



## **The Analysis of Key Factors Influencing the Expansion of Rural Migration with Emphasis on the Issue of Informal Settlement (Case Study: Shirabad Neighborhood in Zahedan)**

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### **Abstract**

**Purpose-** Informal settlement is largely rooted in migration, particularly influenced by parameters such as poverty, lack of expertise and specialization, type of occupation, cultural conflict, illiteracy, ethnic and cultural identity. Most of the residents of these areas are forced to live in ghettos and slums due to factors such as lack of access to jobs in the city coupled with poverty and lack of specialization. Heterogeneous and dispersed constructions without observance of technical principles and urban planning with narrow, meandering alleys, running sewage in the alleys and unsavory sanitary condition are among the adverse consequences of informal settlement. Therefore, the main purpose of this study is to investigate the key factors affecting rural migration with emphasis on the issue of informal settlement in Shirabad neighborhood of Zahedan.

**Design/methodology/approach-** The research method is descriptive-analytical and data collection was conducted by a survey. In the first step of the research, a list of primary factors involved in the spread of migration to informal settlements was identified as research variables using existing documents and previous researches. The variables were analyzed based on two local communities (all heads of households in Shirabad neighborhood) and expert questionnaires. Descriptive statistics and exploratory factor analysis in SPSS software as well as cross-impact analysis model in MicMac software were used for the analysis of data.

**Findings-** The results suggested that four key factors of drought and lack of water resources, reduced productivity and devaluation of the agricultural sector, inappropriate infrastructure in rural areas and wage gap between rural and urban areas play a key role in shaping rural migration and intensifying informal settlement.

**Key words-** Migration, Rural Migration, Informal Settlement, Shirabad neighborhood of Zahedan.

**Paper type-** Scientific & Research.

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## 1. Introduction

The growth of urbanization and globalization, as the dominant phenomena in the 21<sup>st</sup> century, is linked to adverse consequences such as poverty, informal settlement, violence and insecurity, environmental crisis, homelessness, improper housing, spatial injustice, dysfunctional and inefficient structures, which obscure the stability of current trends and the future of the city. On the other hand, the implementation of policies and development plans and measures inspired by the unbridled capitalist development model and the emphasis on social policies stemming from a competitive economy that disregards diverse capabilities of individuals have consequences that would lead to the unequal distribution of opportunities of basic living facilities, increasing rural depletion and informal settlement (Sarvar & Roustaf, 2014). Thus, informal settlement is one of the phenomena resulting from the rapid urbanization that appears in an unplanned manner within or in the outskirts cities (Sarvar & Roustaf, 2014).

According to the United Nations, informal settlement has been identified as a major challenge in the third millennium. Hence, one in six people in the world live in slums, and without the joint action of the government and the participation of residents, the number of people living in slums (urban poor) may double by 2030 (Roustaf, 2009; Peykani & Bavar, 2018). However, the rate of informal settlement expansion in low-income countries is accelerating due to the rising number of residents living in areas without standard conditions (Chowdhury & Amin, 2006). Informal settlement is a common form of urban development in most developing countries, which are often informally occupied (Zeilhofer & Toponoti, 2008; Ballantyne & Oelofse, 1999). There are many factors tied to informal settlement, some of which are sometimes difficult to identify (Alizadeh Aghdam & Mohammad Amini, 2012). In this regard, Paul Meadows introduces migration as the root cause of informal settlement, believing that in large cities in the developing world, there are vast areas filled with informal settlement. These cities, as the main destination of migration, face the huge torrent of rural migrants. Some lucky immigrants can pass through the golden gates of the city and adapt to the urban life style, but some fail to do so and end up in informal settlements behind the city gates. The rural-urban migration saturates cities after a while, with city

organizations and officials falling short of accommodating this massive flow of migrants. As a result, some villagers cannot acclimate to the environment and are drawn to marginal settlements (Hosseinzadeh, Nawah & Ismaili, 2008). As long as there is an income gap between urban and rural areas, between different regions of a country, and between the social groups of a society, the informal settlement will keep expanding (Mumtaz, 2001).

Urban studies on Iran shows that the migration movements urban development began approximately from 1941 to 1953, as before this period, the urban and rural economies were relatively balanced. The suppression of large landlords, the formation of the army, the establishment of national security, the construction of roads and railways, etc., were among factors that facilitated travel and transportation, followed by elevated migration of villagers to cities so that the rate of rural displacement rose from 0.08% in 1921 to 14% in 1941. Migration to cities increased after the 1950s due to the industrialization of cities and the possibility of enhanced production efficiency, productivity and finally higher incomes. Meanwhile, rural migration also increased one percent. At this time, wars were the major cause of migration in troubled areas.

In this era, the migration of people in other parts of the country was driven by factors such as worn-out and low-yielding agricultural method, and the government's neglect or preoccupation with more important issues like war crisis. At the same time, rising land prices, building materials, high-interest loans, and high rents deterred low-income groups who were the second generation of rural immigrants, from settling in cities and pushed them towards margins. Obviously, such migrations had a significant impact on the deterioration of informal settlement and, of course, the proliferation of crime in these areas.

Although the situation of informal settlement in Iran is brighter than most developing countries, it does not diminish its importance at all (Gholami, Seifi Kafshgari & Shahbazi, 2013). These self-organized hubs are considered an integral part of life in Iranian cities (Rezaei & Kamandari, 2014). Some scholars argue that the emergence of informal settlement in Iran in 1960s and 1970s were driven by factors such as capitalism, land reform, rising land prices and migration (Salehi Amiri & Khodaei, 2011). However, migration from different rural areas to poor urban neighborhoods is the major reason for the expansion of informal settlements (Qaderzadeh, 2014).

According to the existing statistics, about eight million people in Iran live in these areas, and since 1990s onwards, with the excessive growth of its dimensions, their impact has extended from informal settlements to other areas (Rostanzadeh, 2014).

Due to its proximity to Afghanistan and Pakistan, Zahedan shares ethnic, racial and religious backgrounds with many Baluch tribes inhabiting in these countries. Moreover, the service-commercial features and geographical location of this city, as the gateway to Khorasan, Kerman and other cities of the province, have provided necessary attractions for different groups, including Sistanis, Baluchis, Kermanis, Khorasanis, and surrounding villages. Together, the above factors have made this city one of the main destinations of rural-urban immigrants in Iran (Ebrahimzadeh, Varesi & Akbari, 2004). As a result of this rapid growth of migration, the villages in the vicinity of Zahedan, which are part of the official territory of Zahedan with the most worn-out physical texture and inadequate civil services, continue to survive in deplorable conditions (Sargazai Javan & Hadiani, 2016). Shirabad neighborhood is located in the northeast of Zahedan. In 1976, this area only had a population of 261 people, but it saw a dramatic rise in 1986 with its population exceeding 2619 people (Statistics Center of Iran, 1976-1986). The demographic analysis of this neighborhood from 1976 until now reveals that this neighborhood is a destination of immigrants. Undesirable health conditions, improper infrastructure, lack of urban services, high population density, low-income groups, informal jobs and most importantly rampant crimes and social harms are a set of factors that Shirabad residents face (Shibak, 2004). Besides, this neighborhood has vast open spaces compared to other neighborhoods of Zahedan city, which could be used for physical expansion and spread of informal settlement, thereby further complicating this problem (Shibak, 2004). Therefore, in this study, we are looking for key factors affecting migration so that by controlling these factors, rural migration and ultimately informal settlement can be alleviated. Therefore, in line with the purpose of the research, the following question is posed: What key factors are involved in the spread of rural migration to areas with informal settlements?

