In the Name of Allah

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8-3. Introduction: includes necessity of doing the research, unanswered questions about topics of the article and purpose of the research and the method of article for answering them.

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Original Article

Factors affecting the Sustainable Livelihood of Female Household Heads as the Clients of Microcredit Funds in Rural Areas
(Case Study: Rural Areas of Ghaemshahr County, Iran)

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Abstract

Purpose-As the rural unemployment rate has increased and rural dwellers suffer from the shortage of the basic requirements of life due to the lack of livelihood sustainability (SL), it is important to address the significant role of sustainable livelihood in rural areas, particularly regarding female household heads or women with unfit providers. Therefore, the present study aims to examine the factors determining the SL of the women in question who have the membership of rural microcredit funds in Ghaemshahr County.

Design/Methodology/Approach-The data were collected through a census with a sample of the female household heads and the women with unfit providers, who are the clients of 30 microcredit funds in the rural areas of Ghaemshahr County, Mazandaran Province (n=170). The data were collected through a researcher-made questionnaire with 11 categories, including the two main sections of SL evaluation and the significant factors affecting the SL. The validity of the research tool was determined by the expert panels, while the Cronbach's alpha test determined the level of reliability. To analyze the data, the researchers employed $SPSS_{25}$ and Smart PLS_3 to obtain descriptive and inferential statistics.

Findings-The results of the current study indicated that the personality, economic, support/service and cultural factors, respectively, with the path coefficients of 0.361 and 0.344, 0.291 and 0.266 had positive impacts on the SL of the subjects of the study. However, the first two factors had the confidence interval of 99%, while the support/service and cultural factors earned 95% confidence interval. Moreover, the results of the structural equation indicated that the factor of support/service had more impact on the women's level of SL than other factors.

Research limitations- One of the main limitations was the difficulty in identifying and accessing research population and the unbalanced distribution of microcredit funds in Ghaemshahr County.

Practical Implications-There are several strategies affecting the ever-growing SL of female household heads, including government-supported facilities, low-yield financial services with the aim of enhancing fast-growing job opportunities, encouraging creative ideas and activities as well as entrepreneurships in rural areas, certain specialties, professional marketing for rural products and guaranteeing their dealership.

Originality/Value- The results of the present study can help the associated organizations and developers to focus on the accessibility and achievements of the predetermined objectives of the funds and financial services addressing women's activities, women's financial services, especially the ones that create fast-growing job opportunities. Given the current financial problems, the present study aims to improve the women's SL.

Keywords: Female household heads, Microcredit funds, Sustainable livelihood, Ghaemshahr county.

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1. Introduction

Given the drastic changes in "rural development thinking" in the recent decades, sustainable livelihoods (SL) approaches in developing countries have potentially focused on rural poverty reduction (Ellis & Biggs, 2001). According to Sati & Vangchhia (2017), this new approach, which takes account of socioeconomic considerations in a cohesive policy-relevant structure, is defined as enhanced wellbeing, reduced vulnerability, improved food security and more sustainable use of natural resources base in rural areas. On the one hand, the majority of rural dwellers are farmers, agricultural laborers or land-owners. On the other hand, non-agricultural job opportunities in rural areas are limited to part-time and temporary jobs. Moreover, the households and their heads make a living by farming or owning petty businesses (Khatun & Roy, 2012). Undoubtedly, women play a crucial role in creating job opportunities and improving livelihood and the financial situation of rural people (Alikhani, 2015). Given their decisive role in the SL of rural families, it is significant to take a closer look at their own livelihood issues. Accordingly, it seems necessary to identify the factors and methods which can empower them to achieve their livelihood goals.

Women empowerment is a mainstream sustainable development concern, particularly in developing countries; in fact, it is one of the main factors which can guarantee women's well-being and their success in achieving sustainability (Akhter & Cheng, 2020). Microcredit funds play a significant role in the realization of the afore-mentioned goals, and microcredit system is viewed as one of the strategies recently proposed to facilitate the investment process, enhance investment and financial bases in rural areas, and empower rural women to achieve SL (Namjouyan Shirazi, 2015). There are some studies confirming the significant role of microcredit funds in poverty reduction and women empowerment (Deininger & Liu, 2013).

Although the vital role of women in achieving SL has been uncovered, the plethora of obstacles in the path of their contribution has not been removed (Lohani & Aburaida, 2017). Rural women, particularly the household heads or the ones with unfit providers, have a wide range of ignored or belittled skills, and they are more vulnerable than other women in the society. On the other hand, the current economic problems and issues have brought to light the necessity of taking a closer look at their livelihoods. It is necessary that we consider the significance of livelihood in rural families and its related issues. If the factors shaping the livelihood of the women in this study are identified, one can gain a deeper and more realistic insight of their livelihood and then identify the key factors that contribute to the stability of development. Therefore, the present paper aims to analyze the factors shaping the SL of the female household heads or the women with unfit providers who have access to microcredit schemes in the rural areas of Qaemshahr, Mazandaran.

2. Research Theoretical Literature
2. 1. Theoretical Considerations

Nowadays, sustainability is considered as the core of development planning, especially regarding the process of rural development. It is safe to say that the SL approach is one of the most recent ways of thinking about developing rural communities. It would imply that there is a relationship between development and livelihood, considering that both of them can fuel the instability that has an impact on the rich and the poor (Israr et al., 2017). In fact, this approach aims to identify the significant factors that contribute to the livelihood of rural households and the relationship between these factors. Moreover, the emphasis on the necessity of a comprehensive and integrated perspective towards poverty reduction and rural development soon drew the attention of development experts and researchers. In recent years, this approach has been regarded as the best way to investigate the principles of empowering the poor and reducing poverty (Helmor & Sing, 2001). It is one of the most recent analytical approaches towards rural development that help reduce the risks and the vulnerability of livelihood options (Li et al., 2020). To put it more clearly, livelihood approaches are among the initiatives set to eradicate poverty and financial needs and help prevent the vulnerability of households (Carr, 2013). Livelihood is loosely defined as considering the availability and management of assets (Tao & Wall, 2009). SL is a pattern with specific principles and frameworks supposed to guarantee the increase in income and prosperity for local people and the poverty eradication. There is a hope that this approach paves the way for local people and their future

generations to have sustainable job opportunities. There are many frameworks proposed to analyze the SL. One promising framework was first developed by the Department for International Development (DFID) (Shen, 2009). This people-centered framework stresses on the five key elements of the SL approach which are as follows (Allison & Ellis, 2001; Tavakoli et al., 2016; Wang et al., 2015):

1. Assets: Livelihood assets include natural, physical, human, social and financial capitals, which are the basic components of the poor locals' livelihood.

2. Developmental processes and structures: Structures operate as the hardware that encompasses both public and private sectors. Processes, on the other hand, include policies, principles, culture and institutions and play an important role in the formation of assets and outcomes in a livelihood system.

3. Vulnerability: It is one of fundamentals of livelihood, including shocks, critical trends and seasonality; it can have either positive or negative impacts upon livelihood alternatives and assets.

4. Outcomes: They include the achievements or outputs in the process of livelihood evaluation; they are the end product of combining livelihood strategies and assets.

5. Strategies: They consist of the activities that people undertake in order to meet their livelihood needs.

According to the holistic approaches, SL encompasses five main resources, including social, financial, natural, physical and human capitals. In order to achieve rural SL, the significance of social capital needs to be considered because a considerable part of rural livelihood is controlled by social dependence, unity, security and cooperation. This has both direct or indirect impacts on rural livelihood because financial assets are useless in a village with no social capital. Therefore, one of the determinants of advanced rural SL is to provide locals with the social capital (Sojasi Qidari et al., 2016).

