یافته است. در کشورهای در حال توسعه مانند ایران، غلبه الگوی توسعه کلاسیک و تمرکز بر شهرنشینی، مانع از توجه کافی به توسعه روستایی شده و روستاها با فقر گسترده مواجه شده‌اند. این مسئله به مهاجرت‌های بی‌رویه روستا-شهری منجر شده که نه‌تنها مشکلات شهری مانند تراکم جمعیت، افزایش هزینه‌های زندگی، آلودگی و آسیب‌های اجتماعی را تشدید کرده، بلکه روستاها را نیز با کاهش نیروی انسانی و افت فعالیت‌های اقتصادی مواجه ساخته است. مهاجرت‌های داخلی در کشورهای در حال توسعه، به‌ویژه تحت تأثیر صنعتی شدن و توسعه صنعتی، از قرن گذشته میلادی روندی فزاینده داشته است. در ایران، رشد بی‌رویه جمعیت و توزیع نامتوازن آن در سطح ملی، به‌ویژه به دلیل مهاجرت‌های گسترده روستا-شهری، به معضلی جدی تبدیل شده است. اگرچه در گذشته، مهاجرت روستاییان به شهرهای بزرگ به‌عنوان راه‌حلی برای تأمین نیروی کار صنایع شهری و رفع نیروی کار اضافی روستاها مطلوب تلقی می‌شد، امروزه این پدیده به یکی از عوامل اصلی بیکاری و مشکلات اجتماعی-اقتصادی تبدیل شده است. در این میان، بخشی از مهاجران که نتوانسته‌اند به اهداف خود در شهرها دست یابند، ناگزیر به روستاها بازگشته‌اند. بااین‌حال، نسل جدید مهاجران به دلایلی مانند کمبود زمین‌های کشاورزی و بی‌علاقگی به فعالیت‌های سنتی، تمایلی به بازگشت به کشاورزی نشان نمی‌دهند، که این امر پیامدهای نامطلوب اجتماعی-اقتصادی را در مبدأ و مقصد مهاجرت به دنبال داشته است.

۳. روش تحقیق

پژوهش حاضر با رویکردی توصیفی-تحلیلی و با استفاده از روش کمی انجام شده است. جامعه آماری این پژوهش شامل کلیه مهاجران و نخبگان شهرستان بندر خمیر به تعداد تقریبی ۱۳۵۸ نفر بود. بر اساس

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فرمول کوکران، حجم نمونه مورد نیاز ۳۰۰ نفر تعیین گردید. در این مطالعه از تکنیک نمونه‌گیری چندمرحله‌ای استفاده شد؛ در مرحله نخست، به‌منظور جلوگیری از پراکندگی گسترده نمونه و تجمیع شرکت‌کنندگان در مناطق مشخص شهری، روستایی و ساحلی، روش نمونه‌گیری خوشه‌ای به کار گرفته شد. سپس در درون این خوشه‌ها، با استفاده از روش نمونه‌گیری تصادفی ساده، نمونه نهایی انتخاب و پرسشنامه‌ها میان آنان توزیع گردید. در مطالعه حاضر، جهت بررسی متغیرهای پژوهش از یک پرسشنامه محقق‌ساخته با عنوان «مهاجرت معکوس» استفاده شد. روایی صوری این مقیاس توسط چندین تن از اساتید و خبرگان تأیید شد و پایایی آن با استفاده از روش آلفای کرونباخ ارزیابی گردید که ضریب ۰/۹ به دست آمد. این مقدار برای پرسشنامه بسیار مطلوب تلقی می‌شود.

۴. یافته‌های تحقیق

هدف این پژوهش بررسی تأثیر عوامل اقتصادی، اجتماعی-فرهنگی، محیط‌زیستی و فضایی بر مهاجرت معکوس در نواحی روستایی (مطالعه موردی: شهرستان بندر خمیر، ایران) بود. نتایج نشان داد که رابطه مثبت و معناداری میان عوامل اقتصادی، اجتماعی-فرهنگی، محیط‌زیستی و فضایی با مهاجرت معکوس وجود دارد. ضرایب رگرسیونی برای عوامل اقتصادی، اجتماعی-فرهنگی، محیط‌زیستی و فضایی به ترتیب ۰/۹۲۹، ۰/۹۰۷، ۰/۹۲۳ و ۰/۸۰۵ بود. ضریب تعیین برای عوامل اقتصادی ۰.۸۶۳ است که نشان می‌دهد ۸۶/۳ درصد از واریانس مهاجرت معکوس توسط تعیین‌کننده‌های اقتصادی تبیین می‌شود. عوامل اجتماعی و فرهنگی ۸۲/۲ درصد عوامل محیط‌زیستی ۸۵/۲ درصد و عوامل فضایی ۶۴/۸ درصد از واریانس را تبیین می‌کنند. عوامل اقتصادی قوی‌ترین ارتباط را با مهاجرت معکوس در شهرستان بندر خمیر نشان دادند. ضرایب رگرسیونی مثبت در مدل بیانگر رابطه سازنده و مستقیم بین مهاجرت معکوس و عوامل اقتصادی، اجتماعی-فرهنگی، محیط‌زیستی و فضایی است. بنابراین، فرضیه‌های مبنی بر تأثیر عوامل اقتصادی، اجتماعی-فرهنگی، محیط‌زیستی و فضایی بر مهاجرت معکوس در شهرستان بندر خمیر با سطح اطمینان ۹۵ درصد تأیید شدند.. به طور مشخص، پاسخگویانی که ادراک بالاتری از بی‌ثباتی اقتصادی در شهر خود (مانند بیکاری، هزینه بالای زندگی، رکود درآمد) گزارش کردند، تمایل بیشتری برای بازگشت به نواحی روستایی ابراز نمودند.

۵. بحث و نتیجه‌گیری

در جوامع موردمطالعه آن‌ها، مهاجران بازگشتی مجدداً در شبکه‌های خانوادگی تثبیت‌شده ادغام می‌شوند که ظاهراً تغییرات جمعیتی را بدون ایجاد تنش‌های قابل‌توجه جذب می‌کنند. این امر با وضعیت بندر خمیر در تضاد است؛ جایی که هجوم سریع مهاجران بازگشتی نسبتاً تحصیل‌کرده و فعال اقتصادی می‌تواند بافت اجتماعی را مختل کرده و رقابت برای زمین، شغل و نفوذ سیاسی را تشدید کند و درنتیجه به زوال اجتماعی دامن بزند. چندین عامل نظری و زمینه‌ای به تبیین الگوی یافته‌ها کمک می‌کنند. غلبه مشوق‌های اقتصادی در بندر خمیر با منطق هزینه-فایده در تصمیمات مهاجرت همسو است؛ جایی که افراد در واکنش به فشارهای شهری (نظیر هزینه‌های بالای مسکن، بیکاری، ترافیک و استرس) به مناطق روستایی نقل‌مکان می‌کنند که اکنون زیرساخت‌های بهبودیافته، اجاره‌های پایین‌تر و فرصت‌های درآمدی جدیدی از طریق اکوتوریسم و گردشگری کشاورزی دریایی ارائه می‌دهند. هم‌زمان، تأثیر معنادار انگیزه‌های اجتماعی، فرهنگی و روان‌شناختی نشان می‌دهد که تصمیم‌گیری صرفاً ناشی از عوامل اقتصادی نیست؛ دلبستگی به روستاهای اجدادی، سنت‌های مذهبی و فرهنگی و تمایل به سبک زندگی کم‌استرس نیز حیاتی هستند. در پایان، این مطالعه نشان داد که مهاجرت معکوس به بندر خمیر توسط مجموعه‌ای پیچیده از مشوق‌ها هدایت می‌شود که تحت تأثیر عوامل اقتصادی و زیرساختی قرار دارند و به‌عنوان مکانیسم کلیدی عمل می‌کند که از طریق آن چشم‌اندازهای اقتصادی، اجتماعی و فرهنگی روستایی متحول می‌شوند. این مطالعه با ترسیم تجربی این روابط در یک منطقه ساحلی و گردشگری ایران، مدلی حساس به بافت از مهاجرت معکوس و تحول روستایی ارائه می‌دهد که می‌تواند مباحث آکادمیک و ابتکارات سیاستی با هدف دستیابی به توسعه روستایی پایدار از نظر اجتماعی را آگاه سازد.

کلید واژه‌ها: مهاجرت معکوس، عوامل اقتصادی، عامل فضایی، شهرستان بند خمیر.

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Original Article

Spatial Analysis of Factors Influencing the Development of Rural E-Tourism Approaches (Case Study: Tourism Destination Villages of Amol County)

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Abstract
Purpose- E-tourism serves as a transformative tool for enhancing tourism services; by providing high-quality digital experiences, it significantly contributes to tourist attraction and satisfaction. This research aims to identify the factors influencing the formation of rural e-tourism approaches and to conduct a spatial analysis of these factors across the destination villages of Amol County.
Design/methodology/approach- This study is applied in purpose and utilizes a descriptive-analytical methodology. Data collection was conducted through a combination of library research and field surveys using questionnaires. To analyze the spatial distribution and hierarchy of the sampled villages in the Larijan District, the Marcos method was employed. The dimensions of the e-tourism variable investigated include cultural acceptance, supportive-managerial policies, infrastructure, and information systems. To determine the relative importance of these dimensions, weights were assigned using the Analytic Hierarchy Process (AHP) based on expert opinions.
Findings- The results indicate that the indicators of "support for private organizations for investment in e-commerce" (final weight: 0.06), "necessary legal and regulatory frameworks" (final weight: 0.05), and "utilization of specialized and trained human resources in e-tourism" (final weight: 0.04)—all subsets of the Supportive-Managerial Policies component—ranked first to third, respectively. These are identified as the most critical indicators for sustainable rural development. Consequently, "Supportive-Managerial Policies" emerged as the most influential component (weight = 0.49), followed by "Software/Information Systems" (0.22), "Infrastructure" (0.18), and "Cultural Acceptance" (0.09). Furthermore, the spatial analysis of the Larijan District reveals that the villages of Ab-e Garm, Ab-e Ask, and Ira fall within the green spectrum of the spatial model, indicating an unfavorable status regarding e-tourism development.
Keyword: E-tourism, Tourism destination villages, Spatial analysis, Amol County.

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1. Introduction

As one of the most dynamic and growing global industries, tourism has a key role in economic, social, and spatial development of countries (Burbano et al., 2022). Among various types of tourism, rural tourism has drawn special attention as a potential solution for diversifying the rural economy, reducing unemployment, preventing emigration, and strengthening social capital (Sharpley, 2002; Alibeigi & Ghasemi, 2015). In recent decades, the development of rural tourism has been strongly affected by technological changes, the development of information and communication technology (ICT), and a new paradigm known as electronic tourism (E-tourism). E-tourism refers to the use of digital technologies throughout the value chain of tourism, from marketing and reservations all the way to destination management and tourist experience (Kazandzhieva & Santana, 2019; Li & Buhalis, 2006). In a systematic review, Gretzel et al. (2022) showed that digitalizing tourism entails customer experience enhancement, destination management improvement, and progress toward sustainability, although there is a significant gap between policy narratives and practical implementation. Newer research has emphasized the role of digital technologies in improving the resilience and competitiveness of rural destinations (Zhong et al., 2024; Wu et al., 2024).

At a rural level, the concept of E-tourism refers not only to the use of digital tools in the marketing and sales of tourism services but also to digital infrastructure, smart governance, community empowerment, and institutional integration (Emerllahu & Bogataj, 2024;؛ Lin & Ye, 2025). According to the digital technology-space-actors-tourism (DSAT) framework, successful development of digital tourism in rural areas results from the simultaneous interaction of infrastructure, local actors, and spatial characteristics of the destination (Lin & Ye, 2025). Nevertheless, Yusheng et al. (2025) pointed out the conceptual and measurement gaps in the rural tourism digitalization literature and highlighted the necessity of conducting local and space-oriented studies.