## 2. Research Theoretical Literature

The village serves as a biological complex and external manifestation of human social life. In other words, the emergence of the village coincides with

the formation of humans' settlements and the subsequent formation of biological complexes (Raheb, 2005). Villages as the oldest form of human and rural settlements embody an ancient form of human life. Villages have long played an essential role in the formation and flourishing of societies and civilizations as basic communities (Jomehpour, 2012). The development of the industrial sector and the expansion of urbanization along with the introduction of new technology have gradually undermined the role and importance of villages and today many villages deal with adverse consequences of population growth, population evacuation, and migration (Firooznia, 2006).

Migration is a form of geographical mobility or spatial mobility that takes place between two geographical units. This geographical movement manifests as the change of residence from the origin or place of residence to the new destination (Zanjani, 2001). Migration is one of the important population phenomena that have drawn growing attention especially in third world countries (Shabnama, 2016). In the developing countries of the world, the migration of villagers to cities is primarily geared towards the capital cities in search of a better life and employment (Ghasemi Siani, 2007). After capital cities, major cities and centers of other provinces are the main destination of immigrants. In fact, the most important type of voluntary domestic migration is rural-urban migration, which is a response to economic stimuli (Behfroz, 1995). With the movement of villagers to cities in pursuit of better jobs and greater facilities, cities are progressively saturated with these rural immigrants and city officials and institutions fail to accommodate these migrants. As a result, large number of villagers, due to high land prices and inability to adapt to the new situations, are drawn to areas in the outskirts of cities. In other words, the imbalance and inequality of living standards in the village and the city leads to the creation of informal settlements (Alizadeh Aghdam & Mohammad Amini, 2012).

Informal settlement has been defined with terms such as spontaneous settlements, marginalization and the like (Ajza Shokoochi et al., 2013). In the Persian dictionaries, informal settlement and marginalization have been described with several terms such as slums, shantytowns, ghetto and so forth (Irandoost, 2009; Sheikhi, 2002; Guillermo, Adrian & Santos, 2011). This term was first used by Robert E. Park (Heidari

1. See Park, R. E. (1937).



Nowshahr & Nazarian, 2011). He argues that informal settlement is the result of political and economic measures (Park, 1928) According to him, individuals living in informal settlement are those with hybrid culture that inhabit in the cultural life of two distinct populations in a communal manner. Such individuals are reluctant to discuss their past and have not yet embraced all the dimensions of the host society (Zangiabadi & Mubaraki, 2012). Informal settlement refers to the housing used by a part of urban population in the third world, which has been built by the residents of such places outside the official land and housing market in accordance with their own rules, and regulations (Riahi & Azizi, 2009). Peter Lloyd calls this type of housing the slums of hope (Heydari Nowshahri & Nazarian, 2011), contending that in exploring people's lives in slums, it is more befitting to look at the world through the eye of immigrants (Kikha & Moradi Siyasar, 2015). Davis, Ernest Bergs, Loiuise Wirth, Kleinard and Manuel Castells are other researchers that have also defined the term informal settlement. According to them, unofficial settlements are lands bereft of facilities and services, unequal access to pure running water, illegal usurpation of land, dilapidated housing units, high population density, social deviations, social isolation, and the dominance of a culture of poverty (Jafari, Heidari Nowshahr & Parsa, 2018; Hekmatnia & Afshani, 2010; Alizadeh Aghdam &

Mohammad Amini, 2012; Rabbani, Arizi, Varesi & Hosseini, 2016; Davis, 2004; Bellush, 1967; Kirschner, Mill, Schach, Schmekel & Seligman, 2005).

Informal and unconventional urban living areas, which are pathological reflection of poor economy and spatial planning, are the outcome of socio-economic injustices at the national, provincial and local levels. In fact, unofficial and deplorable urban settlements represent the unregulated form of spatial aggregation of low-income groups, mostly immigrants, in the vulnerable urban areas, which develop spontaneously in the absence of official supervision by city's officials.

Due to rapid expansion and lack of supervision by executive bodies, these areas are deprived of biological standards and lack a well-established and desirable housing system to satisfy the basic needs of a shelter (Series of reports by the Ministry of Housing and Urban Development, 2004). Since its inception, the phenomenon of informal settlements, depending on the attitudes towards these settlements and the prevailing conditions of the society, have been approached from different perspectives, with each approach presenting various criteria from these settlements (Irandoost, Azami, M & Tulayi, 2014). In Table 1, different perspectives on factors related to informal settlement are listed:

**Table 1. Factors affecting the formation of informal settlement as discussed in different schools of thought**

(Source: Irandoost et al., 2014, p. 46)

Views	Factors that shape informal settlement
Ecological view	<ul style="list-style-type: none"> <li>- Change in land use</li> <li>- Improper maintenance and repair of housing and its shortage</li> <li>- The migration of rural workers to the city in search of a better job</li> </ul>
basic needs view	<ul style="list-style-type: none"> <li>- Failure to fulfill social needs</li> <li>- Migration of villagers to cities</li> <li>- Impossibility of providing housing by urban poor</li> <li>- Inefficiency of official land and housing markets</li> </ul>
Liberal view	<ul style="list-style-type: none"> <li>- Large household population</li> <li>- Lack of motivation, coercion, instant gratification and social disorder among the urban poor</li> <li>- Newly-arrived immigrants in search of job</li> <li>- Expansion of the poverty gap and economic factors</li> <li>- Lack of supervision and working conditions in the industrial community</li> </ul>
Radical view	<ul style="list-style-type: none"> <li>- The huge gap between the rich and the poor in the city due to the weakness of the unbalanced capitalist system.</li> <li>- Low workers' wages</li> <li>- The objective of capitalism to deal with the growing tendency for reducing the level of consumption in the capitalist economy</li> <li>- Reduction of investment in infrastructure and facilities</li> </ul>
Dependency view	<ul style="list-style-type: none"> <li>- Dependence of the center on the surrounding areas</li> <li>- Increasing urbanization and growth of cities</li> </ul>

Views	Factors that shape informal settlement
Economic-political and spatial view	<ul style="list-style-type: none"> <li>- Relations between social classes or the exploitation of the lower classes</li> <li>- Accumulation of wealth and power in a city or a certain part of the city</li> <li>- Massive population movements and migration of villagers to the city</li> </ul>
Liberal views	<ul style="list-style-type: none"> <li>- Colonial attitude towards cities and expropriation</li> <li>- The issue of laws and regulations that marginalize the economy and consequently workers.</li> <li>- High costs of formalization</li> </ul>

Most informal settlements theorists have focused on the process and reasons behind the formation of settlements. It can be contended that informal settlement largely stems from migration, under the influence of parameters such as economic poverty, lack of specialization, type of occupation, cultural conflict, illiteracy, ethnic and cultural identity. Most of the residents in these areas are forced to live in ghettos and slums due to issues such as lack of access to employment in the city along with poverty and lack of expertise. Poverty not only forces these people to engage in improper jobs, but also provides a fertile ground for all kinds of crimes. In addition, all sorts of physical and psychological malaises, moral deviations, unemployment, crime, and illiteracy in these settlements are significantly higher than other urban areas (Mansoori Kia, 2014).