Moreover, financial capital refers to the financial resources available for people to earn their livelihood, including income, savings and investments (Veisi & Nikkhah, 2019). As a result, one of the most decisive aspects of rural SL is the availability of financial recourses, which influences the type, extent and nature of rural livelihood. On the other hand, if there is no such capital, local people will lose their livelihood practices, and finally there is an increase in the level of vulnerability and poverty in these areas (Sojasi Qidari et al., 2016). Natural capital refers to the stock of water, land and ecosystems (Heidari Sarban & Abdpour, 2019). Due to the geographical locations of rural areas, they are much closer to the nature. Natural resources are considered to be the core asset of the rural population, and the majority of livelihood and financial activities are directly associated with the environment and the environmental resources (Sojasi Qidari et al., 2016). In addition, roads, tools, and supplied and manufactured goods are termed as the physical capitals (Veisi & Nikkhah, 2019), which also include current housing as well as infrastructural facilities and transportation networks. They can have a direct impact on the development of rural SL (Sojasi Qidari et al., 2016). Regarding the role of the human capital in development theories, many economists agree that the process of socioeconomic development is determined by the human resources of the country, not by its financial resources. The qualitative features of human capital, including training, proficiency, skill, creativity, knowledge and innovation, are generally set as a certain type of capital. In other words, human capital is defined as enhancing the productivity rate of the population in the society (Barimani et al., 2016).

The SL framework generally presents the analytical grounds for identifying the complexity of livelihood based on job and income. Because, on the one hand, a considerable number of locals leave their villages due to the lack of job opportunities in agriculture. On the other hand, the ones who stay in rural areas and the poor farmers start to destroy their environment in order to overcome poverty and meet their short-term needs (Lélé, 1991). However, any damage to the nature can increase poverty because livelihood is directly linked to environmental sustainability (Chambers, 1997).

One of the most influential initiatives aimed at accomplishing developmental goals in rural areas is to identify the livelihood status and the geographical factors associated with livelihood practices, because any unsuitable status can create various concerns in everyday life and hold back all developmental practices and ideas (Barimani et al., 2016). Therefore, it is important to highlight women's vital role and their livelihood challenges.

As sustainability is the key to success, the projects which aim to empower people and enhance their livelihood have more chance to endure than the ones which plan to provide the poor with donations directly. If the latter is the case, the livelihood of the poor depends on donations, and they will lose their income if donors stop sending help. The SL approach can guarantee sustainability because it tends to have a closer look at livelihood-related issues, supports people and community empowerment, and is built on the relationship between people and the state and non-state institutions that actively participate in the development-related practices (Sherbinin et al., 2008).

The phenomena of rural poverty and the current discrimination between rural and urban families have drawn international attention to rural development. Microcredit has proven to be an effective tool for poverty reduction. It achieves the afore-mentioned objective through accumulating small savings of rural people, particularly women, creating job opportunities for them, and increasing their income. As an international approach developed into compiled plans and global patterns, it has vastly achieved some accomplishments in reducing poverty and improving social wellbeing and livelihood status of all people, particularly the rural women with small income. A microcredit fund is a local socioeconomic structure that seeks to realize the developmental objectives in the context of socioeconomic empowerment (Rahmani et al., 2010). Since 1999, Iran's state-run agencies and its private sector, supported by international organizations, have developed rural microcredit programs. Determination and resistance have paved the way for the early growth of these microcredit funds in the rural areas of Iran to address local people's problems, such as livelihood and financial needs.

2. 2. Literature Review

There are a large number of local and foreign studies focusing on different aspects of SL and the main factors that affect people's livelihood. Given the vastness of the field, each of these studies has addressed a specific aspect of SL. Drawn on a field research in Ghana, Pickbourn (2018) has shown that the restriction of women's access to independent sources of income and internal migration, and the inadequacy of land resources have negative effects on the level of women's livelihood and empowerment. Su et al. (2018) studied the relationship between livelihood risks and livelihood capitals in China. They employed an index system of livelihood risks, which comprised five aspects of health, environmental, financial and social information and connectivity risk, to assess livelihood capitals comprising five aspects (human, physical, natural, financial, and social capitals) (Su et al., 2018). The results proved that health and social risks negatively affect the livelihood capitals. Sajid et al. (2018) carried out a research on the socioeconomic constraints affecting rural SL and proved that the improvement of financial status and entrepreneurship would have a significant correlation with rural livelihoods; he also concluded that learning developmental and job-related skills would have an impact on the improvement of livelihood. On the other hand, microcredit services, provided by governmental and non-government organizations, play an important role in SL and rural development. Livelihood interventions to improve the rural well-being include activities such as developing irrigation systems, production performance, gardening, raising poultry and livestock that have a positive and significant correlation with rural livelihood. On the other hand, lack of infrastructure and loss of farmland, low income, illiteracy and the tendency to rely on credits would have negative impacts on rural livelihoods. The results of the study carried out by Ma et al. (2018) in China determined that variables such as the number of employed household members, areas under cultivation, education, health, experience, expertness, housing type, transportation, livestock, social interaction and self-confidence can affect rural livelihood. Adeniyi et al. (2016) focused on the determinants of rural women's livelihood in Ibarapa North Local Government Area, Nigeria. According to their study, these women stated that their main livelihood problems included limited access to financial and supportive services and their lack of knowledge about product storage and marketing. Moreover, they showed that three factors, including education, marital status and husband's income would have a significant correlation with the livelihood of these rural women. Bushra & Wajiha (2015) confirmed that women's field of study, economic participation and having access to bank services and financial opportunities would affect women's empowerment in Pakistan. Rahman & Akter (2014) also found out that some

socioeconomic factors developed by rural households and the situation of rural infrastructures considerably would determine the livelihood strategies employed by these households. Ifeanyi-obi & Matthews-Njoku (2014) as well as Jan et al. (2012) conducted their studies in Nigeria and Pakistan, respectively. They analyzed the effects of some variables, such as gender, marital status, age, years of education, household size, working members of the family, the number of tropical livestock units, working experience and household per capita income, on the livelihood of rural dwellers. According to their results, the most significant socioeconomic factors affecting rural livelihoods include age, years of education and monthly income. Adepoju & Obayelu (2013) carried out a study on the livelihood diversification and welfare of rural households in Nigeria and showed that household size, total household income and primary education of the household heads were the dominant factors influencing livelihood strategies. Moreover, the income earned through farm activities is positively affected by the income from non-farm activities together with the one from a combination of farm and non-farm activities. Their study suggested that non-farm employment can be regarded a suitable strategy for supplementing farmer's income and upholding equitable rural growth. Biggs & Watmough (2012) conducted a community-level assessment of factors affecting livelihood in Nawalparasi District, Nepal. They found out that some of these factors include water-related resources, education, health, roads, climate changes and the natural environment. Sultana & Hasan (2010) found out that there was a significant difference between the female members of microcredit services and the ones who were not members of such services in terms of three indicators of empowerment, namely personal income, savings and asset ownership. Shyamalie & Saini (2010) analyzed the livelihood security of rural women in India and Sri Lanka. According to their results, the most influential factors affecting livelihood of these women include the diversity of women's diet, income, savings, coping strategies, access to health services and drinking water, literacy level, transportation, roads, social participation. Uniyal et al. (2008) concluded that the educational and awareness-raising programs exploring organic farming and alternative activities could result in the empowerment of rural women and their livelihood.

The Iranian researcher, Soroushnia (2016), assessed SL with regard to the environmental, social and economic factors. Moreover, in their study on Karun Country's rural livelihood, Forouzani et al. (2016) revealed that the social capital is regarded as the most significant type of asset owned by rural dwellers while the least significant type is the physical capital. Tavakoli et al. (2016) identified inflexible environmental conditions, agricultural activities and cross-border exchanges as the main factors affecting rural livelihoods. Moreover, the results of their study showed that there was a significant relationship between the livelihood patterns of rural households and the geographical elements, such as slope of land, availability of education and proximity to the borders. Border markets in the county have opened up opportunities for direct and indirect employment (e.g. delivering, storage, etc.); however, the latter is much more common than the former. Barimani et al. (2016) identified the effects of spatial factors, such as location, connectivity, accessibility and remoteness, on rural livelihoods, which, according to them, are not related to the number and size of households and their literacy. Moreover, there is a direct and significant relationship between rural livelihoods and some of the economic factors, including the average income, the employment rate and the average assets. There are two geographical factors, i.e. financial and special factors that affect rural livelihoods. While the financial factors affect them the most, the impact of the special factors is the least and not remarkable.