Numerous studies in Iran have emphasized various dimensions of E-tourism, including the role of infrastructure and electronic readiness (Ghanbari et al., 2020; Sadeghi Pouriani et al., 2021), the importance of governmental support and workforce training (Rezaei et al., 2018), legal and managerial challenges (Kamiabi & Fadavi, 2022), and the role of governance and human capital in smart rural tourism (Anabestani and Barani Ali-Akbari, 2024, 2025). However, most of these studies were at a conceptual level or addressed only one or a few aspects and failed to present an integrated spatial analysis of the factors affecting the development of rural E-tourism at a local scale. In addition, many of these countrywide studies lack a spatial analysis and rural destination ranking and do not answer the question “which villages are at what level of preparation for E-tourism development and why?”. While international research has stressed the significance of spatiality and geographic variation in the digitalization process of tourism (Zhong et al., 2024; Gretzel et al., 2022), there is a gap in Iranian literature in this respect, especially at municipal and village levels. In this regard, the Amol county, specifically the Larijan district, has a high tourism development potential as a major rural tourism center in Northern Iran with landmark natural attractions (such as Mount Damavand and well-known hot springs and tourism destination villages) (Hesam, 2016). Nevertheless, tourism development in this area has so far been based on traditional models, with no systematic and spatial evaluation of the readiness level and status of E-tourism components in its villages. The villages in the Larijan district of the Amol county, Mazandaran Province, are among regions with considerable development of rural tourism in recent years. Due to the proximity of this county to population centers, such as Tehran, Mazandaran, and Alborz; its location on the busy Haraz road; and its possession of numerous natural attractions, it has become a popular tourist destination and has witnessed a particular growth in secondary tourism residence (Hesam, 2017). The development of technological infrastructure in this district would help the development of E-tourism and the provision of tourist facilities and services in the region. Using these technologies would help present tourists with accurate information about attractions in the region. Furthermore, E-tourism can improve the quality of services provided to tourists, thus increasing their satisfaction. Also, online advertisements in social media can assist in attracting visitors and introducing the Larijan

district. The present research aims to identify the factors affecting the development of rural E-tourism and perform a spatial analysis of these factors across the tourism destination villages in the Amol county. To this end, the following two questions must be answered:

1. What are the factors affecting the development of E-tourism in tourism destination villages in the Amol County?
2. How can the factors affecting the development of E-tourism in tourism destination villages in the Amol County be spatially analyzed?

2. Research Theoretical Literature

Rural tourism- Rural tourism is a form of tourism and socio-recreational activity that can help mitigate challenges in rural development and contribute to the dynamism of socio-economic development by reducing unemployment, creating income, and improving the standard of living of the local community (Alibeigi & Ghasemi, 2015). In this type of tourism, the cultural, natural, and historical resources of a rural area are offered as cultural tourism commodities.Rural tourism can lead to economic growth, employment diversity and stability, business and industry dynamism, and new income opportunities and markets for agricultural products (Sharpley, 2002). One important economic characteristic of rural tourism is the tendency of the private sector to invest in this area due to its small size and diversity of plans (Papoli & Saghai, 2014). With the development of fast-paced urban lifestyle in recent years, many people are interested in traveling to calm and traditional rural settings. This type of tourism is similar to ecotourism and is especially popular in Europe and North America. In rural tourism, people travel to and stay at agricultural and livestock farming sites to become familiar with the rural lifestyle. With the right facilities in place, rural tourism can evolve into a significant source of tourism income in Iran. Iran has pristine traditional villages, some of which are worthy of international fame due to their special architectural style, such as Masouleh in Gilan, Abyaneh in Kashan, and Ziarat in Gorgan (Amooali Khosroabadi, 2013).

E-tourism- E-tourism refers to the use of ICT in the tourism industry with the aim of facilitating service provision, increasing quality, and reducing costs. It also plays a key role in global competitiveness in tourism. As a type of travel-related E-commerce, it allows easy searching, comparing, and selecting of tourism services for users (Ravadrad & Mohammadi, 2010). The World Tourism Organization recognizes E-tourism as an electronic business involving all processes and value chains in the tourism, hospitality, and recreation industries, including content creation, research and development, and electronic service (E-service) provision (Seyed Naghavi, 2013). It provides services such as hotel reservation and electronic ticket purchases via Internet websites and special standards and protocols (Li & Buhalis, 2006).

E-tourism has been developed in two main forms: (1) websites and (2) mobile applications and social networks (Fodor & Werthner, 2005; Cardoso & Lange, 2007). Novel communication technologies have enabled virtual traveling and reduced the need for physical transportation by providing accurate and up-to-date information (Khoshniat, 2013; Najafi et al., 2018). The role of social networks in E-tourism models has not been paid sufficient attention despite the large influence of these networks (Yavari Gohar et al., 2020). Smart phones have become a necessity for attracting tourists due to their ability to reduce costs and improve service efficiency (Bemanian, 2008). Finally, E-tourism in rural areas can play a significant role in realizing sustainable economic, social, and environmental development and lay the grounds for an electronic revolution in rural tourism (Soleimani, 2013).

Javan (2025) considered the development of smart rural tourism to depend on a combination of digital technologies, institutional/governance capacities, and local community empowerment and presented a conceptual model for policy-making/implementation. Anabestani and Barani Ali-Akbari (2025) believe that various smart rural tourism indicators can positively and significantly affect the sustainable development of rural residences. In their study, smart rural tourism had the largest direct effect on rural sustainable development with a factor of 0.821, and the independent variable predicted 86.3% of the variance of the rural sustainable development variable. Jami and Abadi (2025) emphasized the bond between digital tourism and rural entrepreneurship (such as the role of platforms, digital marketing, and local supplier networking) and considered it useful specifically for designing

support plans at a provincial/rural level. Rezvani et al. (2024) proposed a comprehensive framework for implementing smart rural tourism and showed that the relevant literature was clustered around components such as digital/data infrastructure, governance and destination management, local community participation, smart services, and sustainability. According to Hojjat-Shamami et al. (2023), rural E-tourism can activate pathways of strengthening sustainable livelihoods. However, rural residents' perception and readiness (skills/trust/infrastructure) play a key role, and full socio-economic benefits cannot be realized without it. Anabestani & Barani Ali-Akbari (2024) reported smart governance, smart citizens, smart economy, and smart education to be the highest-ranking dimensions of smart rural tourism in terms of effectiveness. In other words, they considered digital tools to be insufficient without human and governance capacity. Ayeneh & Almasifard (2024) identified the factors affecting the design of a business model for rural E-tourism to include economic and socio-cultural factors, infrastructure, government support, electronic research and development, competitive advantage, regulations, individual factors, institutional factors, environmental factors, and new technologies.

The study by Hojjat Shamami et al. (2023) indicated that the level of access to livelihood capital can affect the perception of E-tourism by rural residents. Moreover, they concluded that rural residents understand E-tourism in such forms as visiting/promotion and marketing, online shopping, intermediary elimination, and new business emergence. According to the results of Anabestani et al. (2023), the rural residents under study recognized the arrival of commercial tourists as an effective factor in the development of rural residences and believed that further support by local authorities improves hospitality, increases participation, and strengthens local development. In another study by Anabestani et al. (2024), it was shown that smart tourism plays an important role in enhancing tourist experience and promoting economic and social development of rural areas by leveraging ICT and can increase employment and income and facilitate sustainable development of rural businesses. According to a study by Kamiabi and Fadavi (2022), although E-tourism is growing, there exist challenges such as regulatory deficiencies, lack of digital trust, and multiplicity of decision-making bodies, and structural-managerial factors play the most important role in these challenges. Sadeghi Pouriani et al. (2021) showed that E-tourism readiness can be expressed as a weighted model with various aspects such as information technology (IT) infrastructure, business readiness, and destination management organizations. Based on the results of Ghanbari et al. (2020), despite the low level of electronic readiness, there exists a positive and significant correlation between infrastructural, organizational, and service readiness and E-tourism development. Shirmohammadi and Abedi (2019) indicated that E-tourism advertisement has a positive and significant effect on the destination's mental image and that creativity, audience insight and the use of social media are effective in attracting tourists. According to the results of Rezaei et al. (2018), factors such as Internet-based services, workforce training, cultural development, government support, security, and Internet reach are among the most important E-tourism metrics affecting rural entrepreneurship.

Lin and Ye (2025) proposed the DSAT framework for explaining how sustainable development empowers rural tourism. This framework includes simultaneous interaction among infrastructure, local stakeholders, and the spatial features of the destination. Ma et al. (2025) emphasized the integration of the digitalization of rural tourism and highlighted research gaps such as the need for an accurate conceptual definition, measurement of actual consequences, and better attention to justice/people-centricity. Arman et al. (2025) mentioned seven main contexts in their analysis of digital tourism: technology evolution in the tourism experience, local community empowerment, redefinition of marketing strategies, cultural and environmental sustainability, implementation barriers, innovation and research horizons (such as gamification and metaverse), and digital identity reconstruction (via cultural branding using emerging technologies). The results of Akbarpour and Farnoudkia (2025) indicated that the behavioral factor has a larger influence on hospitality. In other words, the cognition, perception, and participation of rural residents are good predictors of creative hospitality realization. The results also showed that the highest average host acceptance rate in rural areas belonged to Shamshir, Harir, and Hajij based on geographical, environmental, and tourism

conditions. Cheng and Zhiang (2025) demonstrated that technologies such as digital payment, online reservation, social network marketing, and virtual reality tours are widespread in rural tourism and considered the effect of ICT on performance and resilience as the main question to be answered. Zhang et al. (2025) reported a random controlled experiment on marketing interventions (short videos/live/social networks) for rural business product sales.

Zhang et al. (2024) showed that ICT can improve the resilience of rural business/destination by such measures as reducing operational vulnerability and enhancing market access and tourist engagement, although its effectiveness depends on the technology absorption and integration level. According to Wu et al. (2024), hot research focus areas in digital tourism include intelligence/data, platforms, smart experience, and governance/digital dependency risks. Their findings can also be used to design digital strategies (especially in data management and platforms) in rural destinations. In a review of smart village literature, Emerllahu and Bojatag (2024) emphasized the multiple dimensions of rural smartification, including infrastructure, governance, training, community empowerment, and services, which can act as a platform for implementing digital tourism. In a study on rural mountain tourism, Hussein et al. (2024) showed that the perception of risk related to social networks can have the strongest effect on tourist behavior and that active online participation has a positive impact. Using the partial least squares (PLS) technique, Anabestani and Javanshiri (2023) indicated that, among the research metrics, "promotion and training" had the strongest direct influence on the dependent variable with a factor of 0.591. In addition, the "RICT service awareness" variable had a larger impact on the development metrics of creative villages in rural residences with a factor of 0.816, considering direct and indirect effects. Given an R2 value of 0.998, the authors concluded that RICT has a high influence on rural development metrics. Based on the results of Samanah and Polikhina (2023), the digitalization of tourism improves destination management; enhances tourist experience; reduces resource use; and contributes to economic, social, and environmental sustainable development. According to Torabi et al. (2023), the development of rural E-tourism is dependent not only on the supplier but also on the acceptance and digital experience of the tourist, which act as demand drivers. In a systematic review of IT and tourism, Gretzel et al. (2022) showed that frequent topics in the literature include visitor experience, destination management, business solutions, and sustainable smart destinations. They also highlighted the gap between management narrative and actual implementation. Based on the results of Mishva (2021), the development of E-commerce allows the customization of business strategies, improves customer relationship management, and predicts business opportunities for tourism companies. According to Rahahelah et al. (2020), enhancing the quality of electronic services and customer relationship can play a significant role in developing the tourism sector. Hasounah et al. (2020) showed that elements of the E-tourism marketing mix, such as information accuracy, price, ease of payment, and website design, considerably affect the perception and decisions of tourists. In a study by Kazandziwa and Santana (2019), E-tourism was shown to be an influential phenomenon that has led to an evolution in tourism by highlighting the necessity of digitalizing processes.

Despite the relative richness of the literature, a critical review of previous studies reveals several fundamental gaps. First, most studies have addressed one of the aspects of technology, governance, or stakeholder behavior individually, without presenting a comprehensive model capable of simultaneously analyzing cultural, institutional, infrastructural, and software aspects within an integrated framework. Second, a considerable portion of the studies has a conceptual or descriptive nature, with little attention being paid to the systematic prioritizing of metrics using multi-criteria decision-making methods. As a result, the relative importance of the factors affecting the development of E-tourism has not been made clear in numerous cases. Third, the spatial analysis of the intra-regional differences at a rural scale has received less-than-deserved attention, and most studies address national and provincial levels without explaining small-scale spatial heterogeneities. Finally, a significant gap is observed between the theoretical discourse and the actual conditions of rural areas in Iran. Specifically, while many studies have highlighted

technological potentials, they have failed to provide field evaluations of the realization of these potentials within local contexts.

The present research takes a mixed approach to these problems by extracting a comprehensive set of metrics affecting rural E-tourism, determining their relative importance using the analytic hierarchy process (AHP), and then using the "measurement alternatives and ranking according to compromise solution" (MARCOS) multi-criteria decision-making and spatial AHP tools to evaluate and rank the status of this variable at the level of the sample villages in the Amol county. As such, this research attempts to fill the gap between theoretical frameworks in digital tourism and spatial-institutional realities in rural areas in Iran and present a local and evidence-based model for analysis and policy-making in rural E-tourism.