As for the factors that stimulate migration, especially rural-urban migration and informal settlement, many studies have explored the effects and consequences of these two issues some of which are summarized below.

Tian, Zhou, Chen, Liu & Lu (2013) explored rural-urban migration with changing endogenous policies. This study aimed to answer the questions related to the migration of labor from Chinese rural areas to cities and the impact of discrimination in the provision of urban services. The results showed that indigenous policies and inequality of service delivery had a bearing on the process of migration from rural to urban areas. Forbes (2019) discussed immigration and informal settlement. In Myanmar, the 2008 constitution stipulates that citizens have the right to settle wherever they desire. In 2010, when political and economic reforms picked up pace, people decided to migrate to other cities to exercise this right. In this study, the researcher studied the vital role of immigration in the economy using a survey of households.

Naqdi (2009) explored migration and marginalization in the city of Hamedan by examining the extent to which marginalized residents have access to facilities and services. The results revealed that high population density, informal economy prosperity,

cultural and social duality of citizens, low sense of belonging, and dissatisfaction are relatively high among the marginalized. Abbaszadeh and Shambabadi (2010) studied the causes of migration and its consequences with an emphasis on marginalization. In this study, researchers focused on Nodeh town, which is a suburban area around Mashhad. The results exhibited that the main drivers of immigration include earning income, employment and inspiration of relatives. The main reasons for movement to this settlement were the inexpensive land and housing, contact with relatives, and job and service facilities. Arzumandan Mofrad (2012) investigated rural migration and its socio-economic effects on marginalization in Birjand. The results revealed that economic matters were major factors for rural-urban migration. Cheap land and limited financial capacity are also among the reasons behind the migration of families to these neighborhoods. Vatankhah (2016) studied the role of rural migration in the emergence of informal settlements in Pakdasht. According to his findings, most of immigrants moved to Tehran in search for better jobs and higher income, but since they did not have the necessary expertise and level of education to enter the labor market and as the cost of living in Tehran is significantly higher, they had to settle in Pakdasht. Finally, based on the relationship between migration and marginalization and the results of t-test, he concluded that a higher level of migration was associated with a greater marginal index and vice versa.

What distinguishes the present study is that unlike other studies, which have studied migration, informal settlement and consequences and effects of this phenomenon based on the views of residents and the local community, the present study focuses on the role of rural migration and key factors involved in the formation of these settlements in a specialized way. Using future research methods (cross-impact analysis method) and factor analysis method, the views of the local community (residents of Shirabad neighborhood in Zahedan) are studied along with the insights of experts in this field.

### 3. Research Methodology

#### 3.1 Geographical Scope of the Research

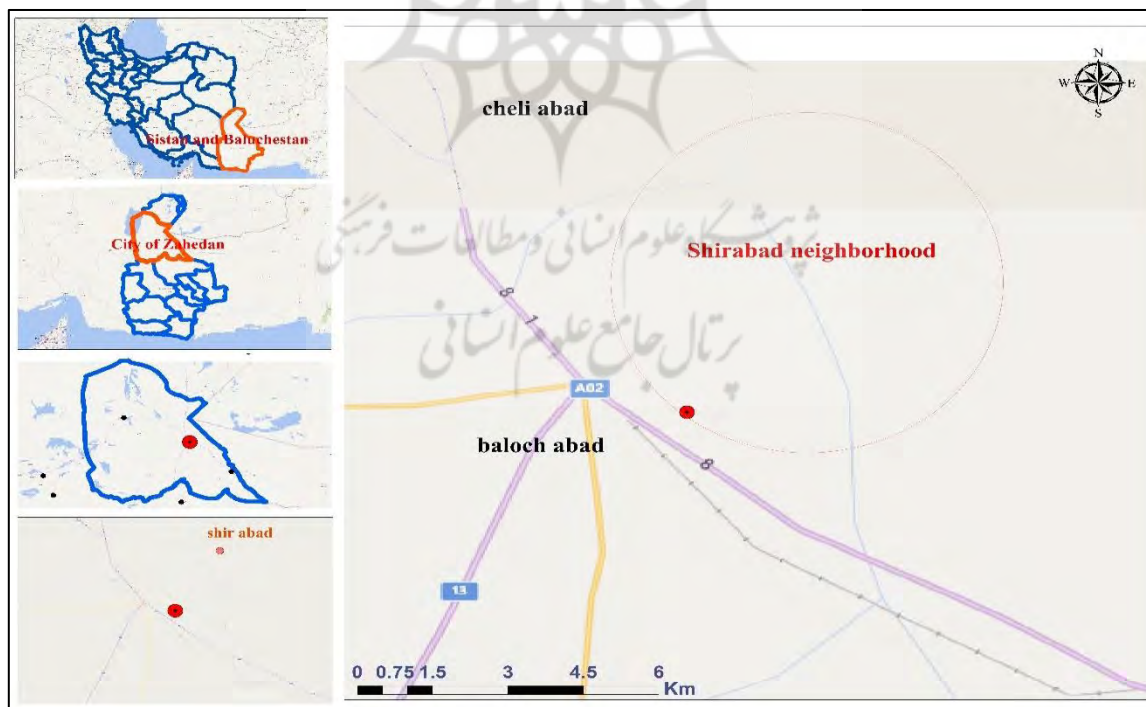
Shirabad neighborhood is located in the northeast of Zahedan. It sits on the catchment area of Zahedan plain, i.e., the outlet of the plain drainage and sewage of the city. In terms of accessibility, it is the closest settlement to the borders of Afghanistan and Pakistan. In the west of this residential area, there are northern uplands of the city, and part of residential buildings of Shirabad is at the foot of the mountain or even on these uplands. In the east of this area, there is the famous Zahedan fault. There are enormous mounds of quicksand in the north and unofficial structures have extended to the vicinity of these areas. This urban area is connected to the city center and other parts of the city through Azadi and Keshavarz boulevards. It is the closest point to the capitals of

Pakistan and Afghanistan. Although there is no major road across the border, there is a path that runs from the end of Azadi Street to the Kambuzia plateau through the Lar Valley, which is used by the residents of Shirabad along with Mir Java road to cross the border (Shibak, 2004).

According to the latest population and housing census released by the [Statistics Center of Iran in 2016](#), Shirabad had a population of 74,407 people. The archived data shows that this neighborhood had a population of about 261 people in 1976, which suddenly increased to 2619 in 1986. It has also experienced growth rates of 25.94 and 65.25 during 1986-1996 statistical period. A demographic study of this neighborhood from 1976 until the present manifests that this neighborhood is a major destination for immigrants (Table 2).

**Table 2. Population of Shirabad neighborhood between 1976 and 2016 as well as 2021 estimate**  
(Encyclopedia of national villages, Zahedan city, 1976, detailed results of 1986-2011 censuses)

Year	1976	1986	1996	2006	2011	2016 <sup>1</sup>	2021
population	261	2619	26952	53275	61452	74407	90093
Number of households	57	414	4293	9713	10562	12789	15485
Family size	4.58	6.33	6.28	5.48	5.63	5.8	5.8
Growth rate	-	25.94	26.25	7.89	3.9	3.9	3.9



**Figure 1. Location of Shirabad neighborhood in Zahedan city based on national divisions**  
(Adapted from Zahedan Municipality Portal, 2019)

1. Due to the fact that information on the population of Shirabad neighborhood in 2016 was not available, the population, household and household size in 2016 and 1400 have been estimated.