According to the related studies, women play an important in developing SL. Now the question is what factors affect the SL of rural women. The present study has aimed to analyze the main factors affecting the SL of the female household heads or the ones with unfit providers who receive microcredit services in the rural areas of Ghaemshahr, Iran.

3. Research Methodology
3. 1. Geographical Scope of the Research
The present study focuses on 30 microcredit funds in the rural areas of Ghaemshahr County, Iran. North of the county lies in Juybar where Savadkuh County is to its south, Sari is to its east, and Babol is the city located to the west. It consists of two cities, two districts, 6 rural districts, 156 populated villages and three unpopulated villages (see Figure

1). There are 96 microcredit funds for rural women in Mazandaran Province. They provide financial services to 80 villages with approximately 3762 members. According to the latest statistical data in 2018, 30 of these microcredit funds are located in 23 rural areas of Ghaemshahr County with 1078 members.
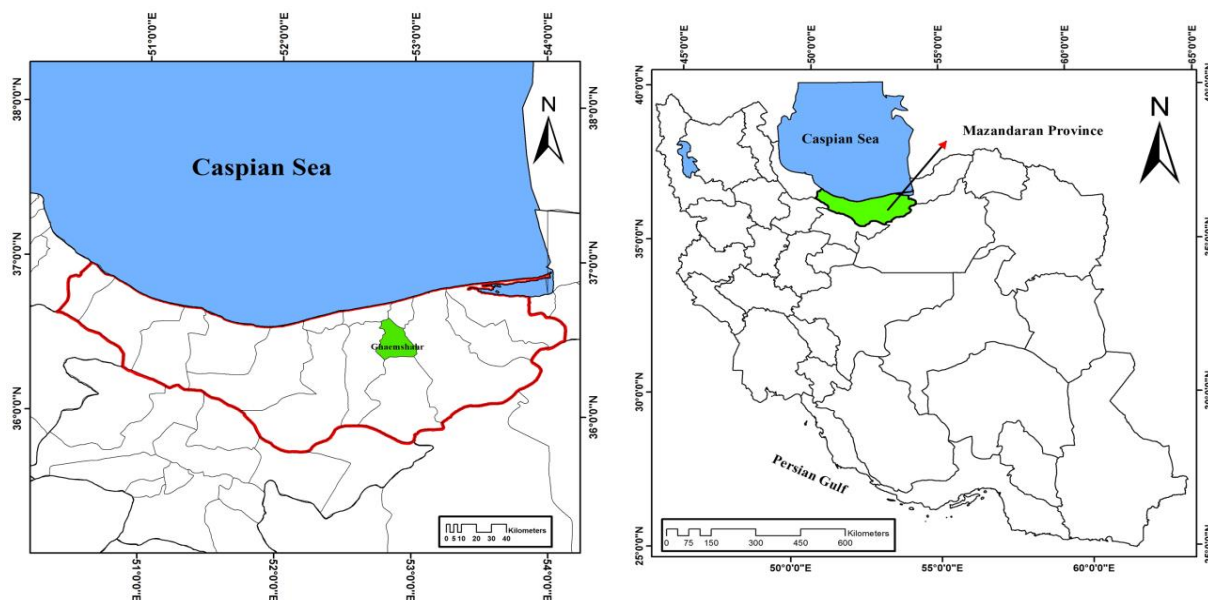
Figure 1. A view of study area
(Source: Authors, 2019)

3.2. Methodology

The present work is a descriptive survey. The research population includes the female household heads and the women with unfit providers who have participated in 30 microcredit funds for the rural women in Ghaemshahr County (N=170). Given the small research population, census was employed in the process of data collection (see Table 1). In the end, 140 questionnaires were collected and analyzed.

Table 1. The Sample Selected from the Research Population
(Source: Authors, 2019)

No.	Name of the Microcredit Fund	Number of Members	Number of Female Household Heads
1	Dehkade-ye-Sabz	48	7
2	Dehkade 1 Malek Kola	40	3
3	Dehkade 2 Malek Kola	45	7
4	Ahangar Kola Bishesar 1	39	13
5	Ahangar Kola Bishesar 2	37	5
6	Bur Kheil-e-Arateh	35	7
7	Najar Kola	49	8
8	Baq Dasht 1	31	5
9	Baq Dasht 2	37	5
10	Diz abad	34	9
11	Abjer	32	9
12	Now kola	30	6
13	Now kola	26	5

No.	Name of the Microcredit Fund	Number of Members	Number of Female Household Heads
14	Saru kola	30	3
15	Zelet	35	4
16	Talar Posht-e-Sofla	50	4
17	Rostam Kola	30	4
18	Shahrud Kola	45	4
19	Shahrud Kola	42	5
20	Eskandar Kola	30	5
21	Taluk	30	6
22	Asiabsar	49	6
23	Vaskas	30	6
24	Haji Kola Golzam	35	9
25	Bala Rostam	54	4
26	Golafshan	25	3
27	Khorma kola	30	5
28	Vaskas 2	24	4
29	Hardorud	30	5
30	Rekabdar Kola	24	4

3.3. Research Variables and Indicators

The tool used in data collection was a researcher-made questionnaire, which was designed based on the precise analysis of the related literature. In order to evaluate the SL index, 20 questions were developed and a five-point Likert scale was used for each item (5 = strongly agree, 4 = agree, 3 = neither agree nor disagree, 2 = disagree, 1 = strongly disagree). In order to identify the main factors affecting rural women's SL, 105 items were developed. The items involved nine indicators, including economic (8 items), social (25 items), personality dimension (12 items), physical or infrastructural dimension (12 items), environmental or touristic dimension (3 items), educational dimension (8 items), support/service dimension (16 items), gender-related dimension (6 items), and cultural indicators (6 items). A five-point Likert scale was used for each item (5 = strongly agree, 4 = agree, 3 = neither agree nor disagree, 2 = disagree, 1 = strongly disagree). The validity of the research tool was determined by the expert panels, while the Cronbach's alpha test confirmed its reliability (see Table 3).

Table 2. Research Indicators and Variables
(Source: Authors, 2019)

Type of Variable	Indicator	Items
Dependent	Sustainable Livelihood	Providing resources for all household members based on the occupation, adequacy of income for making a living and addressing basic needs, observing the diversification of agricultural products, cooperating with financial institutes and banks, access to healthy nutrition, enhancing welfare, health of the household members, access to healthcare centers, qualification of household members to create or have job opportunities, long-term job stability, the stability in providing financially for the family, creating investment and job opportunities, access to water resources, provision of welfare services, farmland income, marketing and selling products, housing, access to communication facilities.
Independent	Economic	long-term job stability, the possibility of getting loans from microcredit funds, access to financial and credit facilities, job opportunities in rural areas, the number of livestock units, the farmland size, total household income, total saving
	Social	Relationship with other members of the fund, farmer promoters, experts and other entities, confidentiality with the other members and entities, interest in cooperative activities, family relations, the level of social divisions, social security in rural areas, ethnic conflicts, cooperation in rural projects, charities, educational programs, communication with those outside rural areas, social integrity between members of the fund, participation in rural gatherings.

Type of Variable	Indicator	Items
	Personality	Motivation for development, tendency to stay in rural areas, job-related abilities, self-confidence, innovation and creativity, personal interests, responsibility, risk-taking, motivation for production.
	Physical	Access to the market, transportation facilities, mechanization of farmlands, access to welfare services, internet, information technology and sources of energy, type of housing, place of living, types of accessibility and easy access to other villages and cities
	Natural	Access to wooded areas and meadows, attractiveness of rural areas, diversity of plants
	Educational	Familiarity with microcredit activities, access to learning services, employing modern agricultural methods and technologies, Trainings for using social media, participation in job-creating workshops, Trainings for professional, developmental and occupational skills, the number of participations in training programs.
	Support/Services	Benefit from the family support, Provision of government support, cooperating with banks and financial institutions, creating job opportunities for locals, following the requests on time, government's efforts to develop rural activities, cooperation of family members in creating new job opportunities, supporting microcredit funds for rural women who want to start their own businesses, easy access to agricultural institutions.
	Gender-related	Women's role and share in rural and agricultural activities, the status of women as active economic workforce, appropriate attitude towards women as household heads, social and cultural beliefs about women, their access to certain social services and welfare facilities.
	Cultural	Believing in the status and role of production in rural areas, urbanization of lifestyle, cultural exchanges with other cities and villages, ethnic diversity in rural areas, access to the media (radio and TV) and journalistic texts (newspapers and magazines).
	Occupational	Type of membership, membership experience, primary job, having a second job, farming experience
	Personal	Age, education, the number of educated household members, the number of dependents, the number of working household members.