3. Research Methodology

3.1 Geographical Scope of the Recsearch

Larijan is a district in the Amol County. This district is located in the southernmost part of the Mazandaran province, on the northern slopes of the Alborz mountain range. Mount Damavand along with its ascent routes are in Larijan, which had a population of 8684 in the latest national population and housing census in 2016. The Larijan district consists of two towns, Rineh and Gazanak, and 73 villages and settlements. It consists of the two rural districts of Bala larijan and Pain Larijan.

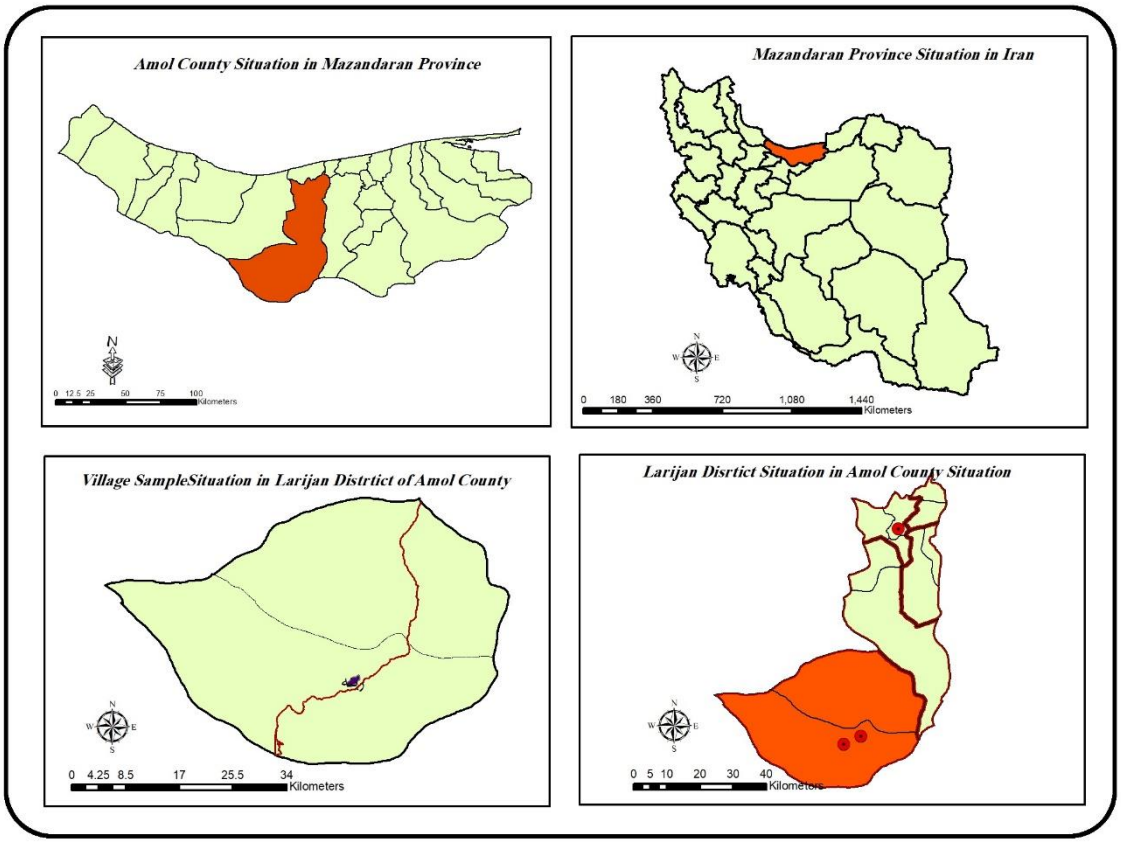


Figure 1. Location of the area under study

3.2 Research Method

This research is of the applied type in terms of objective and of the descriptive-analytical type in terms of method. The methodology is composed of referring to library sources, gathering field data via questionnaires, analyzing the data, and finally making conclusions.

Table 1. Estimate of the number of sample rural households in the area under study

Rural district	Village	Household	Population	Sample size
Bala Larijan	Polur	151	302	16
	Ab Garm	104	262	14
	Niak	61	166	12
	Shahandasht	31	69	10
	Vana	73	231	12
	Ab Ask	158	454	16
	Ira	29	69	10
	Lasem	76	199	12
	Nava	24	51	10
Pain Larijan	Abdolmanaf	38	111	11
	Namar	71	211	12
	Nosar	142	399	15
	Nandel	162	429	16
	Baijan	138	415	15
	Haft Tanan	71	203	12
Total		1329	3571	194

Source: Statistical Center of Iran (2016) and author's calculations (2025)

In order to measure the variables and metrics used in the research and analyze the data resulting from field observations, descriptive, inferential, and spatial analysis statistical methods were used via the ArcGIS and SPSS software packages. Moreover, Cronbach's alpha coefficient in SPSS software was employed to evaluate the reliability of the questionnaire. In addition, the AHP technique was utilized to rank and obtain the E-tourism components.

There are various methods for measuring the consistency, reliability, and internal homogeneity of a questionnaire. One of the most common of these is Cronbach's alpha coefficient. Given the interval/ratio scale of the dimensions and components, this research used the methods of skewness and kurtosis as well as Cronbach's alpha. As for skewness and kurtosis, statisticians prefer an interpretation of ±2 for skewness, kurtosis, or both. The following table presents the values for skewness, kurtosis, and Cronbach's alpha. As shown in the table, the skewness and kurtosis values of most of the dimensions fall between -1 and +1, with the overall values between -2 and +2. This indicates that the dimensions and components follow a normal distribution and the T-tests can be used to examine the relationships between the variables for the rural areas. The alpha value of the variables was found to be greater than 0.7, indicating that the dimensions and components of sustainable development have excellent reliability.

Table 2. Normality analysis of the E-tourism variable

Dimension	Skewness	Kurtosis	Cronbach's alpha	Result
Cultural acceptance	-0.00	-0.49	0.833	Normal
Support-management policies	0.61	-0.42	0.879	Normal
Infrastructure	0.52	-0.44	0.863	Normal
Information system	0.26	-0.69	0.928	Normal
E-tourism variable	0.471	-0.425	0.933	Normal

4. Research Findings

4.1.Personal characteristics of respondents (villagers and experts)

Villagers. Gender: Eighty-one (41.8%) of the respondents were males, and 113 (58.2%) were females. Age: Sixty-seven (34.5%) of the rural respondents were aged 31-40, 66 (34%) were aged 21-30, 32 (16.5%) were aged under 50, and 28 (14.4%) were aged above 51. Also, 1 person did not give their age. Fifty-eight respondents were single, while 136 were married. In terms of education, 1 respondent had elementary school education, 7 (3.6%) had upper elementary education, 17 (8.8%) had high-school education, 51 (26.3%) had a diploma or higher certificate, and 118 had a bachelor's degree or higher. With respect to employment, 8 respondents (4.1%) were farmers, 4 (2.1%) were livestock keepers, 60 (30.9%) were employees, 15 (7.7%) were workers, 84 (43.3%) were self-employed, and 23 (11.9%) were none of these.

Experts. The AHP questionnaire was distributed among experts in order to determine the E-tourism metrics. The personal characteristics of the respondents are shown in Table 3.

Table 3. Personal characteristics of experts

Characteristic		Frequency	%
Gender	Female	3	%60
	Male	2	%40
Age	21-30	2	%40
	31-40	0	0
	41-50	1	%20
	51 and above	2	%40
Job	Student	2	%40
	Graduate	0	0
	University professor	1	%20
	Employee	2	%40
Academic qualifications	Master's degree	3	%60
	Specialist	2	%40

4.2.A study of the impact coefficients of E-tourism components using AHP

AHP is a mathematical analytical method of determining the importance and priority of criteria in multi-criteria decision-making problems. It is especially useful in the presence of contradictory and complex criteria. By decomposing the problem into hierarchical levels and performing pairwise comparisons, this method enables the ranking and optimal selection of alternatives. Proposed by Thomas Saati in the 1970s, AHP emphasizes human reasoning to address complex fuzzy problems. It has been widely used in various scientific fields (Movahed et al., 2021).

AHP steps: AHP begins with the selection of alternatives. In this step, all the alternatives or possible answers that need evaluation are identified and listed. Then, in the problem and criteria definitions step, the main problem is decomposed into smaller portions, and the criteria and sub-criteria affecting the decision-making are specified. Subsequently, a hierarchical structure is created to establish the relationship between the objective, criteria, and alternatives in the form of a hierarchical tree. After that, pairwise comparisons are made between criteria and options to determine the relative importance of each element compared to others. In the next step, the comparison results are used to extract the relative weights of the criteria and alternatives via mathematical calculations. Next, the consistency of the judgments is assessed to ensure the rationality and reliability of the comparisons. Finally, the final scores of the alternatives are computed and the weights are summed, the alternatives are ranked, and the best alternative is selected as the outcome of the decision-making process..

Table 4. E-tourism components

Component	Cultural acceptance	Support-management policy	Infrastructure	Software	Total weight	Final weight
Cultural acceptance	1	0.25	2	0.25	0.115	0.097
Support-management policy	4	1	3	6	0.517	0.494
Infrastructure	0.5	0.333	1	0.2	0.090	0.184
Software	4	0.166	5	1	0.276	0.223
Total	9.5	1.75	11	7.45	1	1

A study of the pairwise comparisons in the 5 dimensions of E-tourism indicates that the cultural acceptance component includes 11 metrics, with the "Rural Computer and Internet Penetration Rate" metric possessing the highest importance with a score of 0.14572. The support-management policy component has 13 metrics, with the "Support for Private Sector Investment in E-Commerce" metric gaining the first rank (with a score of 0.13). The infrastructure (hardware) component has 9 metrics, with the "Internet Access for all Tourism Sector Personnel" metric exhibiting the highest importance with a score of 0.19. This indicates the critical role of personnel Internet access in improving the performance and development of E-tourism. The information system (software) component has 13 metrics, with the "Use of Electronic Banking, Credit Cards, and Money Transfer Facilities" metric achieving the highest rank with a score of 0.18667. The results for E-tourism components, presented in Table 4, show that the support-management policy component obtained the highest rank. This was followed by software and infrastructural components and cultural acceptance in order. These results represent the prioritization made by E-tourism experts in the Larijan region.

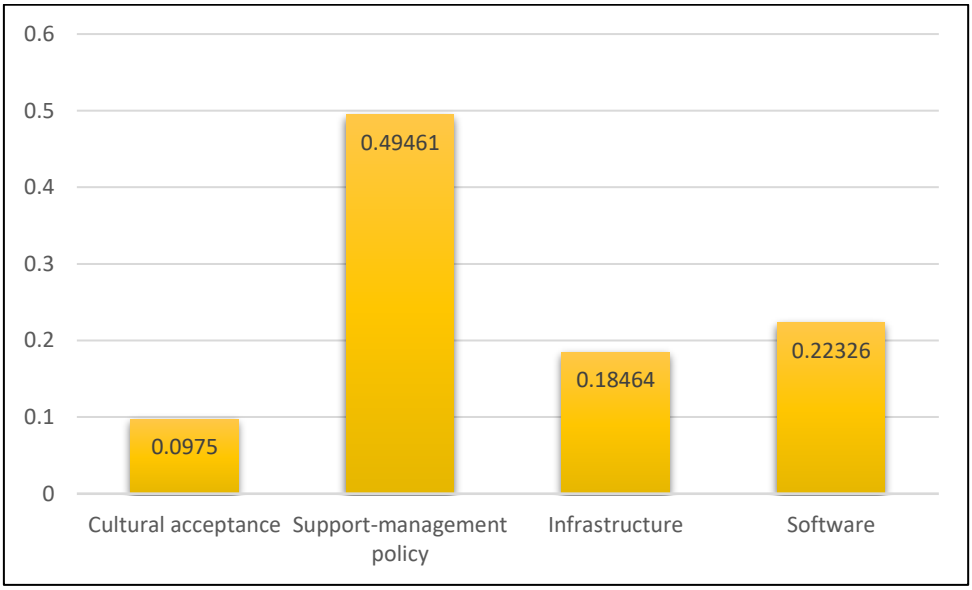


Figure 2. Final weights of E-tourism components

Table 5 presents the metric rankings. According to this table, the three metrics "Support for Private Sector Investment in E-Commerce", "Required National Regulations", and "Use of Skilled Workforce in E-Tourism" occupied the first to third ranks, respectively. All three metrics belong to the support-management policy component.