### 3.2. Methodology

The primary goal of this study was to investigate the key factors affecting rural migration with emphasis on the issue of informal settlement in Shirabad neighborhood of Zahedan. Therefore, a descriptive-analytical and survey research method was adopted. In the first step of the research, a list of primary factors involved in the expansion of migration to informal settlements were identified as research variables using existing documents and previous researches (Table 2). Then, research variables were analyzed based on people and expert questionnaires. In the first one, the importance of each factor was assessed in the view of the local community using a Likert scale. In this section, the population of the study consisted of all heads of households in Shirabad neighborhood. According to the Cochran's table, the sample size was estimated 384 people, but 400 questionnaires were distributed to account for incomplete responses. Finally, 229 complete questionnaires were submitted. The sample size

was determined using simple random sampling method. The validity of the research tools in this study was evaluated by university professors and necessary modifications were made according to their feedbacks. Cronbach's alpha test was used to measure consistency. The result of reliability assessment (0.781) indicated desirable status of the questionnaire. The data collected from the local community questionnaire were analyzed using factor analysis in the SPSS software and the main factors were identified. In the second step of the research process, using the cross-impact analysis method and MicMac software, the effect of the primary factors on each other was evaluated through expert questionnaire. In fact, the respondents were asked to assess the effect of factors on each other in the range of 0 to 3. In this process, six City Hall experts, eight university professors and faculty members, as well as three PhD students of geography and rural planning participated.

**Table 3. Variables used in the study**

(Source: Research finding, 2019)

Lack of job opportunities in the rural areas	Hope to earn more in the city
Low income in the village	Poverty and deprivation in the village
Lack of job security in the village	The presence of relatives in the city
Lack of facilities provide to rural residents	Low social security in the village
Lack of infrastructure	Natural disasters such as floods and earthquakes
Lack of educational services	Misleading advertisements of cities in the media
Lack of health services	Observing the success of others in the city
Lack of welfare services	Preference for industrial and commercial occupations
Lack of government investment in rural areas	Traditional rural life and its limitations
Drought and water scarcity	Reduced productivity and value the agricultural sector
Need for progress in various domains	Wage difference between urban and rural areas
Difficulty of progress in the village	Concentration of various services in the city
Gaining new experiences in the city	The political importance of cities

### 4. Research Findings

In this study, to identify the key factors from the perspective of the local community, a questionnaire was distributed among the households of Shirabad neighborhood in Zahedan. Table 4 shows the demographic information of the respondents.

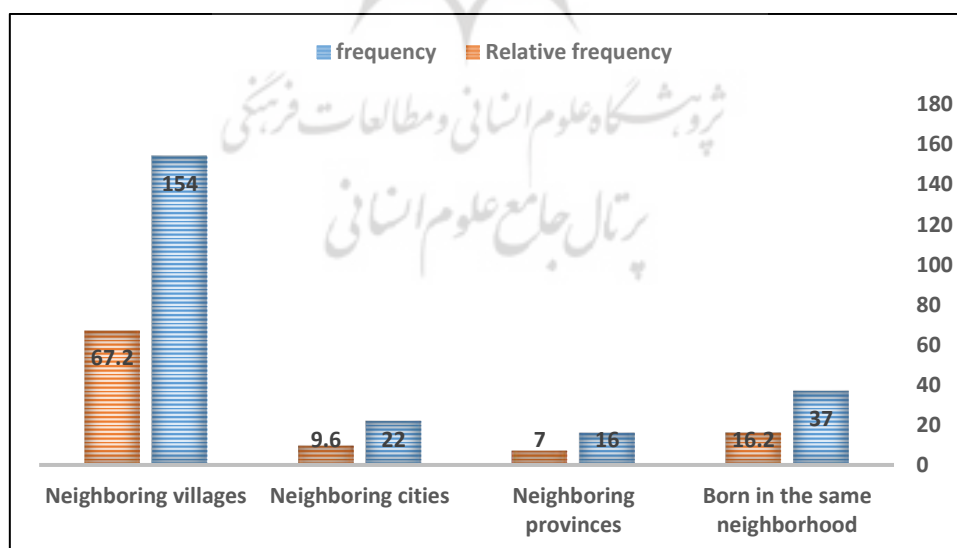
According to this table, 124 respondents (54.1%) were female and 105 (45.9%) were male. Most respondents were aged 30 to 45 (53.3%) years. People holding bachelor's degree or lower make up 81.2% of the sample. Most of respondents (32.3%) were unemployed.

**Table 4. Descriptive statistics of respondents**  
(Source: Research finding, 2019)

Respondents' variable	Status						
Gender	Female	Frequency	124	Employment	Unemployed	Frequency	74
		Relative Frequency	54.1			Relative Frequency	32.3
	Male	Frequency	105		Worker	Frequency	59
		Relative Frequency	45.9			Relative Frequency	25.8
					Self-employed	Frequency	41
		Relative Frequency	17.9				
Housewife	Frequency	43					
	Relative Frequency	18.8					
High school or university student	Frequency	12					
	Relative Frequency	5.2					
Age	Less than 20	Frequency	25	Education	Diploma or lover	Frequency	186
		Relative Frequency	10.9			Relative Frequency	81.2
	20-30	Frequency	52		Bachelor's degree	Frequency	36
		Relative Frequency	22.7			Relative Frequency	15.7
	30-45	Frequency	122		Master's degree and higher	Frequency	7
		Relative Frequency	53.3			Relative Frequency	3.1
	More than 45	Frequency	30				
		Relative Frequency	13.1				

The descriptive findings of the study also provided information on the previous place of residence of the respondents. This question actually confirms the hypothesis that the majority of marginalized residents of Shirabad neighborhood in Zahedan are rural immigrants. The results showed that of a total of 220

people who completed the questionnaires, 146 heads of households stated that their previous place of residence was the villages on the outskirts of Zahedan. Other answers had a significantly smaller share.



**Figure 2. Previous residence of participants in the statistical sample**  
(Source: Research finding, 2019)

In the analysis data, a statistical model (exploratory factor analysis) and a systemic model (cross-impact analysis method) were used to identify the key factors

involved in the spread of rural migration. In the following, we will elaborate on the results.



#### 4.1. Exploratory Factor Analysis

Using factor analysis, the main factors affecting the expansion of rural migration to informal settlements were determined. Exploratory factor analysis is one of the data clustering methods used in the field of data mining. Many studies use this technique to identify the underlying factors related to a set of questions. In this study, this method was used to identify key factors.

To perform this analysis, you must first analyze the feasibility of factor analysis for variables. To do so, the KMO statistic and Bartlett test were used. Statistical analysis showed that the KMO statistic is 0.729 and a significant level of less than 0.05 was considered for Bartlett test. The results suggest the possibility of factor analysis of variables. Based on the results of factor analysis in SPSS software, a set of 26 studied variables can be summarized in three factors. Table 5 shows the explained variance of all factors. In fact, this model shows categories of 26 factors. However, given the specific value index, only factors with a specific value of above 1 were selected. Therefore, three main factors were extracted.

According to Table 5, the first factor with a specific value of 4.69 and a variance of 41.95% contained 9 variables. Therefore, they can be considered as the main variables related to rural migration. These variables include the lack of job opportunities in the village, low income in the village, reduced productivity and depreciation of the agricultural sector, lack of health services,

wage gap between rural and urban areas, poverty and deprivation in the village, preference for industrial jobs, the concentration of various services in the city, and drought and scarcity of water resources.