Table 3. The Cronbach Alpha Coefficient of the Indicators
(Source: Research findings, 2019)

Indicators	Dimension	Number of items	Value of Cronbach Alpha Coefficient
SL	-	20	0.948
Factors affecting SL	Economic	8	0.768
	Social	25	0.957
	Personality	12	0.930
	Physical	12	0.912
	Natural	3	0.841
	Educational	8	0.919
	Support/Services	15	0.822
	Gender-related	6	0.742
	Cultural	6	0.947
	Occupational	5	0.859
	Personal	5	0.947

After the data was collected and organized, the researchers employed $SPSS_{25}$ to obtain the descriptive and inferential statistics and a structural equation model was then constructed using Smart PLS_3.

As the method of structural equation modeling offers some tools for analyzing the correlations between different variables, it allows researchers to report the data analyses with regard to the possible uncertainties, and they can employ this method to examine the complex relations between observed and latent variables (i.e. dependent and independent variables) and the ones between latent variables. There are several reasons that encourage researchers to use PLS software, including lack of sensitivity to normality of the data and less

dependence to measuring scales. Given the primacy of this software over other methods, such as regression analysis and the first generation of structural equation models, the advantages mentioned above, such as adequate predictability, and considering the specific features of the present study, including the complexity of the model (i.e. the large number of constructs and manifest indicators), lack of limited access to qualitative and quantitative variables and the use of non-normal data, the PLS method was used in the present study. The researcher evaluated the technical features (validity and reliability) of the research tool (the questionnaire) in order to confirm the authenticity of the results. The analysis of the face and content validity of the research tool with the aim of examining the topic similarity of the items and the quality of their content was carried out through analyzing the questionnaires by experts. In order to test the validity of the measurement model, they employed the convergent and discriminant validity. To test the convergent validity, the coefficient of construct indicators with each specific construct was assessed. The convergent validity consists of average variance extracted (AVE) for each construct (with the minimum value of 0.5) (Lin & Lee, 2017). In order to analyze the discriminant validity, the researchers used the Fornell-Larcker criterion, which determines the correlation between each construct with its indicators. Therefore, acceptable discriminant validity implies that each construct has more interactions with its indicators than other constructs (Davari & Rezazadeh, 2013). Moreover, Fornell & Larcker (1981) argue that discriminant validity is acceptable when the AVE value for each construct is more than the variance shared between the construct and other constructs, i.e. the square of correlation coefficient value of the constructs. In other words, the AVE value of each latent variable must be more than the maximum square coefficient of the variable and other latent variables. In order to determine the reliability of the study, factor loading indicators and composite reliability (CR) were used. If the factor loading value is 0.5 or more, the variance between the construct and its indicators is more than the variance of uncertainties and the reliability is confirmed. If the factor loading value is less than 0.5, the questions (indicators) need to be deleted or removed from the model. Regarding the CR, the constructs with the reliability value above 0.6 have a satisfactory level of reliability, and the closer the values are to each other, the more reliable the results are (as cited in Alikhani & Rostami, 2016). Research structural pattern test in PLS method is feasible by examining the path coefficients (Beta) and R^2 values (Chin, 1988). According to this method, the path variances are used to determine the share of each predictor variable (Amani et al., 2012).

4. Research Findings

According to the results, the average age of the participants was 44/70. The oldest subject was 68 and the youngest one was 25. The results showed that 19.3% of the participants had initial reading literacy (primary school), and 7.9 of them were the postgraduates. Furthermore, 67.9% of them were either illiterate or high school graduates or dropouts. This implies that the largest number of household members was 5, and the average number of educated members in each raged from 1 to 4. On the other hand, the most experienced subjects worked for five years, while the least experienced ones used the microcredit funds. In terms of their income, more than half of the households would earn between 500,000 Ts and 5,500,000 Ts.

To prove the authenticity of the results, the technical features of the research tool (reliability and validity) were evaluated before the correlations were assessed and analyzed. In order to determine the reliability of the study, the researchers made use of factor loading indicators and CR, while they employed the convergent and discriminant validity to test the validity of the measurement model. With regard to the reliability, the factor loading of each item was gained. If the loading factor value was 0.5 or more, the reliability level was satisfactory. The results from Table 4 show that the variables less than 0.5 are removed in the following steps.

Table 4. Factor Loading Values of the Observed Variables
(Source: Research findings, 2019)

Factor	Item	Factor Loading
Economic	Long-term job stability	0.718
	The possibility of getting loans from microcredit funds	0.730
	Access to financial and credit facilities	0.776
	Job opportunities in rural areas	0.786
	Number of livestock units	-0.181
	Farmland size	0.162
	Total household income,	0.140
	Total saving (in cash)	0.182
Social	Relationship with other members of the fund	0.691
	Relationship and rapport with others	0.721
	Relationship with farmer promoters and experts	0.829
	Cooperation with other members of the fund	0.783
	Reliability and confidentiality among members	0.734
	Relying on the organizations and institutions	0.708
	Satisfaction level with the fund's services	0.641
	Interest in cooperative activities in rural areas	0.731
	Interest in sharing experiences with rural dwellers	0.765
	Cooperation with rural dwellers	0.757
	Family connections in rural areas	0.735
	Low rate of social divisions in rural areas	0.598
	Low crime rate	0.556
	Low rate of ethnic conflicts	0.469
	Participating humanitarian activities in rural areas	0.695
	Participating in rural planning and decision-making processes	0.644
	Participating in rural charities	0.757
	Participating in educational activities in rural areas	0.736
	Connection with the people outside the village	0.713
	Willingness to help others financially	0.758
	Level of participation in cooperative activities with other rural dwellers	0.741
	Participation in the activities of the fund	0.713
	Cooperation with the aim of sharing knowledge, skills and experiences	0.767
	Social integrity	0.661
	Membership in rural institutions	-0.139
Personality	Motivation for development.	0.711
	Tendency to stay in rural areas	0.719
	Job-related abilities	0.831
	Ability to make rapport with others	0.838
	Level of self-confidence	0.822
	Level of innovation and creativity	0.769
	Level of personal motivation and interest	0.755
	Level of courage in decision-making and taking responsibilities	0.746
	Level of risk-taking	0.583
	Sense of responsibility in women	0.736
	Motivation for production	0.725
	Tendency to cooperate with other funds	0.734
Physical/Infra structure	Access to the market	0.836
	Access to transportation facilities	0.881
	Mechanization of farmlands	0.785
	Access to welfare services,	0.745
	Access to internet and information technology	0.684