Table 5. Ranking of E-tourism metrics

Component	Indicator	Normalized final weight	Rank
Cultural acceptance	Public Familiarity with IT Benefits	0.011	34
	Increase in Tendency of Educated People to Remain in the Village	0.0065	45
	Acceptance of New Technologies by the Community	0.0107	35
	Usage of Communication Service Offices, Net Cafes, etc.	0.0067	44
	Spread of Tourism-Related Social Networks by Tourists	0.0098	37
	Planning and Implementation of Training Courses for the Use of IT in Tourism	0.0139	32
	Rural Digital Literacy	0.0098	36
	Rural Computer and Internet Penetration Rate	0.0142	30
	Increase in Tendency of Educated People to Remain in the Village	0.0063	46
	Rural Familiarity with Virtual Tourism (Virtual Visits and Tours)	0.0078	41
	Rural E-Trust Availability	0.0075	42
Support-management policy	Holding E-Tourism Courses (Regulations and Guidelines)	0.00224	20
	Public Sector Financial Support of E-Tourism Infrastructure Projects	0.0383	8
	Support from Top Managers of Relevant Organizations in E-Tourism Implementation	0.0334	12
	Use of Skilled Workforce in E-Tourism	0.0486	3
	Technology Awareness of Tourism Managers	0.0372	9
	Required National Regulations	0.0543	2
	Uniqueness of Characteristics of Tourism Products	0.0314	13
	Cooperation between IT and Tourism Sectors	0.0474	4
	Cooperation between Universities and Touristic Organizations and Companies	0.0353	11
	Financial Incentives in E-Tourism	0.0437	5
	Sufficient Advertisement of Existing E-Tourism Services	0.0244	19
	Suitability of Internet Services to Tourist Needs	0.043	6
	Support for Private Sector Investment in E-Commerce	0.0646	1
Infrastructure	Internet Speed and Bandwidth Increase in Tourism Destinations	0.0096	38
	Quality of E-Tourism Software and Available Applications	0.0067	44
	Implementation of Network Hardware Infrastructure	0.0224	21
	Budget and Facilities Dedicated to E-Tourism Projects	0.0278	15
	Development of E-Banking in E-Tourism	0.0249	18
	Existence of Software Program for Electronic Backup	0.0164	27
	Internet Access for all Tourism Sector Personnel	0.0368	10
	Rural Smart Phone Use	0.0282	14
	Homogeneity of ICT Infrastructure	0.0266	16
Software	Database Update	0.0089	40
	Correct Location of Tourist Attractions by Electronic Systems	0.0141	31
	Use of Satellite Locations Systems	0.0093	39
	Use of Decision and Planning Support Systems in Tourism	0.0154	28
	Use of Electronic Hotel, Residence, and Service Reservation Systems	0.0184	24
	Online Visa Issuance for Tourists	0.0144	29
	Tourist and Villager Access to the E-Government System	0.0213	22

Component	Indicator	Normalized final weight	Rank
	Tourist and Villager Access to Information Security	0.026	17
	Language Support in Tourism Websites	0.0182	25
	Mutual Relationship between Tourists and Touristic Site Managers	0.0206	23
	Use of Electronic Banking, Credit Cards, and Money Transfer Facilities	0.0417	7
	Online Tour Availability for Tourist Destinations and Attractions	0.018	26
	Graphical Attractiveness of Tourism Websites	0.0117	33
	Total	1	

The results of weighting the E-tourism metrics using AHP show that the highest importance belongs to the "support-management policies" component based on the 46 metrics studied under the four main components (cultural acceptance, support-management policies, infrastructure, and information systems). Based on the normalized final weights, the top three metrics are "Support for Private Sector Investment in E-Commerce" (0.0646), "Required National Regulations" (0.0543), and "Use of Skilled Workforce in E-Tourism" (0.0486). All three metrics belong to the support-management policy component. This finding shows that, from the experts' perspective, the creation and development of E-tourism requires efficient institutional, legal, and management contexts more than it needs cultural or purely technological factors. In general, the results in Table 5 indicate that the development of E-tourism in the villages of the Larijan district has an institutional-structural nature and that its main prerequisites are the strengthening of digital governance, legal frameworks, and skilled labor.

4.3. Spatial analysis of E-tourism throughout the region under study

In order to determine the status of the variables in each of the metrics, the average of the villagers' responses was compared using the one-sample T-test. The T-test is a parametric test that examines how much larger or smaller a population mean is relative to a constant value.

A comparison of the average of the respondents' responses with a theoretical median of 3 and the results of the one-sample T-test indicates that all the variable dimensions of E-tourism have values smaller than the theoretical median and are not desirable for the region under study. In addition, the T statistic for the E-tourism variable is smaller than the defined theoretical median.

Table 6. Evaluation of the E-tourism dimensions from the villagers' perspective

Dimensions	Mean	Test standard = 3					
		Value of T statistic	Degree of freedom	Significance level	Mean deviation	95% confidence interval of the difference	
						Down	Up
Cultural acceptance	2.53	-10.13	193	0.00	-0.46	-0.56	-0.37
Support-management policies	2.09	-19.05	193	0.00	-0.91	-1	-0.81
Infrastructure	2.34	-11.66	193	0.00	-0.65	-0.76	-0.54
Information system	2.27	-12.02	193	0.00	-0.72	-0.83	-0.6
E-tourism variable	2.31	-15.05	193	0.00	-0.68	-0.77	-0.59

It can be said with a confidence level of 95% that the tourism variable dimensions are not desirable throughout the sample villages.

In terms of the spatial distribution of the mean of the variable, i.e., E-tourism, the Polur, Abdolmanaf, and Lasem villages have better conditions compared to other villages with values of 2.53, 2.5, and 2.56, respectively. Furthermore, with respect to distance from town, the Polur and Lasem villages are closer to Tehran. This has caused better access to livelihood facilities for these villages. Table 7 presents the spatial distribution of the different variable dimensions of E-tourism in the villages under study.

Table 7. Spatial distribution of the mean of the variable dimensions of E-tourism for different villages

Description	Cultural acceptance	Support-management policies	Infrastructure	Information system
Anti-ideal	2.21	1.72	1.9	1.91
Ira	2.48	2.09	2.43	2.26
Ab Ask	2.49	2.19	2.28	2.31
Ab Garm	2.21	2	2.14	2.02
Baijan	2.53	1.87	2.54	2.35
Polur	2.47	2.25	2.82	2.59
Shahandasht	2.41	2.11	2.12	2.16
Abdolmanaf	2.72	2.34	2.54	2.42
Lasem	2.64	2.22	2.67	2.72
Nandel	2.51	2.14	2.36	2.47
Namar	2.47	2.07	2.45	2.19
Nava	2.81	1.72	1.96	1.92
Nosar	2.59	2.21	2.29	2.31
Niak	2.75	1.83	1.9	1.91
Haft Tanan	2.51	2.09	2.18	2.04
Vana	2.51	2.08	2.33	2.24
Anti-ideal	2.81	2.34	2.82	2.72

The Interpolation command in the ArcGIS software was used for the spatial analysis and comparison of the variables associated with E-tourism and sustainable rural development and each of the dimensions in the villages of the Larijan district. In this process, first, three common interpolation methods in GIS were used, and the most accurate method for zoning was selected by comparing the Error Mean and RMSS values.

In this section, the MARCOS method was employed to examine the spatial distribution in the sample villages in the Larijan district. The dimensions under study in the E-tourism variable include cultural acceptance, support-management policies, infrastructure, and information systems. Therefore, it is necessary to determine the importance of each of these dimensions. To this end, the weight of each dimension was specified using the AHP technique and the questionnaire answered by experts.

The MARCOS method is a novel multi-criteria decision-making technique. It was introduced by Stević and Pamučar in 2020 and is used for ranking research options.

Inputs of the method: Decision matrix, criterion weights, nature of the criteria (positive or negative)

Steps in the MARCOS method:

Step 1: Creation of the decision matrix

The first step in all multi-criteria decision-making methods, which aim to rank alternatives, is the formation of the decision matrix. The MARCOS technique, m alternatives are evaluated by considering n criteria. In this process, each alternative is given a score based on each criterion. These scores can be quantitative or qualitative. In the end, an m by n decision matrix must be created for the subsequent steps to take place.

Step 2: Determination of ideal and anti-ideal

In this step , the ideal (Al) and anti-ideal (Aal) values are determined using the following relationships. where B refers to the criteria that have a benefit nature, and C refers to the criteria that have a cost nature.

$$AI = \max_i x_{ij} \quad if\ j \in B \quad and \quad \min_i x_{ij}\ if\ j \in C$$

$$AAI = \min_i x_{ij} \quad if\ j \in B \quad and \quad \max_i x_{ij}\ if\ j \in C$$

Step 3: Normalization

In this step, the following relationships are used to normalize the the cost and benefit criteria. The output of this step is a matrix in which all the criteria are of the benefit nature. This is because the normalization method is linear in this technique.

$$n_{ij} = \frac{x_{aj}}{x_{ij}} \quad if \ j \in C$$

$$n_{ij} = \frac{x_{ij}}{x_{aj}} \quad if \ j \in B$$

Step 4: Weighting

In this step, the normal matrix is multiplied by the weights of the criteria using the equation below so as to obtain a weighted matrix. The criterion weights can be calculated by different methods. Some of the preferred new methods for criterion weighting include the SWARA or BWM.

$$V_{ij} = n_{ij} \times W_j$$

Step 5: Utility degree of the alternatives

In this step, the ideal (+K) and anti-ideal (-K) utility of the alternatives are computed using the relationships below.

$$K_i^+ = \frac{S_i}{S_{ai}}$$

$$K_i^- = \frac{S_i}{S_{aai}}$$

In the above equations, Si=(i=1, 2, 3, ...m) is the sum of elements in each row of the weighted matrix and is obtained from the following equation.

$$S_i = \sum_{j=1}^{n} V_{ij}$$

Step 6: Determination of final performance and ranking of alternatives

In this step, the utility performance of each alternative is calculated via the equation below.

$$f(K_i) = \frac{K_i^+ + K_i^-}{1 + \frac{1 - f(K_i^+)}{f(K_i^+)} + \frac{1 - f(K_i^-)}{f(K_i^-)}}$$

In the above relationship, f(k-) is the anti-ideal utility performance of the anti-ideal and f(k+) is the ideal utility performance.

$$f(K_i^-) = \frac{K_i^+}{K_i^+ + K_i^-}$$

$$f(K_i^+) = \frac{K_i^-}{K_i^+ + K_i^-}$$

Then, the ranking is performed based on the values obtained from f(k) of each alternative. The larger the f(k) value of an alternative is, the better its rank will be.

Table 8 Utility performance and final ranking of alternatives

Anti-ideal	**Si**	**K-**	**K+**	**F(K-)**	**F(K+)**	**F(K)**	**Rank**
	0.7205						
Ira	0.87195	1.210	0.872	0.419	0.581	0.670	14
Ab Ask	0.8873	1.232	0.887	0.419	0.581	0.682	13
Ab Garm	0.80458	1.117	0.805	0.419	0.581	0.618	15
Baijan	0.8425	1.169	0.842	0.419	0.581	2.012	9
Polur	0.9593	1.331	0.959	0.419	0.581	2.291	2
Shahandasht	0.8445	1.172	0.845	0.419	0.581	2.017	8
Abdolmanaf	0.9529	1.323	0.953	0.419	0.581	2.275	3
Lasem	0.9593	1.332	0.959	0.419	0.581	2.291	1
Nandel	0.8964	1.244	0.896	0.419	0.581	2.141	4
Namar	0.8628	1.198	0.863	0.419	0.581	2.060	6
Nava	0.7446	1.033	0.745	0.419	0.581	1.778	12
Nosar	0.8954	1.243	0.895	0.419	0.581	2.138	5
Niak	0.76084	1.056	0.761	0.419	0.581	1.817	11
Haft Tanan	0.83744	1.162	0.837	0.419	0.581	2.000	10
Vana	0.86234	1.197	0.862	0.419	0.581	2.059	7
Anti-ideal	1						

The MARCOS multi-criteria decision-making method was used for the spatial analysis of the status of E-tourism in the sample villages. The F(K) results indicate a significant difference between villages in terms of the level of access to E-tourism components. Based on the results presented in Table 8 and Fig. 3, Lasem (first rank), Polur (second rank), and Abdolmanaf (third rank) exhibited the highest performance levels. These villages were closer to the ideal alternative and had a better status in terms of communication infrastructure, digital services, and management conditions. The proximity of some of these villages to road networks and urban centers could have contributed to their better access to resources and facilities. In contrast, Ab Garm, Ab Ask, and Ira offered the poorest performance and had the lowest ranks in the table. These villages were also categorized in the unsuitable (green) spectrum in the spatial zoning analysis, which shows their relative weakness with respect to the four dimensions of E-tourism. Scarce management support, weak technology infrastructure, and limited access to digital resources are some of the factors contributing to this condition.