The second factor with a specific value of 2.16 and a variance of 19.17% embraced six variables of job insecurity in the village, lack of educational services, lack of government investment in villages, the need for progress in various fields, misleading advertising of cities in the media and traditional rural life and its limitations as the main factors involved in the expansion of rural migration.

Finally, the third factor with a specific value of 1.141 and a variance of 10.22 contained five variables, including lack of infrastructure, lack of welfare services, difficulty of progress in the village, lack of facilities for villagers, and hope to earn more in the city. In total, the three main factors explain 71.34% of the total variances, which manifest their strong influence on the studied subject.

In this section, the main goal was not to summarize the factors, but a heuristic factor analysis was performed to identify key variables. Therefore, no factors were labelled and only nine variables related to the first factor, which had a greater percentage of explained variance compared to the other two factors, were introduced as key factors.

**Table 5. Summary of Factor Analysis Results**

(Source: Research finding, 2019)

	Variables related to each factor	Cumulative variance percentage	Explained variance	Specific value	Extracted variables
0.759	Lack of job opportunities in the rural areas	41.95	41.95	4.69	First factor
0.741	Low income in the village				
0.711	Reduced productivity and value the agricultural sector				
0.653	Lack of health services				
0.621	Wage difference between urban and rural areas				
0.608	Poverty and deprivation in the village				
0.569	Preference for industrial and commercial occupations				
0.553	Concentration of various services in the city				
0.511	Drought and water scarcity				
0.691	Lack of job security in the village	61.12	19.17	2.16	Second factor
0.629	Lack of educational services				
0.527	Lack of government investment in rural areas				

	Variables related to each factor	Cumulative variance percentage	Explained variance	Specific value	Extracted variables
0.511	Need for progress in various domains	71.34	10.22	1.141	Third factor
0.489	Misleading advertisements of cities in the media				
0.471	Traditional rural life and its limitations				
0.621	Lack of infrastructure				
0.603	Lack of welfare services				
0.542	Difficulty of progress in the village				
0.511	Lack of facilities provide to rural residents				
0.502	Hope to earn more in the city				

### 4.2. Cross-impact Analysis

Another model used to identify key factors is cross-impact analysis method, which is performed using MicMac software. The software is designed to perform complicated calculations in the matrix of cross-impact effects. To do so, first important variables and components in the desired field are identified. They are then entered into a matrix like the cross-impact matrix, and the relationship between these variables and relevant domains is determined by experts. Variables in rows have a bearing on variables in columns. Hence, the row variables are affected by column variables. MicMac software shows the degree of such an effect in the form of a conceptual diagram that consists of two axes. In this diagram there are five zones (Figure 3).

The first zone represents key factors. This is actually the most important area that contains main factors. The second zone shows the two-sided factors. What is meant by “two-sided” is that these factors exert a great impact and are at the same time hugely influenced, and hence they can be called intermediate factors. The third zone represents the output variables or the result. This area contains factors that have a low impact but are significantly affected. The zone area represents variables that can be ignored. This is because these factors have a low impact and are not significantly affected. Accordingly, they can be called independent variables. The fifth zone contains the variables that are located in the center of the other four zones and the system is unable to make a clear decision about them because it is likely that these factors join each other in the future.

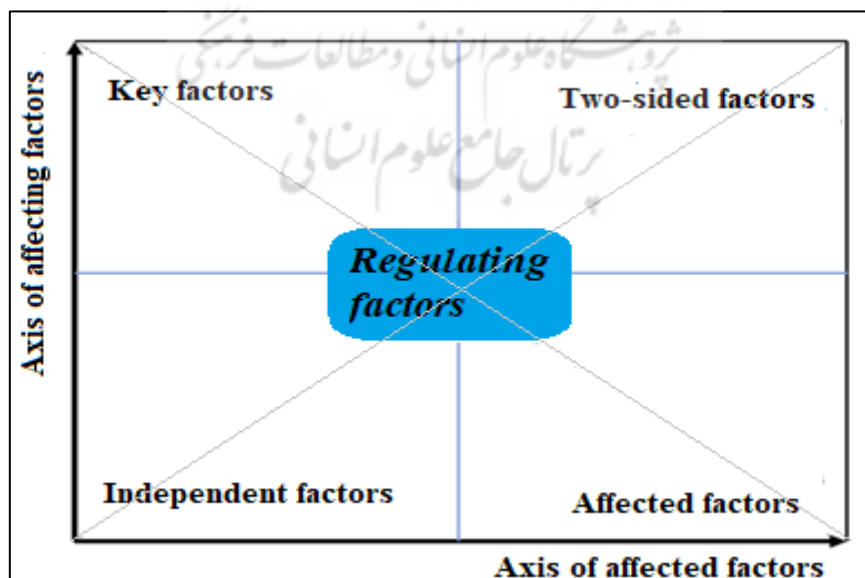


Figure 3. Schematic diagram of factor categories based on their impact (Authors' Studies, 2019)

Based on the results of the cross-impact analysis of variables, Table 6 shows the extent of direct and indirect impact of factors on the expansion of rural migration in informal settlements. According to the table and Figure 4, which is designed by MicMac software, the variables of lack of infrastructure, lack of educational services, lack of government investment in villages, drought and lack of water resources, reduced productivity and depreciation of the agricultural sector, and wage

gap between rural and urban areas had the greatest direct impact on the proliferation of rural migration. With regard to the indirect impact, factors such as lack of infrastructure in the village, low income in the village, reduced productivity and devaluation of agriculture, drought and lack of water resources, lack of facilities for villagers, and wage gap between city and village gained the highest points.

**Table 6. Impact of factors contributing to the expansion of migration**

(Source: Research finding, 2019)

Factors	Extent of direct effect	Extent of indirect effect
(A1) Lack of job opportunities in the rural areas	69	711
(A2) Low income in the village	71	1152
(A3) Lack of job security in the village	56	985
(A4) Lack of facilities provide to rural residents	70	1214
(A5) Lack of infrastructure	66	1066
(A6) Lack of educational services	51	651
(A7) Lack of health services	68	741
(A8) Lack of welfare services	50	57
(A9) Lack of government investment in rural areas	73	742
(A10) Drought and water scarcity	55	1029
(A11) Need for progress in various domains	34	541
(A12) Difficulty of progress in the village	26	784
(A13) Hope to earn more in the city	46	961
(A14) Poverty and deprivation in the village	28	656
(A15) The presence of relatives in the city	39	325
(A16) Low social security in the village	45	647
(A17) Natural disasters such as floods and earthquakes	36	354
(A18) Misleading advertisements of cities in the media	32	499
(A19) Observing the success of others in the city	30	258
(A20) Preference for industrial and commercial occupations	29	654
(A21) Traditional rural life and its limitations	13	358
(A22) Reduced productivity and value the agricultural sector	59	1311
(A23) Wage difference between urban and rural areas	67	1211
(A24) Concentration of various services in the city	70	411
(A25) Gaining new experiences in the city	17	547
(A26) Gaining new experiences in the city	18	211