Factor	Item	Factor Loading
	Availability of agricultural machinery	0.828
	Recreation facilities in rural areas	0.741
	Access to energy sources	0.783
	Access to urban areas	-0.007
	Place of living	0.212
	Type of house	0.315
	Roads and easy access to other cities and villages	0.363
Natural/Tourism	Access to hills and wooded areas	0.859
	Beauty and attractiveness of the rural areas	0.871
	Diversity of plants (trees, shrubs, bushes and greens)	0.883
Educational	Familiarity with microcredit activities	0.762
	Access to learning services	0.818
	Employing modern agricultural methods and technologies	0.832
	Trainings for using social media	0.860
	Level of education regarding financial activities	0.842
	Participation in job-creating workshops (skill-oriented and practical)	0.818
	Trainings for professional, developmental and occupational skills	0.801
	The number of participations in training programs.	-0.006
Support/Service	Benefit from the family support	0.492
	Provision of government support	0.774
	Cooperating with banks and financial institutions	0.727
	Creating job opportunities for locals	0.727
	Benefit from state and private organizations	0.799
	Raising awareness on potentials of the funds	0.759
	Responsibility of the organizational experts	0.777
	Following the requests on time	0.820
	Government's efforts to develop rural activities	0.797
	Correlation between rural authorities and dwellers	0.705
	Cooperation of family members in creating new job opportunities	0.588
	Support of microcredit funds for rural women who want to start their own businesses	0.713
	The process of decision-making and considering dwellers' demands in making political decisions	0.816
	Balanced access to services and facilities (observing justice and equal rights in sharing benefits)	0.781
	Easy access to agricultural institutions	0.724
Gender-related	Women's role and share in rural and agricultural activities	0.782
	Status of women as active economic workforce	0.811
	Appropriate attitude towards women as household heads	0.867
	Social beliefs on women's status in their family	0.771
	Social and cultural beliefs about women	0.387
	Women's access to certain social services and welfare facilities.	0.564
Cultural	Believing in the status and role of production in rural areas	0.623
	Urbanization of lifestyle	0.311
	Cultural and traditional activities	0.836
	Cultural exchanges with other cities and villages	0.774
	Ethnic diversity in rural areas	0.671
	Access to the media (radio and TV) and journalistic texts (newspapers and magazines).	0.578
Personal	Age	0.170
	Education	0.190
	Number of educated household members	0.949
	Number of dependents	0.947
	Number of working household member	0.191

Factor	Item	Factor Loading
Professional	Type of membership in a microcredit fund	0.794
	Membership experience	0.442
	Primary job	-0.083
	Having a second job	0.399
	Farming experience	-0.046
SL	How hopeful are you about a pay raise in the following years?	0.697
	How much does your job help you provide for your family?	0.720
	How much does your current income help you provide for your family?	0.758
	How often do you follow the product diversification plan?	0.714
	To what extent do the customer services of banks and financial institutes help you improve your livelihood?	0.698
	How much access do you have to healthy foods?	0.627
	How much does your current income enable you to provide basic needs?	0.703
	During the last few years, how often have you felt that there is a positive change in your life?	0.721
	How healthy are your household members?	0.652
	How far are healthcare centers from your place of living?	0.668
	How skillful are you and your family members in entrepreneurship activities?	0.622
	How stable has your job been so far?	0.775
	To what extent have you been able to maintain your living throughout these years?	0.832
	To what extent can you start a new business by means of your savings?	0.694
	How much access do you have to water resources?	0.724
	How valuable are your livelihood? facilities	0.764
	To what extend can you live on farmlands?	0.726

To determine the reliability of the research tool, the researchers employed two criteria of CR. As shown in Table 5, the CR value which is above 0.7, indicates a satisfactory level of reliability (Hulland, 1999). Moreover, the analysis of convergent validity was carried out based on the criterion of AVE (Aliabadi et al., 2018). It shows the average variance shared by each dimension of the construct and the items related to it. The satisfactory AVE value is above 0.4 (Khayatan & Mobaraki, 2014).

Table 5. Reliability and Validity of the Research factors
(Source: Research findings, 2019)

Factor	CR Value	AVE Value
Economic	0.851	0.588
Social	0.960	0.515
Personality	0.939	0.563
Physical	0.929	0.621
Natural	0.904	0.759
Educational	0.935	0.672
Support/service	0.948	0.568
Gender-related	0.878	0.595
Cultural	0.830	0.501
Personal	0.974	0.950
Professional	1.00	1.00
SL	0.953	0.503

As mentioned above, discriminant validity is a complementary concept of validity, showing that the indicators are only reflective of their focal constructs. The researcher used Fornell-Larcker criterion in order to test the afore-mentioned type of validity. As represented in Table 6, the square

root AVE values of the latent variables placed in the main diagonal of the matrix are larger than the coefficient values of the elements in the bottom right corner of the main diagonal. In the present study we can thus claim that the constructs (latent variables) interact with their indicators rather than with other constructs. To state it more clearly, the discriminant reliability of the model is acceptable.

Table 6. Coefficient Correlation of Latent Variables and the Square Root of AVE
(Source: Research findings, 2019)

Factors	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Economic (1)	0.767											
Social (2)	0.219	0.684										
Personality (3)	0.109	0.661	0.750									
Physical (4)	0.315	0.504	0.265	0.788								
Natural (5)	0.066	0.442	0.382	0.647	0.871							
Educational (6)	0.229	0.684	0.564	0.673	0.579	0.820						
Support/Service (7)	0.421	0.636	0.320	0.596	0.534	0.636	0.754					
Gender-related (8)	0.340	0.484	0.154	0.564	0.454	0.394	0.508	0.771				
Cultural (9)	0.453	0.614	0.358	0.554	0.449	0.470	0.606	0.685	0.707			
Personal (10)	-0.135	-0.118	0.030	-0.160	-0.341	-0.128	-0.300	-0.219	-0.201	0.975		
Professional (11)	0.086	0.209	0.159	0.262	0.323	0.189	0.160	0.272	0.260	0.368	1.00	
SL (12)	0.570	0.436	0.314	0.490	0.360	0.406	0.605	0.552	0.656	0.251	0.213	0.709

After the model-fit analysis in PLS was carried out, the researcher started testing the research hypotheses, which were based on the analysis of the factors affecting the rural SL. The structural pattern and the interpretation of the results were incorporated by examining the significance of the path coefficients and the standardized coefficient (Beta). The significant path coefficient in a model showed whether the impacts of the factors were significant or not. The standardized coefficient value also indicates the share of each factor in explaining the SL variance.

The results represented in Table 7 determine that personality and economic factors with the coefficient values of 0.361 and 0.344, respectively, have positive impacts on these women's SL (99% confidence interval). Moreover, it was determined that support/service and cultural factors with the coefficient values of 0.291 and 0.266, respectively, have positive and significant impacts on these women's SL (95% confidence interval). According to the results, social, physical, natural, educational, gender-related, personal and professional factors did not have significant impacts on these women's SL (see Figure 2). The results determined that the final model of the factors would have impacts on the SL of the female household heads and the women with unfit providers who are members of rural microcredit funds based on the significant factors presented in Figure 3.

Table 7. T Values and the Significance Levels of Research Factors
(Source: Research findings, 2019)

Factor	Dependent Variable	Path Coefficient	T Values	Significance Level
Economic		0.361	3.326	0.001
Social		-0.193	1.766	0.076
Personality		0.344	2.706	0.007
Physical		0.107	1.009	0.313
Natural		-0.072	0.882	0.378
Educational	SL	-0.081	0.808	0.420
Support/service		0.291	2.197	0.028
Gender-related		0.173	1.858	0.064
Cultural		0.266	2.143	0.033
Personal		-0.082	1.104	0.270
Professional		0.010	0.133	0.894
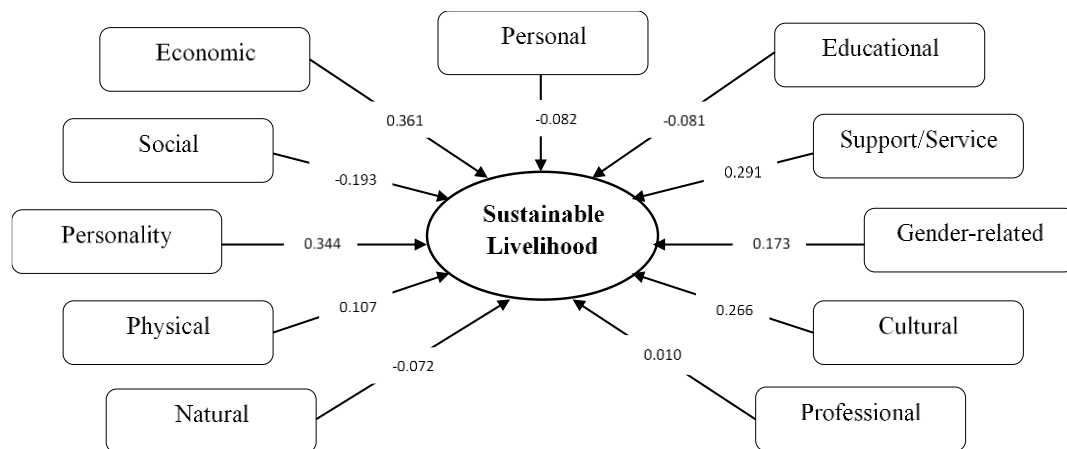
Figure 2. Structural Equation Modeling to Analyze the Impact of Research Factors on Women's Livelihoods.
(Source: Research findings, 2019)
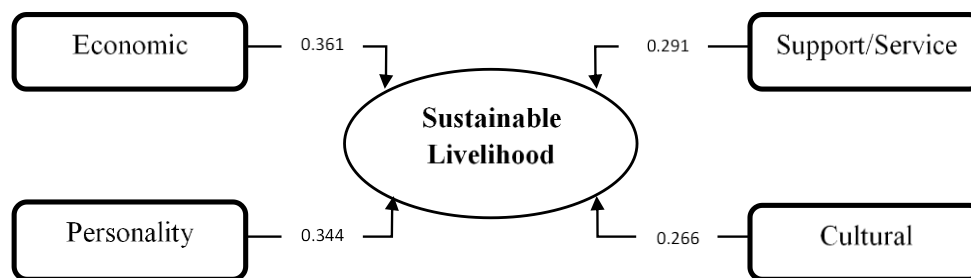
Figure 3. The Final Model: Factors Affecting the Sustainable Livelihood of Female Household Heads
(Source: Research findings, 2019)