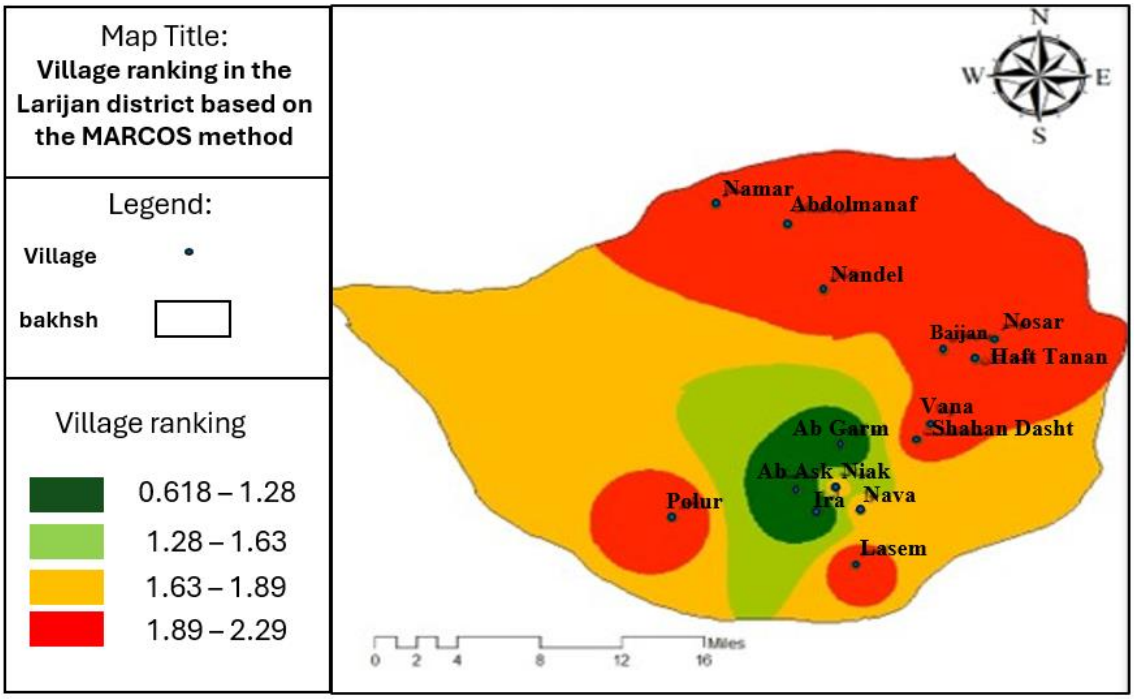


Figure 3. Spatial distribution of E-tourism in the villages of the Larijan district

5. Discussion and conclusion

The most important E-tourism components, comprising 4 dimensions and 46 components, were extracted from prior sources. The AHP method and Excel software were used to obtain their weights and ranking. The results indicate that the "Support for Private Sector Investment in E-Commerce", "Required National Regulations", and "Use of Skilled Workforce in E-Tourism" metrics obtained final weights of 0.06, 0.05, and 0.04, respectively, and obtained the first, second, and third ranks, respectively. Hence, these metrics, which belong to the support-management policies component, were found to be the most important for sustainable rural development. As a result, the most influential E-tourism component was support-management policies with a score of 0.49, followed by software with a score of 0.22, infrastructure with a score of 0.18, and cultural acceptance with a score of 0.09.

The first objective of this research was to study the components and their creation process in rural E-tourism. Based on the villager participation results, the "Support for Private Sector Investment in E-Commerce", "Required National Regulations", and "Use of Skilled Workforce in E-Tourism" metrics obtained the first to third ranks in the support-management policies component. Recent studies in Iran, including that by Ayeneh and Almasifard (2024) recognized rural E-tourism development as dependent on a set of institutional, economic, social, infrastructural, legal, and technological factors.

This multi-dimensional approach is consistent with the results of the present research. This is because the prioritization of support, legal, and management metrics in the present research highlights the role of institutional factors as the basis for other factors. As such, the study by Anabestani and Barani Ali-Akbari (2024) in smart rural tourism also emphasizes the role of governance, infrastructure, human capital, and connectivity, which is in agreement with the key role attributed to policy-making and workforce by the present research.The research by Anabestani et al. (2023) stresses the significance of support from local institutions, improvement of management, and the exploitation of technological capacities in increasing participation and socio-economic development of villages. These findings are consistent with the results of the present study, which recognizes support and management policies as the most important drivers of sustainable rural development. Hojjat Shamami et al. (2023) indicated that the perception and acceptance of E-tourism among villagers is influenced by livelihood capitals and support structures. This indirectly confirms the role of policy-making and institutional empowerment.

From a legal and institutional viewpoint, the research by Kamiabi and Fadavi (2022) emphasized the presence of the legal challenges, E-trust issues, and structural-management problems in E-tourism. These results are in agreement with the findings of the present study, which introduces legal frameworks as one of the most prominent metrics. In addition, the studies by Sadeghi Pouriani et al. (2021) and Ghanbari et al. (2020) focused on electronic readiness and highlighted the role of infrastructure and organizational and institutional readiness in E-tourism development. This can be confirmed by the high-priority achieved by the support-management policies metric in the present work.In the field of marketing and tourist relationships, the research by Shirmohammadi and Abedi (2019), Hasounah et al. (2020), and Rahahelah et al. (2020) stressed on the significance of the quality of E-services, digital advertisement, and customer relationship management. Although the focus of these studies was mostly on the operational and demand-side aspects, the realization of these functions requires legal and support frameworks and a skilled workforce, which have been recognized as major priorities in the present work. The results of Rezaei et al. (2018), which emphasized workforce training, governmental support, and digital security, are also highly consistent with the findings of the present research.At the international level, the studies by Kazandziwa and Santana (2019), Mishva (2021), and Gretzel et al. (2022) highlighted the importance of process digitalization, the role of management and policy-making, and the significance of E-business strategies in the tourism industry. Furthermore, the research by Samaana and Polikhina (2023), Amerlahu and Bojatag (2024), and Torabi et al. (2023) considered the digitalization of tourism to be a multi-faceted phenomenon that requires efficient governance, institutional support, and human resource empowerment, a conclusion that agrees with the present study.More recent research, especially that by Cheng and Zhiang (2025), Zhang et al. (2025), and Hussein et al. (2024), focused mainly on novel technology, tourist behavior and experience, and digital marketing tools. Although these studies emphasized the demand and technology aspects, they implied that these tools would have limited effectiveness without legal frameworks, institutional support, and a powerful workforce. This conclusion is also confirmed by the present work.Overall, a review of previous studies indicates that the results of the present research are consistent with a major portion of the Iranian and international studies. Furthermore, the current work fills the institutional gaps presented by previous research in a systematic and prioritized manner by focusing on support-management policies, regulations, and human capital. This consistency shows that rural E-tourism development mostly requires strong institutional, legal, and management contexts.

The following suggestions align with the findings of this research and can be translated to policy/practical implications:

1- Private sector investment incentive packages: Design of financial incentives, credit facilities, and tax exemptions to encourage private businesses to enter rural E-tourism services/platforms.

2- Reform and integration of the legal framework for E-tourism: Revision of laws related to E-tourism and E-commerce with the aim of reducing institutional overlap, resolving legal ambiguities, and increasing investor and tourist trust.

3- Empowerment of local human capital and specialization of training: Holding of professional courses in digital marketing, online business

management, content creation, and data/security literacy for rural residents and tourism stakeholders.
4- Improvement of communication infrastructure quality and stability: Development of stable and high-speed Internet, improvement of network coverage, and support for new technologies in rural as a required condition for the development of digital tourism services.
5- The creation of an innovation ecosystem for rural digital tourism: The establishment of innovation/accelerator centers and support for creative ideas (applications, virtual tours, online reservations, handicraft markets) to improve local business stability.
6- Integrated governance and cross-sectoral coordination mechanisms: The creation of an official mechanism for coordination between tourism, IT, and rural development institutions to reduce redundant efforts and increase implementation effectiveness.
7- Trust building and information security in E-tourism services: Data protection standards, authentication/secure payment mechanisms, and trust building for local users and tourists (to reduce perceived risk).
8- Institutionalization of the sustainable development approach in digital planning: Simultaneous evaluation of economic, socio-cultural, and environmental consequences in the design of rural E-tourism services and policies.

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Authors' contributions
The authors equally contributed to the preparation of this article.

Conflict of interest
The authors declare no conflict of interest.

References

1. Aineh, M., & Almasi-Fard, M. R. (2024). Presenting a business model for developing the rural e-tourism industry in the villages of Kermanshah Province. *Village and Sustainable Spatial Development*, 5(3), 152–171. https://doi.org/10.22077/vssd.2024.6904.1215/.[In Persian]
2. Akbarpour, M. & Farnoudkia, H. (2025). Analyzing the Pattern of Creative Rural Tourism in the Target Villages of Kermanshah Province. *Journal of Research and Rural Planning*, 14(2), 61-79. https://doi.org/10.22067/jrrp.v14i2.2502-1124
3. Alibeigi, J., & Ghasemi, Y. (2015). The impact of religious tourism on quality of life and social capital of rural households; Case study: Bardi Village, Dehloran County. *Social Tourism Studies*, 3(6), 87–116. https://www.journalitor.ir/article_725369.html. [In Persian]
4. Amouali-Khosroabadi, F. (2013). Identifying factors affecting the promotion of e-tourism and its role in tourism industry development (Case study: Isfahan City). Master's Thesis, University of Isfahan. [In Persian]
5. Anabestani, A. & Javanshiri, M. (2023). The Impact of Rural Information and Communication Technology on Indicators of Development of Creative Villages in Iran (Case Study: Mashhad Suburban Settlements). *Journal of Research and Rural Planning*, 12(2), 93-115. https://doi.org/10.22067/jrrp.v12i2.2305-1079
6. Anabestani, A., Darmanlou, Y. & Rahmani, B. (2024). Analysis of the Impact of Smart Tourism on the Sustainable Development of Rural Businesses in Tafresh County, Iran. *Journal of Research and Rural Planning*, 13(3), 83-99. https://doi.org/10.22067/jrrp.v13i3.2409-1109
7. Arman, M., Feiz, D. & Kia, E. S. (2025). Innovative Digital Marketing Strategies in Rural Tourism: Leveraging Augmented Reality and Intelligent Algorithms in Technological Ecosystems. *Journal of Research and Rural Planning*, 14(3), 61-82. https://doi.org/10.22067/jrrp.v14i3.2508-1148
8. Bamanyan, M. R., Pourjafar, M. R., & Mahmoudi-Nejad, H. (2008). A proposed model for implementing e-tourism in rural tourism development plans (A comparative study and proposed model based on contemporary conditions of Iran). *Urban Management Quarterly*, 23, 71–87. https://www.magiran.com/p751981. [In Persian]
9. Burbano, D. V., Valdivieso, J. C., Izurieta, J. C., Meredith, T. C., & Ferri, D. Q. (2022). "Rethink and reset" tourism in the Galapagos Islands: Stakeholders' views on the sustainability of tourism development. *Annals of Tourism Research Empirical Insights*, 3(2), 100057. https://doi.org/10.1016/j.annale.2022.100057