The results of analysis in the two-dimensional diagram of affecting and effected variables show that 26 variables can be classified into 5 groups (Figure 4). The first zone represents the influential factors. This zone actually displays factors that have the highest impact but are least affected by other variables. The variables of lack of infrastructure, lack of educational services, lack of government investment in rural areas, drought and lack of water resources, lack of facilities for villagers and desire to earn more in the city fall in

this zone. The second area represents the two-sided variables, meaning that they can significantly affect and be significantly affected by other factors. Hence, they can be called intermediate factors. This zone includes nine variables such as lack of job opportunities in rural areas, low income in rural areas, job insecurity in rural areas, reduced productivity and devaluation of agricultural sector, lack of health services, lack of welfare services, wage gap between urban and rural areas, low social security in rural areas, and

concentration of various services in the city. The third zone represents the output variables or the result, The third zone represents the output variables, which have a low impact on the rural migration and informal settlement. Two variables, the difficulty of progress in the village and poverty and deprivation in the village, fall in this region. The fourth zone shows the variables that can be disregarded. This is because these factors have low impact and are slightly impacted by other variables. Hence, they can be called independent variables. The three variables of traditional rural life and its limitations, gaining

new experiences in the city and the political importance of cities belong to this region. The fifth zone contains central variables that are the intersection of other four zones and the system cannot make a clear decision about them. It is because these factors may join each of the other four areas is the future. In this zone, there are six variables of the need for progress in various fields, the presence of relatives in the city, natural disasters such as floods and earthquakes, misleading advertisements of cities in the media, observing the success of other people in the city and preference for industrial and commercial jobs.

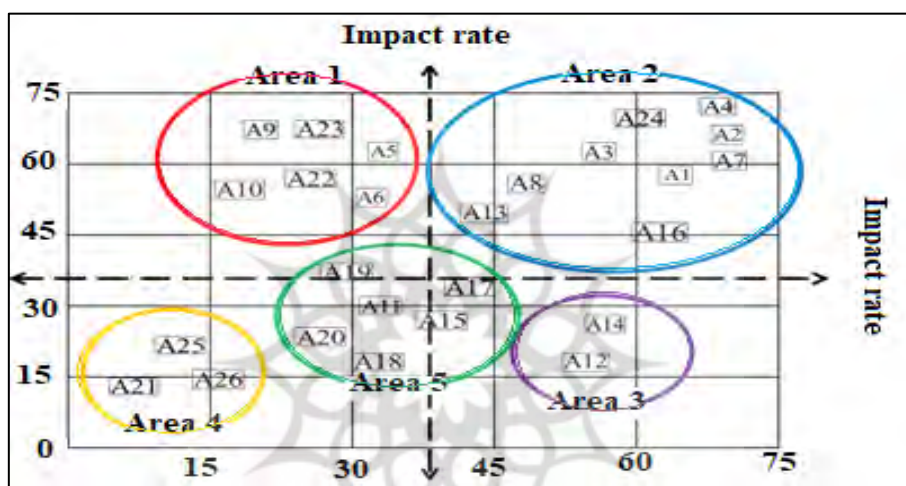


Figure 4. The position of the factors affecting rural migration in the chart of affecting-affected variables (Source: Research finding, 2019)

Table 7. Classification of factors based on two-dimensional graph of affected and affecting variables (Source: Research finding, 2019)

	Classification	Variables	Count
1	Affecting factors	Lack of infrastructure, Lack of educational services, Lack of government investment in rural areas, Drought and water scarcity, Reduced productivity and value the agricultural sector, Wage difference between urban and rural areas.	6
2	Two-sided factors	Lack of job opportunities in the rural areas, Low income in the village, Lack of job security in the village, Lack of facilities provide to rural residents, Lack of health services, Lack of welfare services, Hope to earn more in the city, Low social security in the village, Concentration of various services in the city	9
3	Affected factors	Difficulty of progress in the village, Poverty and deprivation in the village	2
4	Independent factors	Traditional rural life and its limitations, Gaining new experiences in the city, Gaining new experiences in the city.	3
5	Regulating factors	Need for progress in various domains, The presence of relatives in the city, Natural disasters such as floods and earthquakes, Misleading advertisements of cities in the media, Observing the success of others in the city, Preference for industrial and commercial occupations.	6

### 5. Discussion and Conclusion

The development of the industrial sector and the expansion of urbanization along with new technology

have undermined the role and importance of villages so that many villages deal with adverse consequences such as population growth, population depletion and

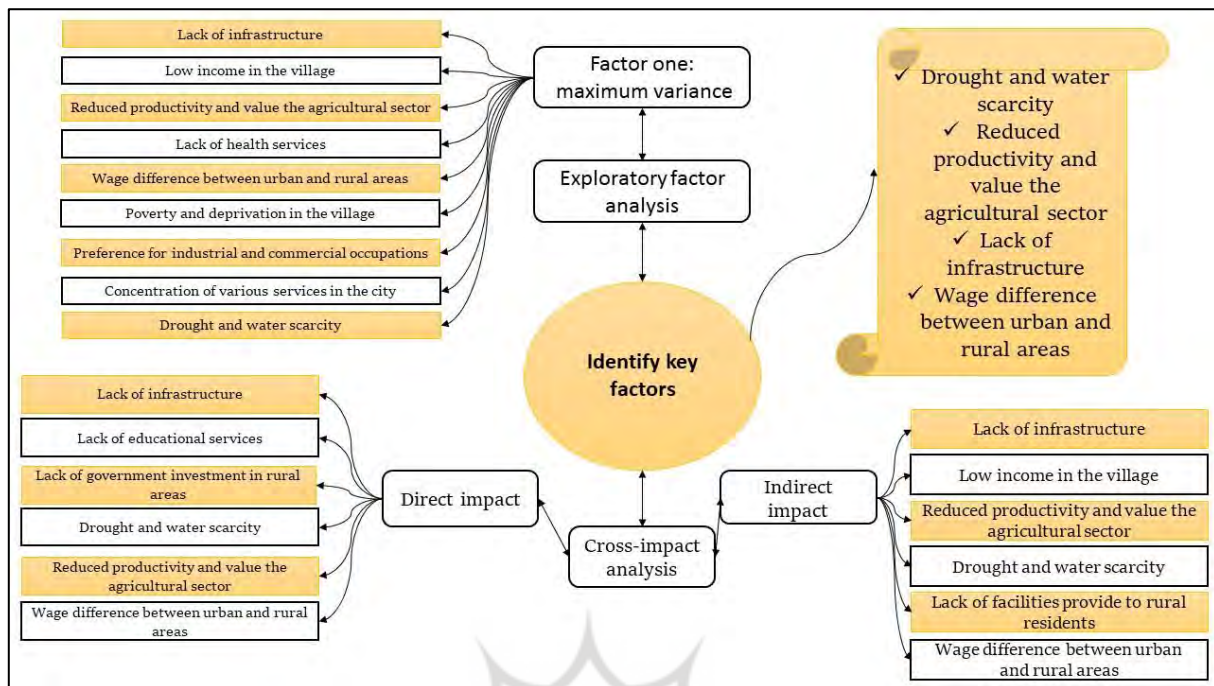


migration. Migration is one of the most important demographic phenomena in the world today, especially in the developing countries. In the developing world, capital cities are often the destination of rural-urban migration, where immigrants look for a better life and employment. With the movement of villagers to cities in search for better jobs and more facilities, the cities would be overflowed with rural migrations so that city organizations and officials fail to accommodate these migrants. Therefore, some villagers, due to high land prices and inability to adapt to the new situation, are drawn to informal settlements on the outskirts of the city. In fact, the imbalance and inequality of living standards in the village and town lead to the expansion of informal settlement. Informal settlement describes a type of housing used by a part of the urban population in the developing countries, which are built outside the official land and housing market by people based on their arbitrary rules and agreements.