The quality of the structural model was analyzed by Stone-Geisser's Q2 criterion. In fact, the three values of 0.02, 0.15 and 0.35, respectively, indicate the weak, moderate and strong predictive power of the model with regard to the endogenous constructs. In other words, the factors in question evaluate the model's power to predict the observed variables based on the value of their corresponding latent variable. The results of the quality assessment of the measurement model illustrated in Table 8 indicate that these factor evaluate the predictive power of the

observed variables based on the value of their corresponding latent variables. According to the results, the value of SSO indicates the sum of squares of observations for each hidden block, and SSE is the sum of squared estimate of errors for each block of latent variables. Moreover, SSE/SSO is the cross-validated communality (CV-Com). A positive check index of the CV-Com of the latent variables indicates a suitable and acceptable quality of the measurement model. The obtained values confirmed the quality of the model.

Table 8. CV-Com of the Latent Variables in the Structural Model of Sustainable Livelihood of Female Household Heads
(Source: Research findings, 2019)

Factor	SSO	SSE	Q^2 (1-SSE/SSO)
Economic	560	406/546	0.274
Social	3220	2105/212	0.346
Personality	1680	1038/276	0.382
Physical	1120	675/671	0.397
Natural	420	266/121	0.366
Educational	980	549/865	0.439
Support/service	1960	1228/652	0.373

Factor	SSO	SSE	Q^2 (1-SSE/SSO)
Gender-related	700	453/890	0.352
Cultural	700	531/280	0.241
Personal	280	107/628	0.616
Professional	140	-	1.000

5. Discussion and Conclusion

Rural areas play an important role in the majority of the developing countries and enhance their economic growth by creating and offering job opportunities and providing food and raw materials for others; however, the dwellers of these areas face many obstacles in providing for their families (Adeniyi et al., 2016). One of the effective strategies that help people cope with the current crisis in the employment market and the rural development issues is to use the maximum capacity of the rural dwellers, particularly women, to create new jobs and income opportunities in the form of developing funds and financial institutes. Therefore, there are several challenges and factors that can influence their SL, which cannot be overlooked (Tologbonse et al, 2013). Given the potentials of women in rural economics and the level of household SL, their petty businesses can face many obstacles and challenges, which sometimes turns their businesses into failure. That is why microcredit services for women in rural area have aimed to empower them by providing them with financial support, easy access to financial resources and entrepreneurship. The present study has aimed to examine the factors that determine the SL of the afore-mentioned women who have the membership of rural microcredit funds in Ghaemshahr County.

The analysis of the linear relationship between latent and observed variables, which was based on structural equation modeling, indicated that the economic factor has a significant and positive impact on the SL of the women in rural areas (99% confidence interval). To state it more clearly, creating any new job needs individual or organization that can provide them with low-yield facilities. Therefore, it is safe to say that the more investment there is, the higher the SL will be. The present results correspond to the results obtained by Sajid et al. (2018). It also revealed that the factor of personality has a significant positive impact on SL of these women. Ma et al. (2018) confirmed the above result and believe that some personality factors can influence the SL of rural dwellers and their empowerment. In other words, high versatility

(Sarafi & Shamsai, 2014), creativity, self-confidence and motivation, risk-taking and responsibilities can pave the way for locals to create new job opportunities and sources of income so that any rise in economic empowerment of women can increase the level of SL (Ahmadpour et al., 2014; Ma et al., 2018; Nourozi & Hayati, 2015). Furthermore, it was determined that support/service and cultural factors have positive and significant impacts on women's SL (95% confidence interval). With regard to the evaluation of the findings, Sajid et al, (2018) considered the significance of supportive interventions with the aim of making improvements in the SL of rural dwellers. Kabir et al (2012) considered the shortage of institutional support as one of the main constraints of SL. Therefore, ethnic and local interactions with other locals and the possible access to several networks outside rural areas can pave the way to implement livelihood ideas and initiatives.

According to the results regarding the main factors of SL in rural areas, a number of suggestions were put forth in order to enhance the SL of the investigated group of women. These suggestions are as follows:

a) The results determine the significant and positive effect of the economic factor on the SL of the investigated group of women. Therefore, low-yield facilities and financial services can create job opportunities for them, and its persistence can develop job stability in the area which leads to rural development.

b) The results determine the positive and significant effect of personality factor on SL of the female household heads who have participated in rural microcredit funds. Given the abilities and skills of an individual and their creativity, it is suggested that the government starts supporting these women so that they are confident, motivated and willing to stay in rural areas.

c) According to the results, the factor of support/service has a positive and significant effect on the SL of the female household heads who have participated in rural microcredit funds. Therefore, as long as the triangle of support (i.e., man, family and government) is incomplete, it is

unlikely to attain livelihood sustainability. The suggestion here is that the government enforces tax exemption in entrepreneurship, offers facilities, guarantees to purchase rural product, eases marketing, especially e-marketing and facilitating interaction with foreign customers. On the other hand, one's family can divide tasks and develop a sense of responsibility. They can support the individual to seize the opportunities and benefit from his own abilities.

d) The results determine the positive and significant effect of cultural factor on the SL of the female household heads who have participated in rural microcredit funds. There are some suggestions,

such as producing suitable TV programs and developing magazines issued quarterly or monthly in order to introduce top entrepreneurs and different aspects of entrepreneurship. Moreover, ethnic, cultural and traditional diversities in rural areas can turn into great tourist attractions that enhance locals' empowerment and their livelihood.

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Research Article

عوامل مؤثر بر معیشت پایدار زنان سرپرست خانوار روستایی عضو صندوق‌های اعتبارات خرد (مطالعه موردی مناطق روستایی شهرستان قائمشهر)

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چکیده مبسوط

۱. مقدمه

افزایش نرخ بیکاری در بین جوامع روستایی و عدم توانایی برآورده ساختن نیازهای اولیه زندگی ، جایگاه معیشت پایدار در زندگی خانوار روستایی را آشکار می‌سازد. در این راستا، علی‌رغم نقش بی بدیل زنان در زمینه بهبود وضعیت اقتصادی و معیشت پایدار خانوار، مشارکت آن‌ها با محدودیت‌های زیادی مواجه است. وجود شرایط و مشکلات ویژه اقتصادی کنونی، اهمیت توجه و تمرکز بر مسئله معیشت را برای این قشر از زنان بویژه زنان بی سرپرست و بدسرپرست روستایی، ضروری می نماید. در این راستا از طریق شناخت عوامل تأثیرگذار بر معیشت آنان می‌توان به درک عمیق‌تر و واقع گرایانه‌تری از وضعیت معیشتی آنان و عوامل بهبود دهنده آن دست یافت. لذا تحقیق حاضر با هدف بررسی عوامل مؤثر بر پایداری معیشت زنان روستایی سرپرست و یا بدسرپرست خانوار عضو صندوق‌های اعتبارات خرد روستایی در شهرستان قائمشهر استان مازندران صورت گرفته است.