10. Cardoso, J., & Lange, C. (2007). A framework for assessing strategies and technologies for dynamic packaging applications in e-tourism. Information Technology & Tourism, 9(1), 27-44. https://doi.org/10.3727/109830507779637585
11. Cheng, S., & Jiang, Y. (2025). Effects of social media marketing on rural tourism product sales: Evidence from controlled experiments. *Frontiers in Sustainable Food Systems*, 9, 1714233. 10.3389/fsufs.2025.1714233
12. Emerllahu, V., & Bogataj, D. (2024). *Smart villages as infrastructure of rural areas: Literature review and research agenda*. *IFAC-PapersOnLine*, 58(3), 268–273. https://doi.org/10.1016/j.ifacol.2024.07.162
13. Anabestani, A. A., & Barani-Aliakbari, S. (2024). Spatial analysis of factors influencing the formation of rural smart tourism approaches (Case study: Target tourism villages in eastern Kermanshah Province). *Spatial Planning*, 14(3), 87–114. https://doi.org/10.22108/sppl.2024.141126.1782/.[In Persian]
14. Anabestani, A. A., & Barani-Aliakbari, S. (2025). Examining the impact of rural smart tourism components on the sustainability of target tourism villages (Case study: Villages of eastern Kermanshah Province). *Geographical Studies of Mountainous Areas*, 6(1), 109–138. https://doi.org/10.22034/gsma.2025.2037654.1015. [In Persian]
15. Anabestani, A. A., Masoumi, M., Fazel-Nia, G., & Khwarazmi, O. (2023). Spatial analysis of the impact of commercial tourism indicators on the sustainability of rural settlements (Case study: Deh-Sheikh–Sigar Commercial Area, Lamerd County). *Human Settlements Planning Studies*, 18(3), 1–19. https://doi.org/20.1001.1.25385968.1402.18.3.20.1. [In Persian]
16. Fodor, O., & Werthner, H. (2005). Harmonise: A step toward an interoperable e-tourism marketplace. *International Journal of Electronic Commerce*, 9(2), 11-39. https://www.researchgate.net/publication/261851633/
17. Ghanbari, A., Aghayari-Heer, M., & Laleh-Zaidi (2020). The impact of e-readiness on e-tourism (Case study: General Directorate of Cultural Heritage, Tourism, and Handicrafts of East Azerbaijan Province). *Tourism Development Quarterly*, 9(24), 17–30. https://www.magiran.com/p2209424. [In Persian]
18. Gretzel, U., Fuchs, M., Baggio, R., Hoepken, W., Law, R., Neidhardt, J., Pesonen, J., Zanker, M., & Xiang, Z. (2022). Enhancing sustainable development through tourism digitalisation: A systematic literature review. *Information Technology & Tourism*, 24(3), 329–353. https://doi.org/10.1007/s40558-022-00241-w
19. Hasouneh, A., & Alzeat, H. A. (2020). A framework for Tourism electronic marketing in Jordan. *Journal of Innovations in Digital Marketing*, 1(1), 28-35. https://doi.org/10.51300/jidm-2020-19
20. Hesam, M. (2017). Assessing host community attitudes toward economic, social, and environmental impacts of tourism development; Case study: Villages of Larijan District, Amol County. *Geographical Space Planning Journal*, 21, 1–7https://gps.gu.ac.ir/article_41671.html. [In Persian]
21. Hojjat-Shamami, S., Afrakhteh, H., & Riyahi, V. (2023). Livelihood foundations and rural perceptions regarding e-tourism (Case study: Rural areas of Rudbar County). *Village and Sustainable Spatial Development*, 4(1), 63–83. https://doi.org/10.22077/vssd.2023.6031.1164/.[In Persian]
22. Hussein, T., Wang, D., & Li, B. (2024). Exploring the impact of social media on tourist behavior in rural mountain tourism during the COVID-19 pandemic: The role of perceived risk and community participation. *Acta Psychologica*, 242, 104113. https://doi.org/10.1016/j.actpsy.2023.104113
23. Jami, M. R., & Abadi, M. A. (2025). Designing a rural entrepreneurship model based on digital tourism in Golestan Province. *11th National Conference on Modern Studies and Research in Humanities, Management, and Entrepreneurship*, Tehran. https://civilica.com/doc/2431356/.[In Persian]
24. Javan, F. (2025). Designing a smart tourism development model in rural regions of Iran. *Tourism and Development* (In Press). https://doi.org/10.22034/jtd.2026.548835.3134/.[In Persian]
25. Kamiyabi, S., & Fadavi, A. (2022). A review of the legal dimensions of e-tourism in Iran from a commercial law perspective. *Applied GIS and Remote Sensing in Planning*, 13(48), 7–21. https://journals.iau.ir/article_696543.html. [In Persian]
26. Kazandzhieva, V., & Santana, H. (2019). E-tourism: Definition, development and conceptual framework. Tourism: *An International Interdisciplinary Journal*, 67(4), 332-350. https://www.researchgate.net/publication/338078686/
27. Khoshniat, M. (2013). Examining the concept and nature of e-tourism and sustainable development. *Sepehr Geographical Information*, 22, 85–102. https://www.sepehr.org/article_26068.html. [In Persian]
28. Li, L., & Buhalis D. (2006). E-Commerce in China: The case of travel. *International Journal of Information Management*, 26(2), 153–166. https://doi.org/10.1016/j.ijinfomgt.2005.11.007
29. Lin, J., & Ye, Z. (2025). Wilds to wonders: Digital empowerment and the vitality of rural tourism in Z Village. *Journal of Rural Studies*, 120, 103817. https://doi.org/10.1016/j.jrurstud.2025.103817

30. Ma, Y., Lu, L., Xu, Y., Chen, J., & Peng, J. (2025). Digitalization in rural tourism: Research progress and prospects. *Geographical Research, 44*(11), 3128–3146. https://www.dlyj.ac.cn/EN/figure/286504
31. Misheva, M. (2021). State and development of electronic business in tourism. Leadership, Society, *Strategic Visions*, 427-428. https://ojs.nbu.bg/index.php/LSSV/article/view/483
32. Movahed, A., A., & Naderi-Kaveh (2011). Urban tourism marketing based on branding using AHP (Case study: Kermanshah City). *Spatial Planning*, 1(3), 17–36. https://sid.ir/paper/SID223598/fa. [In Persian]
33. Najafi, A., Poteh-Rigi, M., & Hossein-Zahi-Zamaneh, F. (2018). E-tourism. *First National Conference on Research and Development in Management and Resistance Economy*, Tehran. https://civilica.com/doc/787710. [In Persian]
34. Papoli Yazdi, M. H., & Saghaei, M. (2014). *Tourism (Nature and Concepts)*. 9th Edition. SAMT Publishing. [In Persian]
35. Rahahleh, A., Al-Nsour, S., Moflih, M., Alabaddi, Z., Al-Nassar, B., & Al-Nsour, N. (2020). The influence of electronic service quality on relationship quality: Evidence from tourism industry. *Management Science Letters*, 10(12), 2759-2768. https://doi.org/10.5267/j.msl.2020.4.034
36. Ravadrad, A., & Haji-Mohammadi, A. (2010). Differences in perception derived from real versus virtual tourism based on narrative theory. *Cultural Studies Quarterly*, 2, 1–25. https://sid.ir/paper/136917/fa. [In Persian]
37. Rezaei, H., Samiei, R., Didekhani, H., & Shojaei, S. (2018). Factors affecting rural entrepreneurship with emphasis on e-tourism in Golestan Province. *Spatial Economics and Rural Development Quarterly*, 7(25), 87–100. https://serd.khu.ac.ir/article-1-3156-fa.html. [In Persian]
38. Rezvani, M. R., Faraji-Sabkbar, H., Ghadiri-Masoom, M., & Zeinati-Fakhrabad, H. (2024). A systematic review of smart tourism development research in rural areas (2000–2022). *Rural Research*, 15(3), 183–198. https://doi.org/10.22059/jrur.2025.356635.1825/.[In Persian]
39. Sadeghi-Pouryani, A., Tajzadeh-Namin, A. F., Eslambulchi, A., Esmailpour, M., & Asghari-Sarem, A. (2021). Analysis of factors for implementing e-tourism. *Journal of Social Tourism Studies*, 9(18), 53–90. https://doi.org/10.52547/journalitor.36159.9.18.0 [In Persian]
40. Samaana, M. Y., & Polukhina, A. N. (2024). Digitalization of tourism for sustainable regional development. *Proceedings on Engineering Sciences*, 6(2), 655-664. https://doi.org/10.24874/PES06.02.022
41. Seid-Naghavi, A., & Shekiba-Jamalabad, G. (2013). Components influencing tourist trust in the field of e-tourism. *Tourism Studies*, 8(21), 1–27. https://sid.ir/paper/202696/fa. [In Persian]
42. Sharpley, R (2002), Rural tourism and the challenge of tourism diversification: the case of Cyprus, *Tourism management*, 23(3), pp233-244.
43. Shirmohammadi, Y., & Abedi, F. (2019). Investigating the impact of advertising on the behavioral patterns of tourists in social networks. *Journal of Iranian Social Development Studies*, 11(1). 1-20. [In Persian] https://srb.sanad.iau.ir/en/Article/820300
44. Soleimani, A. (2013). Rural e-tourism and its role in sustainable development with emphasis on rural ICT. *Population*, 19(81), 100–112. https://ensani.ir/fa/article/344033/.[In Persian]
45. Torabi, Z.-A., Pourtaheri, M., Hall, C. M., Sharifi, A., & Javidi, F. (2023). Smart Tourism Technologies, Revisit Intention, and Word-of-Mouth in Emerging and Smart Rural Destinations. *Sustainability*, 15(14), 10911. https://doi.org/10.3390/su151410911
46. Wu, W., Xu, C., Zhao, M., Li, X., & Law, R. (2024). Digital tourism and smart development: State-of-the-art review. *Sustainability*, 16(23), 10382. https://doi.org/10.3390/su162310382
47. Yavari-Gohar, F., Hanafi-Zadeh, P., & Haji-Ahmadi-Farmehini, T. (2020). E-tourism business model. *Social Tourism Studies*, 8(15), 221–248. https://www.journalitor.ir/article_723569.html. [In Persian]
48. Yusheng, MA., Lin, LU., Yan, XU., Jieqi, CHEN. & Jiaming, ENG. (2025). Digitalization in rural tourism: Research progress and prospects. *Geographical Research*, 44 (11), 3128-3146. https://doi.org/10.11821/dlyj020250201
49. Zhang, B., Zhang, J., & Xu, Q. (2024). Design of rural tourism management cloud platform based on intelligent audio processing and sensor navigation positioning. *Measurement: Sensors*, 33, 101101. https://doi.org/10.1016/j.measen.2024.101101
50. Zhong, Z., Zhang, Y., Zhang, J., & Su, M. (2024). How information and communication technologies contribute to rural tourism resilience: evidence from China. *Electronic Commerce Research*, 25, 4559–4594. https://doi.org/10.1007/s10660-024-09854-1

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Original Article

تحلیل فضایی عوامل موثر بر شکل‌گیری رهیافت گردشگری الکترونیک روستایی (مورد مطالعه: روستاهای مقصد گردشگری شهرستان آمل)

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چکیده مبسوط

۱. مقدمه

گردشگری الکترونیک به‌عنوان یکی از پیامدهای گسترش فناوری‌های اطلاعات و ارتباطات، تحولی بنیادین در زنجیره ارزش گردشگری ایجاد کرده و با تسهیل بازاریابی، رزرو، مدیریت مقصد و ارتقای تجربه گردشگر، به افزایش رقابت‌پذیری و پایداری مقاصد کمک می‌کند. در نواحی روستایی، این رهیافت می‌تواند با کاهش محدودیت‌های مکانی، تقویت کارآفرینی محلی، افزایش دسترسی به بازار و ارتقای تاب‌آوری اقتصادی، نقش مهمی در توسعه پایدار ایفا کند. با وجود ظرفیت‌های بالای گردشگری در روستاهای بخش لاریجان شهرستان آمل، توسعه این بخش عمدتاً مبتنی بر الگوهای سنتی بوده و ارزیابی نظام‌مند و فضایی از وضعیت و عوامل مؤثر بر شکل‌گیری گردشگری الکترونیک در این منطقه صورت نگرفته است. بر این اساس، پژوهش حاضر با هدف شناسایی و اولویت‌بندی عوامل مؤثر بر شکل‌گیری رهیافت گردشگری الکترونیک روستایی و تحلیل فضایی وضعیت آن در روستاهای مقصد گردشگری شهرستان آمل انجام شده است.

۲. مبانی نظری تحقیق

چارچوب نظری پژوهش بر ادبیات گردشگری الکترونیک، گردشگری هوشمند روستایی و توسعه پایدار استوار است. در این چارچوب، گردشگری الکترونیک صرفاً به استفاده از ابزارهای دیجیتال محدود نمی‌شود، بلکه مستلزم وجود زیرساخت‌های فناورانه، بسترهای نهادی و قانونی، سرمایه انسانی متخصص و پذیرش فرهنگی در سطح جامعه محلی است. بر اساس مرور ادبیات، چهار مؤلفه اصلی برای تبیین شکل‌گیری گردشگری الکترونیک روستایی استخراج شد: (۱) پذیرش فرهنگی، (۲) سیاست‌های حمایتی–مدیریتی، (۳) زیرساخت‌های سخت‌افزاری و ارتباطی، و (۴) سیستم‌های اطلاعاتی و نرم‌افزاری. مطالعات پیشین نشان می‌دهد که توسعه گردشگری دیجیتال پدیده‌ای چندبعدی است و بدون حکمرانی کارآمد، چارچوب‌های حقوقی شفاف و توانمندسازی نیروی انسانی، زیرساخت‌های فناورانه به تنهایی نمی‌توانند به توسعه پایدار منجر شوند. با این حال، در بسیاری از پژوهش‌های داخلی، تحلیل یکپارچه و فضایی این ابعاد در مقیاس روستایی کمتر مورد توجه قرار گرفته است؛ خلأیی که پژوهش حاضر در پی پوشش آن است.