Informal settlement is largely rooted in migration, particularly influenced by parameters such as poverty, lack of expertise, type of occupation, cultural conflict, illiteracy, and ethnic and cultural identity. Most of the residents of these areas are forced to live in ghettos and slums due to variables such as lack of access to jobs in the city along with poverty and lack of skills. Heterogeneous buildings without observing the technical and construction principles along with narrow and meandering alleys, running sewage in the alleys, unsuitable sanitary condition, etc. are among the adverse side effects of informal settlement. These settlements create an unsavory and unpleasant landscape for the urban society. The imposition of heavy traffic on the city transportation system, the overcrowding of the city, the proliferation of unsanitary street vendors and peddlers and the escalation of insecurity for residents are other consequences of these communities. In many cases, these areas are replete with land grab and bribery. Real estate

agencies sell lands with bogus and illegal documents, which further interferes with urban development policies and plans.

The movement of these people from the villages has also diminished the labor force, leading to reduced productivity of the villages and agricultural lands. Informal settlement also begets a plethora of deleterious consequences, such as the destruction of agricultural land and gardens around cities, disrupting urban development programs, compromising the urban heritage, and imposing high costs for organizing, improving or clearing unsuitable environments. Therefore, the main purpose of this study was to investigate the key factors affecting rural migration with emphasis on the issue of informal settlement in Shirabad neighborhood of Zahedan. In order to achieve this goal, 26 primary variables were selected and studied using exploratory factor analysis and cross-impact analysis method. According to the results of factor analysis, nine variables including lack of infrastructure in rural areas, lack of health services and poverty and deprivation in rural areas were the key factors involved in the acceleration of rural migration to informal settlements. The results covered cross-impact analysis in both direct and indirect dimensions. Factors such as lack of educational services and wage gap between urban and rural areas had direct effects and variables such as drought and lack of water resources, lack of facilities for villagers, and low income in rural areas exerted an indirect effect. The analysis of overlapping in the models applied in the study exhibited that four key factors are involved in rural-urban migration and the intensification of informal settlement issue. As shown in [Figure 5](#), these four factors include drought and water scarcity, declining productivity and depreciation of the agricultural sector, lack of infrastructure in rural areas, and wage gap between rural and urban areas.



**Figure 5. Factors influencing the expansion of rural migration to areas with informal settlement**  
(Source: Research finding, 2019)

According to the descriptive findings of the study, the majority of people residing in Shirabad neighborhood in Zahedan are rural immigrants. Therefore, the four identified factors can be justified in that the lack infrastructure and rural development indices in rural areas around Zahedan, such as electricity, telephone lines, health network, educational centers, asphalt roads, clean drinking water, gas supply, and failure to improve the economic situation by raising the income of social security insurance, and in general socio-economic and cultural issues have rendered villages particularly vulnerable to population decline and eventually complete evacuation. The second key factor was declining productivity and the value of the agricultural sector. Agriculture, as the main source of income and employment in the village, has a fundamental role in rural life and development. So due to the diminished productivity and value of the agricultural sector in the villages around Zahedan, villagers are forced to migrate to the city in search of employment and higher income. Moreover, since the main occupation of the people in the villages around Zahedan is agriculture, a significant number of the population of these villages have migrated in recent years due to drought and lack of water resources. What has deteriorated the underdevelopment of the villages of Zahedan is lack of job opportunities. The villagers in Sistan and Baluchestan have moved to

Zahedan in the hope of finding jobs, but they have ended up wasting their potentials in improper line of works. In addition, there are more job opportunities in cities than in rural areas. Therefore, the migration is always from the rural areas to the cities. The young generation and people in pursuit of education or employment, usually prefer to live in the cities as villages are deprived of basic facilities. These four factors have fueled rural migration and aggravated informal settlement.

The results of this study are consistent with those reported by [Ebrahimzadeh et al. \(2010\)](#), who investigated the role of rural migration in the informal settlement of Ahvaz metropolis. The findings demonstrated that looking for a job is the main reason for rural-urban migration and the rise of informal settlement in the city of Ahvaz. It is also aligned with the results of [Darvish \(2018\)](#) who explored the role of rural migration in the emergence of informal settlements in the Mir Ashraf neighborhood of Ardabil. The results exhibited that economic factors such as lack of employment and welfare facilities, desire to find high-paying jobs, and urban attractions are primary factors that have contributed to the expansion of informal residential areas of Mirashraf. On the other hand, the findings are at odds with those reported by [Ghanbari et al. \(2014\)](#), who explored the causes of informal settlement formation using the path

analysis model in Shadgholi Khan neighborhood of Qom. They showed that two types of variables are involved in the creation of Shadgholi Khan neighborhood: pre-migration variables such as land ownership at the original residence, emigration reasons, and the previous job, and post-immigration variables, including current job, title deed, reasons for residence, building permit, annual income and the year of immigration.

In this regard, the following suggestions can be made:

- Activating the rural labor force by empowering the natural environment of the villages around the city of Zahedan;

- Supporting and developing agriculture in the villages around Zahedan;
- Establishing strict rules for settlers in informal settlements;
- Fair distribution of facilities without concentration of resources in a place to discourage immigrants who move to the city of Zahedan in order to access more facilities.

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## تحلیلی بر عوامل کلیدی مؤثر بر گسترش مهاجرت‌های روستایی با تأکید بر مسئله اسکان غیررسمی (مطالعه موردی: محله شیرآباد زاهدان)

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### چکیده مبسوط

#### ۱. مقدمه

اسکان غیررسمی تا حد زیادی ریشه در مهاجرت دارد. این مناطق دارای ساختمان‌های ناهمگون، بدون رعایت اصول شهرسازی و فنی، کوچه‌های پرپیچ و هم و باریک، فاضلاب روان در کوچه‌ها می‌باشد. تحمیل ترافیک سنگین به بافت شهر، تراکم و ازدحام جمعیت در سطح شهر، رواج دست‌فروشی و دوره‌گردی و اغذیه‌فروشی غیربهداشتی و ایجاد ناامنی برای ساکنان نیز از دیگر نتایج وجود این اجتماعات است. همچنین اسکان غیررسمی پیامدها و نتایج زیانبار بسیاری نیز مانند تخریب اراضی کشاورزی و باغ‌های پیرامون شهرها، مختل کردن برنامه‌های توسعه شهری، ایجاد مشکل در میراث شهری، تحمیل هزینه‌های بسیار بالا برای سازمان دهی، بهسازی یا پاکسازی محیط‌های نامناسب ایجاد شده را نیز به دنبال خواهد داشت. از این‌رو هدف اصلی از انجام این پژوهش بررسی عوامل کلیدی مؤثر بر مهاجرت‌های روستایی با تأکید بر مسئله اسکان غیررسمی در محله شیرآباد زاهدان بود.