۲. مبانی نظری تحقیق

رویکرد معیشت پایدار از جدیدترین رویکردها، در زمینه توسعه جوامع روستایی می‌باشد. این بدان معناست که توسعه و معیشت با یکدیگر در هم پیوسته‌اند زیرا هر دو وضعیت معیشت فقیر و ثروتمند را برای زندگی در معرض خطر قرار می‌دهند. این رهیافت بر تفکری جامع و منسجم درباره کاهش فقر و توسعه روستایی تأکید نموده و بعنوان بهترین روش برای پرداختن به مسائل فقرا و توانمندسازی آنها بوده است. این رهیافت یکی از رویکردهای تحلیلی جدید در

زمینه توسعه روستایی است که به محدود شدن خطرات کاهش آسیب‌پذیری در امر معیشت کمک می‌کند. بر اساس رویکردهای جامع نگر، معیشت پایدار، دارای پنج سرمایهٔ اصلی شامل سرمایه اجتماعی، مالی، طبیعی، فیزیکی و انسانی است. رویکردهای معیشتی، از جمله اقداماتی است که سعی دارد مشکل فقر و نیازهای مادی مردم را برطرف نماید و همچنین می‌تواند نقشی کلیدی در جلوگیری از آسیب‌پذیری خانوارها بردارد. از مهم‌ترین و تأثیرگذارترین بسترهای پیشبرد اهداف توسعه در نواحی روستایی، شناخت وضعیت معیشتی و عوامل مؤثر بر معیشت است؛ زیرا وضعیت نامطلوب معیشتی ممکن است با خلق انواع متعدد دغدغه‌ها در زندگی روزمره، به اشکال مختلف مانع ظهور انگیزه‌ها و اقدامات توسعه‌ای گردد.

۳. روش شناسی

تحقیق حاضر از نوع توصیفی پیمایشی بوده است. جامعه آماری تحقیق را ۱۷۰ نفر از زنان سرپرست و یا بدسرپرست خانوار در ۳۰ صندوق اعتباری خرد زنان روستایی در شهرستان قائمشهر استان مازندران تشکیل داده بود که مورد سرشماری قرار گرفتند. جمع‌آوری اطلاعات با استفاده از پرسشنامهٔ محقق ساخته‌ای بود که از دو بخش اصلی ارزیابی معیشت پایدار و عوامل تأثیرگذار بر آن در ۱۱ بعد تشکیل شده است. روایی ابزار سنجش با استفاده از نظرات اساتید دانشگاه و کارشناسان خبره و پایایی آن از طریق محاسبهٔ ضریب آلفای کرونباخ مورد ارزیابی قرار گرفت. به منظور تجزیه و تحلیل داده‌ها در دو بخش آمار توصیفی و استنباطی از دو نرم‌افزار SPSS23 و Smart PLS 3 استفاده گردید.

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۴. یافته های تحقیق

با توجه به نتایج به دســت آمده از تحقیق، دو مؤلفۀ اقتصـــادی و شـخصـیتی با ضـرایب مسـیر ۰/۳۶۱ و ۰/۳۴۴ در سـطح ۹۹ درصـد اطمینان و مؤلفۀ های حمایتی- خدماتی و فرهنگی با ضرایب مسیر ۰/۲۹۱ و ۰/۲۶۶ در ســطح ۹۵ درصــد اطمینان تأثیر مثبت و معنا داری بر روی معیشــت پایدار زنان عضــو صــندوق‌های اعتباری خرد روستایی داشته است. بر اساس نتایج حاصله، مؤلفه اقتصادی نسبت به ســایر مؤلفه‌ها، بیشــترین تأثیر را در میزان معیشــت پایدار زنان داشته است.

۵. نتیجه‌گیری

بر اســاس یافته های تحقیق، مؤلفۀ اقتصـادی بیشــترین تأثیر را بر معیشت پایدار زنان سرپرست خانوار عضو صندوق‌های اعتباری خرد روســتایی داشــته اســت. در این راســتا می‌توان با ایجاد زمینۀ ارائه تسهیلات و اعتبارات مالی کم‌بهره، فرصت‌های شغلی مناسبی برای این قشـــر از جامعه به وجود آورد، چرا که روند رو به رشـــد این امر ثبات شـغلی را در منطقه ایجاد خواهد کرد و توسـعه روسـتایی را به دنبال خواهد داشـت. از طرف دیگر، با توجه به اهمیت و تاثیر مولفه

شـخصـیتی (مانند توانایی‌ها و مهارت‌های فردی ، قابلیت ارائه ایده و نوآوری توسط اقراد و ...) ضروری است تا دولت حمایت های لازم در زمینه آموزش های مورد نیاز این قشـــر اقدامات لازم انجام دهد تا از این طریق، ضـــمن بالا بردن اعتماد و انگیزۀ کســـب و کار در آن‌ها، تمایل به ماندگاری در روستاها افزایش یابد. علاوه بر این، در راستای اقدامات حمایتی و خدماتی، دولت می تواند علاوه بر ارائه تسهیلات، برنامه های حمایتی دیگری چون ،حذف مالیات از کســـب و کار، تضـمین خرید محصـولات تولیدی توسـط زنان روسـتایی و ایجاد فضــای مناســب بازاریابی را مد نظر قرار داده و حمایت لازم را در جهت ایجاد درآمد مناسـب و بسـتر سـازی معیشـت پایدار برای این اقشار فراهم کند.

کلیدواژه‌ها: زنان سرپرست خانوار، صندوق اعتبارات خرد، معیشت پایدار، شعهرستان قائمشهر.

Original Article

Analysis of the Barriers to Equipping Agricultural Lands with the New Irrigation Technologies
(Case study: Shahrabaad Rural District of Bardaskan County, Iran)

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Abstract

Purpose- Due to its special geographical location in the arid and semi-arid climate belt of the world, Iran suffers from water scarcity and limited usable water resources, notably considering the population growth and increasing demand for water and food. High water consumption in agriculture as one of the main waters use sectors is estimated as 90% of total water, thereby necessitating consideration of water conservation methods. However, there are a number of barriers to use the current water conservation practices. Thus, the present study aimed to investigate the barriers to equipping agricultural lands with the new irrigation technologies in Shahrabaad rural district, Bardaskan city.

Design/methodology/approach-This is an applied study in terms of purpose and descriptive-analytical in terms of method, carried out using the random sampling method. The sample size was 338 households in the research area which was determined using Cochran's formula. Data were collected based on field and library studies. The validity of the questionnaire was confirmed by university professors and experts. The reliability coefficient of the questionnaire was 0.78 using Cronbach's alpha coefficient. Moreover, the TOPSIS fuzzy model was used to rank the villages in terms of the effect of barriers to using the new irrigation technologies, and SPSS software was used for analyzing the research questions.

Findings: The study showed that the economic dimension was the most important barriers to using the new irrigation technologies. In addition, low-socioeconomic status of the farmers and small loans are the most prominent barriers to equipping agricultural lands with the new irrigation technologies in the research rural district.

Research limitations/implications-Unavailability of statistical information when referring to the Agricultural Jihad and the Governor's Office, and completing the questionnaire, depending on the subject at the village level, is one of the main challenges of the present study.

Practical implications-Given the specific research findings, it is necessary for agriculture and water policy-makers take serious measures concerning the incentive (low-interest and long-term loans, micro-land integration and the like) and punitive (imposing restrictions on traditional land users and stipulating other supports to change the irrigation method) instruments, because otherwise water restriction and the consequences of water scarcity will be challenging in many areas and even may lead to a serious crisis.

Originality / Value: This study is prima facie significant in terms of statement of the reasons for the barriers to equipping agricultural lands with the new irrigation technologies from the users' perspective and then, in terms of a more detailed analysis of the research findings to change the implementation of traditional irrigation methods.