۳. روش تحقیق

این پژوهش از نظر هدف کاربردی و از نظر روش توصیفی–تحلیلی است. داده‌ها از طریق مطالعات کتابخانه‌ای و پیمایش میدانی گردآوری شد. جامعه آماری شامل روستاییان ۱۵ روستای منتخب بخش لاریجان بود که بر اساس فرمول کوکران، ۱۹۴ پرسشنامه تکمیل گردید. همچنین برای تعیین وزن معیارها، پرسشنامه مقایسه‌های زوجی در اختیار ۵ نفر از خبرگان حوزه گردشگری و فناوری قرار گرفت. پایایی ابزار با استفاده از ضریب آلفای کرونباخ (بیش از ۰.۷ برای تمامی ابعاد) تأیید شد و توزیع داده‌ها از نظر نرمال بودن بررسی گردید. برای تعیین اهمیت نسبی مؤلفه‌ها و شاخص‌ها از فرآیند تحلیل سلسله‌مراتبی (AHP) و برای رتبه‌بندی و تحلیل فضایی روستاها از روش تصمیم‌گیری چندمعیاره مارکوس(MARCOS) و ابزارهای GIS استفاده شد. همچنین

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آزمون T تک‌نمونه‌ای برای مقایسه میانگین ابعاد با مقدار مبنا (۳) به کار رفت.

۴. یافته‌های تحقیق

نتایج AHP نشان داد که مؤلفه «سیاست‌های حمایتی–مدیریتی» با وزن ۰/۴۹ مهم‌ترین بعد گردشگری الکترونیک در منطقه است و پس از آن مؤلفه‌های «سیستم‌های اطلاعاتی/نرم‌افزاری» (۰/۲۲)، «زیرساخت» (۰/۱۸) و «پذیرش فرهنگی» (۰/۰۹) قرار دارند. در میان ۴۶ شاخص بررسی‌شده، سه شاخص «حمایت از سازمان‌های خصوصی جهت سرمایه‌گذاری در بخش تجارت الکترونیک» (۰/۰۶۴۶)، «چارچوب‌های قانونی و مقررات حقوقی لازم» (۰/۰۵۴۳) و «استفاده از نیروی انسانی متخصص و آموزش‌دیده در حوزه گردشگری الکترونیک» (۰/۰۴۸۶) بالاترین اولویت را کسب کردند که همگی در زیرمجموعه سیاست‌های حمایتی–مدیریتی قرار دارند. نتایج آزمون T تک‌نمونه‌ای نشان داد که میانگین تمامی ابعاد گردشگری الکترونیک در روستاهای مورد مطالعه کمتر از حد مطلوب (۳) است و وضعیت کلی منطقه در سطح نامناسبی قرار دارد. تحلیل فضایی با روش MARCOS نشان داد که روستاهای «لاسم»، «پلور» و «عبدالمناف» به ترتیب رتبه‌های اول تا سوم را از نظر عملکرد گردشگری الکترونیک کسب کرده‌اند و به گزینه ایده‌آل نزدیک‌تر هستند. در مقابل، روستاهای «آب‌گرم»، «آب‌اسک» و «ایرا» پایین‌ترین رتبه‌ها را به خود اختصاص داده و در پهنه نامناسب قرار گرفته‌اند که نشان‌دهنده ضعف در زیرساخت‌های ارتباطی، حمایت‌های مدیریتی و خدمات دیجیتال است. این نتایج بیانگر ناهمگونی فضایی معنادار در سطح آمادگی و توسعه گردشگری الکترونیک میان روستاهای منطقه است.

۵. بحث و نتیجه‌گیری

یافته‌های پژوهش نشان می‌دهد که شکل‌گیری گردشگری الکترونیک روستایی در بخش لاریجان بیش از آنکه تابع عوامل صرفاً فناورانه باشد، به بسترهای نهادی، حقوقی و مدیریتی وابسته است. اولویت بالای شاخص‌های مرتبط با حمایت از بخش خصوصی، چارچوب‌های قانونی و سرمایه انسانی تخصصی بیانگر آن است که توسعه این حوزه ماهیتی نهادی–ساختاری دارد. بنابراین، بدون اصلاح و یکپارچه‌سازی قوانین، ایجاد مشوق‌های سرمایه‌گذاری، تقویت حکمرانی دیجیتال و توانمندسازی نیروی انسانی محلی، توسعه زیرساخت‌های فناورانه به تنهایی نمی‌تولند منجر به تحول پایدار شود. از منظر سیاستی، پیشنهاد می‌شود بسته‌های حمایتی برای جذب سرمایه‌گذاری خصوصی در گردشگری دیجیتال روستایی طراحی شود، آموزش‌های تخصصی در حوزه بازاریابی دیجیتال و مدیریت کسب‌وکار آنلاین برای ساکنان اجرا گردد، زیرساخت اینترنت پایدار و پرسرعت در روستاها توسعه یابد و سازوکار هماهنگی بین‌بخشی میان نهادهای گردشگری و فناوری اطلاعات ایجاد شود. در مجموع، پژوهش حاضر با ارائه مدلی تلفیقی و فضامحور، ضمن اولویت‌بندی شاخص‌های مؤثر، زمینه‌ای برای تصمیم‌سازی هدفمند در راستای توسعه پایدار گردشگری الکترونیک روستایی در شهرستان آمل فراهم می‌آورد..

کلیدواژه‌ها: گردشگری الکترونیک- روستاهای مقصد گردشگری- تحلیل فضایی- شهرستان آمل.

تشکر و قدردانی

مطالعه حاضر حامی مالی نداشته و حاصل فعالیت علمی نویسنده است.

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فهرست مندرجات

عنوان	صفحه
▪ کارایی بازار سرمایه، نوآوری مالی و صنعتی شدن در نیجریه کاظم سون بلائو- راسل اولوکایود کریستوفر سومویه	(۱۴-۱)
▪ عوامل مؤثر بر کالایی‌شدن زمین در نواحی شهری-روستایی غرب استان گیلان، شمال ایران حبیب محمودی چناری- شهرام شریفی هشجین- فرزانه نصیری جان آقا	(۳۵-۱۵)
▪ تبیین چالش‌های تشکیل تعاونی‌های زنان در مناطق روستایی (مطالعه موردی: روستای دیزج‌آباد، شهرستان زنجان) منیژه احمدی- مهری جهانسوزی	(۶۲-۳۷)
▪ تحلیل فضایی فقر و ناامنی غذایی در مناطق روستایی ایران: ارزیابی وضعیت و عوامل مؤثر بر ناامنی غذایی مهدی شعبان‌زاده خورشیدی	(۷۹-۶۳)
▪ بررسی تأثیر عوامل اقتصادی، اجتماعی-فرهنگی، محیطی و کالبدی بر مهاجرت معکوس در مناطق روستایی (مطالعه موردی: شهرستان بندر خمیر) فیروزه بهی- سید اصغر موسوی- امرالله راشدزاده	(۱۰۰-۸۱)
▪ تحلیل فضایی عوامل موثر بر شکل‌گیری رهیافت گردشگری الکترونیک روستایی (مورد مطالعه: روستاهای مقصد گردشگری شهرستان آمل) علی‌اکبر عنابستانی- مهسا هدایتی- شقایق یاراحمدی	(۱۲۰-۱۰۱)

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۹. ۳. انواع نقل قول‌ها (مستقیم و غیر مستقیم)، نقل به مضمون و مطالب به دست آمده از منابع و مآخذ، با حروف نازک و استفاده از نشانه‌گذاری‌های مرسوم، مشخص شود و نام صاحبان آثار، تاریخ و شماره صفحات منابع و مآخذ، بلافاصله در میان پرانتز نوشته شود.

۱۰. مقالات برگرفته از رساله و پایان‌نامه دانشجویان با نام استاد راهنما، مشاوران و دانشجو به صورت توأمان و با مسؤولیت استاد راهنما منتشر می‌شود.

۱۱ . چنانچه مخارج تحقیق یا تهیه مقاله توسط مؤسسه‌ای تأمین مالی شده باشد، باید در بخش تشکر و قدردانی مشخص گردد.

۱۲ . شیوه ارزیابی مقالات: مقالات ارسالی که شرایط پذیرش را احراز کنند، برای داوران خبره در آن موضوع ارسال می‌شوند. داوران محترم، جدای از ارزشیابی کیفی مقالات، راهبردهای سازنده‌ای پیشنهاد می‌کنند. پیشنهادهای داوران محترم به طور کامل، اما بدون نام و نشان داور، برای نویسنده مقاله ارسال خواهد شد.

۱۳ . مجله حق رد یا قبول و نیز ویراستاری مقالات را برای خود محفوظ می‌دارد و مقالات مسترد نمی‌گردد. اصل مقالات رد یا انصراف داده شده پس از سه ماه از مجموعه آرشیو مجله خارج خواهد شد و مجله پژوهش و برنامه‌ریزی روستایی هیچ مسئولیتی در این ارتباط نخواهد داشت.

۱۴ . مسؤولیت ارائه صحیح مطالب مقاله بر عهده‌ی نویسندگان مقاله است. از این‌رو، نسخه‌ای از مقاله آماده چاپ برای انجام آخرین تصحیحات احتمالی به نشانی الکترونیکی نویسنده ارسال خواهد شد. چنانچه ظرف مدت یک هفته پاسخی از سوی نویسندگان واصل نگردید به معنای موافقت آنها با اصلاحات انجام شده تلقی و نسبت به چاپ آن اقدام می‌شود.

۱۵. دریافت مقاله صرفاً از طریق سامانه مجله (http://jrrp.um.ac.ir) خواهد بود و مجله از پذیرش مقالات دستی یا پستی معذور خواهد بود.

۱۶. نویسندگان گرامی، مقالاتی که مطابق فرمت مجله تهیه نشده باشند به نویسنده بازگردانده شده و در فرآیند ارزیابی قرار نخواهد گرفت.

۱۷. فایل های ضروری برای ارسال از طریق سامانه عبارتند از:

الف) فایل مشخصات نویسندگان: در محیط word شامل اسامی و مشخصات نویسندگان به فارسی و انگلیسی.

ب) فایل اصلی مقاله بدون مشخصات: در محیط word شامل متن اصلی مقاله بدون اسامی و مشخصات نویسندگان.

ج) فایل چکیده مبسوط (مکمل) مقاله: شامل چکیده مبسوط فارسی در قالب یک فایل در محیط Word.

۱۸. شرایط جزئی تر و دقیق تر نیز در فایل راهنمای نگارش و ارسال مقاله توسط نویسندگان ارائه شده است.

۱۹. مقاله پس از ارزیابی علمی به زبان انگلیسی برگردانده شده و نویسنده(گان) موظف به ترجمه آن در مراکز ویراستاری معتبر خواهند بود و تا قبل از انجام ترجمه، امکان ارسال گواهی پذیرش مقدور نمی‌باشد. لذا پیشنهاد می‌شود فارسی زبانان مقاله خود را به زبان فارسی تهیه و ارسال نموده و پس از طی فرایند ارزیابی علمی و پذیرش نسبت به ترجمه آن اقدام شود.

آدرس پستی: مشهد- میدان آزادی- پردیس دانشگاه فردوسی مشهد- دانشکده ادبیات و علوم انسانی- دفتر مجلهٔ پژوهش و برنامه‌ریزی روستایی.

کد پستی: ۹۱۷۷۹۴۸۸۸۳ تلفن و نمابر: ۰۵۱-۳۸۷۹۶۸۴۰ پست الکترونیکی Rplanning@um.ac.ir

وب سایت: http://jrrp.um.ac.ir/

فرم اشتراک (یک ساله/ دوشماره) **مجلهٔ پژوهش و برنامه‌ریزی روستایی**

این جانب ..... شغل ..... با ارسال فیش بانکی به مبلغ ..... ریال به حساب جاری شماره **۴۲۵۲۹۹۶۳۸** بانک تجارت شعبه دانشگاه مشهد کد **۴۲۵۰** به نام عواید اختصاصی دانشکده ادبیات و علوم انسانی، متقاضی اشتراک فصلنامه از شماره .....هستم. چنانچه صاحبان مقالات منتشر شده متقاضی دریافت مجلّه و تیراژه‌ی آن از طریق پست پیشتاز باشند، باید هزینه‌ی آن را به شماره حساب مذکور واریز و اصل فیش پرداختی را به نشانی دفتر مجلّه ارسال کنند.

نشانی: ..... کدپستی: .....