#### ۲. مبانی نظری تحقیق

بیشتر نظریه پردازان در حوزه سکونتگاه‌های غیررسمی پیرامون روند و چرایی تشکیل این سکونتگاه‌ها متمرکز شده‌اند. بنابراین می‌توان گفت اسکان غیررسمی تا حد زیادی ریشه در مهاجرت دارد، تحت تأثیر پارامترهایی همچون فقر اقتصادی، عدم تخصص، نوع

شغل، تعارض فرهنگی، بی‌سوادی، هویت قومی و فرهنگی کنترل نشدنی می‌شود. اکثر ساکنین این مناطق تحت تأثیر متغیرهایی مانند عدم دسترسی به مشاغل اقتصادی شهر همراه با فقر اقتصادی و عدم تخصص مجبور به زندگی در آلونک‌ها و زاغه‌ها می‌شوند. فقر نه تنها موجب می‌شود که به مشاغل کاذب روی آورند، بلکه محیطی برای بروز انواع جرائم نیز فراهم می‌کند. علاوه بر آن، انواع بیماری‌های جسمی و روانی، انحرافات اخلاقی، بیکاری، جنایت، بی‌سواد و ... با نسبتی بسیار شدیدتر از سایر نقاط شهری در آنجا دیده می‌شود.

#### ۳. روش تحقیق

روش این پژوهش توصیفی-تحلیلی و پیمایشی است. در گام اول از پژوهش متغیرهای تحقیق با بهره‌گیری از منابع اسنادی شناسایی شدند. در ادامه متغیرهای پژوهش از دو بعد و براساس دو پرسشنامه مردمی و کارشناسان تحلیل شدند. در این بخش جامعه آماری تحقیق، کلیه سرپرستان خانوار در محله شیرآباد بود. بر اساس جدول کوکران اندازه نمونه برابر با ۳۸۴ نفر برآورد شد، که به خاطر اطمینان از نتایج، تعداد ۴۰۰ پرسشنامه توزیع گردید. در نهایت تعداد ۲۲۹ پرسشنامه کامل و بدون خطا تکمیل شد. روایی ابزار تحقیق در این پژوهش توسط اساتید دانشگاه مورد بررسی قرار گرفت و پس از رفع اشکالات و نواقص مورد تأیید قرار گرفت. برای تعیین سازگاری نیز از آزمون آلفای کرونباخ استفاده شده است.

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### ۵. نتیجه‌گیری

با توجه به اینکه، عمده ساکنان محله شیرآباد در شهر زاهدان، مهاجران روستایی هستند. در تشریح چهار عامل شناسایی شده اینگونه می‌توان بیان داشت که کمبود و نبود شاخص‌های مرتبط با امکانات زیربنایی و عمران روستایی در روستاهای اطراف زاهدان از قبیل برق، تلفن، شبکه خانه‌های بهداشت، فضای آموزشی، راه‌های آسفالت‌ه، شبکه آب آشامیدنی بهداشتی، گازسانی و لیکن در خصوص بهبود وضعیت حوزه اقتصادی از قبیل افزایش درآمد بیمه‌های تامین اجتماعی در یک کلام مسایل اقتصادی اجتماعی و فرهنگی توفیق لازم حاصل نگردیده و به همین دلیل روستاها به شدت در معرض کاهش جمعیت و در نهایت تخلیه کامل می‌باشند. دومین عامل، کاهش بهره‌وری و بی‌ارزش شدن بخش کشاورزی است. کشاورزی به عنوان منبع اصلی تامین درآمد و ایجاد اشتغال در روستا، اهمیت اساسی در حیات و توسعه روستایی دارد لذا با کاهش بهره‌وری و بی‌ارزش شدن بخش کشاورزی در روستاهای اطراف زاهدان روستاییان در جست و جوی درآمد بیشتر به شهر مهاجرت می‌کنند. آنچه که به عنوان دلیل توسعه نیافتگی روستاهای شهر زاهدان شده کمبود فرصت‌های شغلی است. روستائینشینان سیستان و بلوچستان به امید کسب‌وکار راهی شهر زاهدان شده‌اند و ظرفیت آن‌ها در مشاغل کاذب به کار گرفته شده است. علاوه بر این، فرصت‌های شغلی که در شهرها وجود دارد، بهتر از روستاها است. بنابراین همواره مهاجرت از سمت روستاها به شهرها بوده است، نسل جوان و افرادی که به دنبال تحصیل یا اشتغال هستند، همواره زندگی کردن در شهرها را به دلیل داشتن امکانات بهتر، به روستاها ترجیح می‌دهند. عوامل ذکر شده باعث افزایش مهاجرت‌های روستایی و تشدید اسکان غیررسمی می‌شود.

**کلیدواژه‌ها:** مهاجرت، مهاجرت‌های روستایی، اسکان غیررسمی، محله شیرآباد شهر زاهدان.

### تشکر و قدردانی

پژوهش حاضر حامی مالی نداشته و حاصل فعالیت علمی نویسندگان است.

نتیجه‌گیری پایایی انجام گرفته برای سنجش پرسشنامه برابر ۰.۷۸۱ در سطح عالی می‌باشد. اطلاعات گردآوری شده در پرسشنامه با استفاده از روش تحلیل عاملی بررسی و عوامل اصلی شناسایی شدند. با استفاده از روش تحلیل اثرات متقابل، میزان تأثیرگذاری عوامل اولیه بر روی یکدیگر در قالب پرسشنامه کارشناسان ارزیابی شد.

### ۴. یافته‌های تحقیق

در این پژوهش، برای تحلیل عاملی و شناسایی عوامل کلیدی از دیدگاه جامعه محلی، اقدام به تکمیل پرسشنامه در بین خانوارهای محله شیرآباد زاهدان شد. محل سکونت قبلی افراد پاسخ‌دهنده بررسی و نتایج نشان داد که از مجموع ۲۲۰ نفری که در تکمیل پرسشنامه‌ها همکاری کردند، ۱۴۶ نفر از سرپرستان خانوار، محل سکونت قبلی خویش را، روستاهای حومه زاهدان اظهار کردند در نتیجه عمده حاشیه‌نشینان محله شیرآباد در شهر زاهدان، مهاجران روستایی هستند. به منظور شناسایی عوامل موثر بر مهاجرت‌های روستایی در محله شیرآباد ابتدا ۲۶ عامل اولیه انتخاب و با استفاده از روش تحلیل عاملی اکتشافی و تحلیل اثرات متقابل مورد مطالعه قرار گرفت. براساس یافته‌های پژوهش در بخش تحلیل عاملی، ۹ متغیر، کمبود امکانات زیربنایی در روستاها، کمبود خدمات بهداشتی - درمانی، فقر و محرومیت در روستاها از عوامل اصلی در مهاجرت‌های روستایی به سمت سکونتگاه‌های غیر رسمی بودند. تحلیل اثرات متقابل در دو بعد اثرگذاری مستقیم و غیر مستقیم مطالعه شد. عواملی مانند کمبود خدمات آموزشی و تفاوت دستمزد بین شهر و روستا تأثیرات مستقیم و عوامل دیگری همچون خشکسالی و کمبود منابع آب، عدم ارائه تسهیلات و درآمد پایین در روستا، اثرات غیر مستقیم در مسئله پژوهش داشتند. نتایج همپوشانی مدل‌های کاربردی در پژوهش نشان داد که چهار عامل، خشکسالی و کمبود منابع آب، کاهش بهره‌وری و بی‌ارزش شدن بخش کشاورزی، کمبود امکانات زیربنایی در روستاها و تفاوت دستمزد بین شهر و روستا در شکل‌گیری مهاجرت‌های روستایی و تشدید اسکان غیررسمی نقش دارند.



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