شرایط پذیرش مقاله

برای سرعت بخشیدن به امر داوری و چاپ مقالات، از همهٔ پژوهشگرانی که مایل به چاپ مقالات علمی خود در این نشریه هستند، درخواست می‌شود به نکات زیر توجه کافی داشته باشند:

۱ . مقالهٔ ارسال شده نباید قبلاً در هیچ نشریهٔ داخلی یا خارجی چاپ شده باشد. هیئت تحریریه انتظار دارد نویسندگان محترم تا هنگامی که جواب پذیرش از نشریه نرسیده است، مقالهٔ خود را به مجلهٔ دیگری برای چاپ ارسال نفرمایند.

۲ . مقالات انگلیسی با قلم نازک Times New Roman11 با نرم افزار Word تهیه شود. مقالات، روی کاغذ A4 (با حاشیه از بالا ۳ و پایین ۲ و راست ۲ و چپ ۲ سانتی‌متر) تایپ شود. متن به صورت دو ستونی با رعایت فاصله ۱ سانتی‌متر بین دو ستون و فواصل بین خطوط به صورت single باشد. ۳ . حجم مقاله نباید ازحدود ۹۵۰۰ کلمه و یا حداکثر ۱۵ صفحهٔ چاپی به قطع نشریه بیشتر باشد (با در نظر گرفتن محل جداول، اشکال، خلاصه فارسی و فهرست منابع).

۴ . عنوان مقاله با در نظرگرفتن فواصل بین کلمات نباید از ۶۰ حرف تجاوز کند و با قلم Times New Roman14 سیاه تایپ شود.

۵ . نام نویسندهٔ مقاله با قلم سیاه Times New Roman10 عنوان علمی یا شغلی او با قلم Times New Roman10 در زیر عنوان مقاله ذکر شود. ضمناً آدرس الکترونیکی و شماره تلفن نویسندهٔ مسؤول در پاورقی آورده شود.

۶ . چکیدهٔ مقاله ساختاریافته با قلم نازک Times New Roman 11 به صورت تک ستونی باشد.

۷ . شکل‌ها و نمودارهای مقاله حتماً اصل و دارای کیفیت مطلوب باشد. فایل اصلی اشکال (تحت PDF، Word، Excel) و با دقت ۳۰۰ dpi ارائه شود. اندازهٔ قلم‌ها خصوصاً در مورد منحنی‌ها (legend) به گونه‌ای انتخاب شوند که پس از کوچک‌شدن مقیاس شکل برای چاپ نیز خوانا باشند.

۸ . ساختار مقاله شامل عناصر زیر است:

۸. ۱ صفحهٔ عنوان: در صفحهٔ شناسنامه باید عنوان مقاله، نام و نام خانوادگی نویسنده (نویسندگان)، درجهٔ علمی، نشانی دقیق (کد پستی، تلفن، دورنگار و پست الکترونیکی)، محل انجام پژوهش، مسؤول مقاله و تاریخ ارسال) درج شود. عهده‌دار مکاتبات باید با علامت ستاره مشخص شود.

۸. ۲ چکیده: شامل چکیده‌های فارسی ساختار یافته (شامل هدف؛ روش؛ یافته‌ها؛ محدودیت‌ها؛ راهکارهای عملی؛ اصالت و ارزش و واژگان کلیدی (۳ تا ۶ کلمه)) است. تا حد امکان چکیدهٔ مقاله از ۳۰۰ کلمه تجاوز نکند . علاوه بر چکیده ساختار یافته، لازم است چکیدهٔ مبسوط فارسی بین ۷۵۰ تا ۱۰۰۰ کلمه نیز حاوی مقدمه، مبانی نظری، روش، نتایج و بحث، نتیجه‌گیری و کلیدواژه‌های مقاله تهیه شود، به طوری که حاوی اطلاعاتی از کل مقاله باشد و بتوان جداگانه آن را چاپ کرد. با توجه به این که مقاله بعدا به صورت کامل به انگلیسی برگردانده خواهد شد، نیازی به ترجمه چکیده مبسوط به انگلیسی نیست.

۸. ۳ مقدمه: شامل ۱- طرح مسئله؛ ۲- اهمیت و ضرورت؛ ۳- اهداف و سوالات اصلی تحقیق.

۸. ۴ ادبیات نظری تحقیق: شامل ۱- تعاریف و مفاهیم؛ ۲- دیدگاه‌ها و مبانی نظری؛ ۳- پیشینه نظری تحقیق و ... .

۸. ۵ روش‌شناسی تحقیق: در برگیرندهٔ ۱- محدوده و قلمرو پژوهش؛ ۲- روش تحقیق و مراحل آن (روش تحقیق، جامعهٔ آماری، روش نمونه‌گیری، حجم نمونه و روش تعیین آن، ابزار گردآوری داده‌ها و اعتبارسنجی آن‌ها)؛ ۳- سؤال‌ها و فرضیه‌ها؛ ۴- معرفی متغیرها و شاخص‌ها؛ ۵- کاربرد روش‌ها و فنون.

۸. ۶ یافته‌های تحقیق: ارائهٔ نتایج دقیق یافته‌های مهم با رعایت اصول علمی و با استفاده از جداول و نمودارهای لازم.

۸. ۷ بحث و نتیجه‌گیری: شامل آثار و اهمیت یافته‌های پژوهش و یافته‌های پژوهش‌های مشابه دیگر با تأکید بر مغایرت‌ها و علل آن، توضیح قابلیت تعمیم‌پذیری و کاربرد علمی یافته‌ها و ارائهٔ رهنمودهای لازم برای ادامهٔ پژوهش در ارتباط با موضوع، نتیجه‌گیری و توصیه‌ها و پیشنهادهای احتمالی.

۸. ۸ تشکر و قدردانی: قبل از منابع مورد استفاده ارائه شود و از ذکر عناوین دکتر و مهندس خودداری شود.

۹. نحوهٔ ارجاعات: منابع و مآخذ باید به صورت درون‌متنی و همچنین در پایان مقاله ذکر شود.

۹. ۱ ارجاعات در متن مقاله باید به شیوهٔ داخل پرانتز (APA) نسخه ۶ باشد؛ به گونه‌ای که ابتدا نام مؤلف یا مؤلفان، سال انتشار و صفحه ذکر شود. شایان ذکر است که ارجاع به کارهای چاپ شده فقط به زبان فارسی بوده و در اسامی لاتین معادل آن در زیر نویس همان صفحه ارائه شود. به عنوان نمونه: (شکوئی، ۱۳۸۷، ص. ۵۰) یا (وودز، ۲۰۰۵، ص. ۲۷).

۹. ۲ در پایان مقاله، منابع مورد استفاده در متن مقاله، به ترتیب الفبایِ نام خانوادگی نویسنده بر اساس الگوی فهرست نویسی APA تنظیم گردد.

نمونه فارسی:

- رضوانی، م. ر. (۱۳۹۰). *برنامه‌ریزی توسعهٔ روستایی در ایران*. چاپ چهارم. تهران: نشر قومس.

- عنابستانی، ع. ا.، شایان، ح.، و بنیادداشت، ا. (۱۳۹۰). بررسی نقش اعتبارات بر تغییر الگوی مسکن در نواحی روستایی (مطالعهٔ موردی: شهرستان بهمئی). *مجلهٔ برنامه‌ریزی فضایی*، ۱ (۳)، ۸۰-۶۳.

نمونهٔ انگلیسی:

- Bourne, L. S. (1981). *The geography of housing*. London: Edward Arnold.

- Turgat, H. (2001). Culture, continuity and change: Structural analysis of the housing pattern in squatter settlement. *Global Environment Research (GBER)*, *1*(1), 17-25.

بسم الله الرحمن الرحيم

دانشکده ادبیات و علوم انسانی

مجلّهٔ پژوهش و برنامه‌ریزی روستایی

سال چهاردهم، شمارهٔ ٤، پاییز ١٤٠٤، شمارهٔ پیاپی ٥١

صاحب امتیاز: دانشگاه فردوسی مشهد

مدیر مسئول: دکتر حمید شایان

سردبیر: دکتر علی‌اکبر عنابستانی

هیئت تحریریه (به ترتیب حروف الفبا) :

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سعید پیراسته	دانشیار جغرافیا و مدیریت محیطی (دانشگاه واترلو کانادا)
جعفر جوان	استاد جغرافیای روستایی (دانشگاه فردوسی مشهد)
محمدرضا رضوانی	استاد جغرافیا و برنامه‌ریزی روستایی (دانشگاه تهران)
عبدالرضا رکن‌الدین افتخاری	استاد جغرافیا و برنامه‌ریزی روستایی (دانشگاه تربیت مدرس)
عباس سعیدی	استاد جغرافیای روستایی (دانشگاه شهید بهشتی)
حمید شایان	استاد جغرافیای روستایی (دانشگاه فردوسی مشهد)
خدیجه شکرالله	دانشیار جغرافیا (کالج مسیحی فورمن/پاکستان)
سید اسکندر صیدایی	دانشیار جغرافیا و برنامه‌ریزی روستایی (دانشگاه اصفهان)
علی عسگری	استاد مدیریت بحران (دانشگاه یورک کانادا)
علی‌اکبر عنابستانی	استاد جغرافیای انسانی و آمایش (دانشگاه شهید بهشتی)
آنا فرمینو	استاد جغرافیا و برنامه‌ریزی منطقه‌ای (دانشگاه لیسبون جدید پرتغال)
ماریجا ماسکین	استاد موسسه معماری و شهرسازی و برنامه‌ریزی فضایی صربستان
مجتبی قدیری معصوم	استاد جغرافیای روستایی (دانشگاه تهران)
دو-چول کیم	استاد مدیریت محیط زیست روستایی (دانشگاه اوکایاما ژاپن)
سیدحسن مطیعی لنگرودی	استاد جغرافیای روستایی (دانشگاه تهران)

مقالات نمودار آرای نویسندگان است و به ترتیب وصول و تصویب درج می‌شود.

دستیار سردبیر: مهدی جوانشیری

مدیر اجرایی: زهرا بنی‌اسد

ویراستار انگلیسی: مرکز ویراستاری ادبیات

حروف‌نگاری و صفحه‌آرایی : معصومه ایرانپاک

شمارگان: ۵۰ نسخه

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بها: داخل کشور: ۲۰۰۰۰۰ ریال (تک‌شماره) خارج کشور: ۲۵ دلار (آمریکا- سالانه)، ۲۰ دلار (سایر کشورها- سالانه)

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این مجلّه در پایگاه های زیر نمایه می‌شود:

- **پایگاه استنادی علوم جهان اسلام (ISC)**
- **پایگاه اطلاعات علمی جهاد دانشگاهی (SID)**
- **پایگاه بانک اطلاعات نشریات کشور (Magiran)**
- **فهرست دسترسی آزاد مجلات (Doaj)**
- **Index Copernicus- RICeST- ISI-Noormags- Googlescholar- Civilica- Oaji**

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سال چهاردهم، شماره ۴، پاییز ۱۴۰۴، شماره پیاپی ۵۱

■ **کارایی بازار سرمایه، نوآوری مالی و صنعتی شدن در نیجریه** ۱

کاظم سون بلائو- راسل اولوکایود کریستوفر سوموبه

■ **عوامل مؤثر بر کالایی‌شدن زمین در نواحی شهری-روستایی غرب استان گیلان، شمال ایران** ۱۵

حبیب محمودی چناری- شهرام شریفی هشجین- فرزانه نصیری جان آقا

■ **تبیین چالش‌های تشکیل تعاونی‌های زنان در مناطق روستایی (مطالعه موردی: روستای دیزج‌آباد، شهرستان زنجان)** ۳۷

منیژه احمدی- مهری جهانسوزی

■ **تحلیل فضایی فقر و ناامنی غذایی در مناطق روستایی ایران: ارزیابی وضعیت و عوامل مؤثر بر ناامنی غذایی** ۶۳

مهدی شعبان‌زاده خورشیدی

■ **بررسی تأثیر عوامل اقتصادی، اجتماعی-فرهنگی، محیطی و کالبدی بر مهاجرت معکوس در مناطق روستایی (مطالعه موردی: شهرستان بندر خمیر)** ۸۱

فیروزه بهی- سید اصغر موسوی- امرالله راشدزاده

■ **تحلیل فضایی عوامل موثر بر شکل‌گیری رهیافت گردشگری الکترونیک روستایی (مورد مطالعه: روستاهای مقصد گردشگری شهرستان آمل)** ۱۰۱

علی‌اکبر عنابستانی- مهسا هدایتی- شقایق یاراحمدی

شاپا: ۲۷۹۱-۲۷۸۳