Keywords: Irrigation Systems, Land Equipment, Barriers, Water Scarcity, Shahrabaad Rural District

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1. Introduction

The greatest ancient civilizations of the world, including early advanced agricultural civilizations flourished in arid and semi-arid regions; however, the lack of sufficient available water resources to meet the demands within these regions led to the human migration for finding a habitat with reliable water resources. Considering the main role of agriculture in economic development of societies and human dependence on water, for many religions, customs and beliefs, water plays a leading role in rituals and practices, even as a sacred element (Baghani et al., 2011). With the start of industrial revolution and the reduction of the economy's dependence on water resources, as well as the extraction of water resources using the new technologies, water lost its first place; however, the rapid population growth and food crisis led to increased water consumption, notably in agriculture sector as the largest water consumer (Masoumi Jashni et al., 2016). This has led to a crisis in many parts of the world, especially in Iran, whose agriculture is dependent on groundwater resources, and led to the resource crisis as well as challenging the principle of agricultural sustainability (Nowruzi & Chizari, 2006). It is well-known that the planet undergoes a more critical ecological period compared to thousands years ago. The incompatibility between the needs of modern man with the earth facilities and resources is one of the basic challenges of modern human and one of the main research concerns. Water, among others, is the scariest factor in the production of agricultural crops and there is a direct relationship between the development of the agricultural sector and the quantity and quality of water resources as well as water management and usage strategies (Khalilian & Mousavi, 2005). Old management theories based on the assumption of abundance of natural resources should be reformulated by considering the assumptions of limited water resources (Bagheri & Moazzezi, 2012). Accordingly, it is widely accepted that the movement of human society based on sustainable development is the only solution to survive life on the earth (Afrakhteh et al., 2013). Therefore, sustainable development management theories and the limitation of natural resources, notably, the limitation of Iran's water resources should be seriously taken into account (Samadyar et al., 2008). Thus, water management and proper use of water resources can play an efficient and sensitive role in the sustainable development of Iran (Karim Koshteh et al., 2001). Limitation of water resources as well as increasing population growth and agriculture product consumption necessitates the consideration of the economical methods of water consumption and improvement of irrigation systems, thereby, on one hand, providing sufficient water resources and on the other hand, increasing production and improving the Iran's economy, especially the status of rural households. Given that agricultural crops play a vital role in the survival of rural economy, increasing crop production with reduced costs may lead to the social stability and economic growth of villages (Gongn & Lin, 2000). Hence, the use of modern irrigation systems in rural economics (agriculture sector) may be one of the effective policies for water demand management so as to protect and promote economic efficiency as well as increase water use productivity (Asadi & Soltani, 1999; Mohseni & Zibaei, 2008). As a result, it is necessary to deal with the new irrigation systems and their operation in different regions of Iran, particularly, in terms of increasing the production of comparatively advantageous agricultural products, given the limited resources. Shahrabaad village in Bardaskan city in Khorasan Razavi province which is located in an arid and semi-arid region suffers from a major drop in the average annual rainfall in recent years. Severe constraints on available water resources and anticipation of future droughts increasingly threaten the farmers' livelihoods and economic well-being. The low surface water and severe changes in annual rainfall has led to the low water supply. Lack of surface water resources and its use for agricultural purposes justify the importance of using water consumption optimization strategies, especially when water scarcity and drought occurs (Moinuddini et al., 2015). The use of modern irrigation systems in the region is one of the water consumption optimization strategies. It may be effective to achieve the above-mentioned objectives according to the practical experiences on using modern irrigation systems in Khorasan Razavi province. However, in spite of the great support for this technology, farmers do not use it (Jalali & Karami, 2005). Consequently, considering that

agricultural activities are dominant in most of the villages of Shahrabaad in Bardaskan and most of the farmers use surface irrigation, it is required to study the barriers to equipping agricultural lands with the new irrigation technologies in this region. To this end, this study aimed to answer the following questions:

1. What are the barriers to equipping agricultural lands with the new irrigation technologies?
2. Which barriers to equipping agricultural lands with the new irrigation technologies is of great importance?
3. What is the difference between the studied villages in terms of barriers to equipping agricultural lands with the new irrigation technologies?

2. Research Theoretical Literature

Nowadays, economic growth and development (Ashrafi et al., 2014) as one of principles of the sustainable development is viewed as one of the main concerns of the most societies (Roknuddin Eftekhari & Ghaderi, 2002). The transformation and improvement of the economic system is owed to the comprehensive sustainable development where the agricultural sector at the regional levels is of great importance for a variety of reasons such as providing food security and industrial raw materials, industrial development, labor force and the like (Irish Leader Net work, 2000). In fact, the sustainable growth of the agricultural sector affects the stability and economic growth of societies (Srdjevici, 2004). In general, the economic growth of each country is not possibl without the growth and development of agricultural hardware and software at the regional level (Taleb & Anbari, 2008). In fact, development literature shows that environmental potentials, the agricultural soil quality and especially sufficient water resources, which are considered the spatial themes of each region, facilitate the spatial activities and plays an essential role in agricultural development (Roknuddin Eftekhari et al., 2009). At the same time, water is the most precious wealth available to human beings, especially in arid areas that cover a large area of Iran. Due to the dry and unsustainable climate of Iran and considering the recent droughts, water as a vital element become more and more important. Therefore, without a sustainable development planning for water resources, Iran will face unsolvable problems in future. On the other hand,

considering that more than 94% of the Iran's water resources are consumed in the agricultural sector, further studies should be carried out on agriculture irrigation systems (Mirzaei Khalilabadi & Chizari, 2004). The water scarcity will be the main issue dealt with in future, because the world population will reach 9.4 billion people by 2050 and will be the most important concern of managers and leaders on water and food supply and environmental protection. This is especially a matter of concern for Middle Eastern countries, because with 5% of the world's population have access to only 1% of fresh water (Mahboubi et al., 2011). For this reason, it is required to discover new methods in agricultural development based on the protection of agricultural resources which, simultaneously, employ new ecological methods and knowledge (Sarmadian, 2009). The higher irrigation losses than the global average in agriculture sector of Iran that is located in arid and semi-arid region (Asadi & Yazdanpanah, 2012), occurs due to a number of reasons such as losses of water transfer from source to consumption place, high water losses in agricultural farms, inappropriate shape and size of farms relative to the amount of water and irrigation method, farmers' awareness of optimizing water consumption, the lack of use of proper irrigation methods, and low irrigation efficiency. Thereupon, in recent years, in order to improve irrigation efficiency, a number of measures have been taken in Iran, the most important of which is to introduce and develop the use of new irrigation systems by farmers. Currently, the use of new irrigation technologies and economic water management is one of the major effective solutions to deal with the water scarcity crisis in the agricultural sector (Nowruzi & Chizari, 2006). The industrialization of agriculture in most countries threatened by water scarcity, has led to the more serious control over water consumption. That is, it is possible to use water in any amount, whether small or large, at any time by farmers. Using the surface irrigation is relatively difficult, and therefore, the water resources should be transferred to a closed system such as a pipe and then be consumed. Pressurized irrigation methods rather than surface irrigation (gravity) methods are preferred for land use due to more uniform distribution of water resources on the land and adaptability to different types of soils and topography. On the other hand, they can be considered within the sphere of sustainable agriculture (Behbahani Motlagh et al., 2017). Pressurized irrigation refers to any irrigation

method in which water is distributed by pipe at a pressure of more than one atmosphere (relative pressure) on the surface of the land. In a simple division, irrigation methods are classified into two categories: gravity irrigation and pressurized irrigation. Pressurized irrigation is also divided into two types: sprinkler and drip irrigation. The use of sprinkler irrigation methods in the world traces back to 65 years ago (1945) and the use of drip (micro) irrigation methods in the world traces back to 42 years ago (1968); the latter can provide soil with moisture (Sohrabi & Paydar, 2004). Previous studies show that many countries around the world (including developing countries) have focused on improving water efficiency and productivity since the development and use of various pressurized irrigation methods. In the last two decades, the scope of sprinkler irrigation systems has been gradually reduced and the use of various micro-irrigation methods has been developed. Pressurized irrigation methods in Iran officially flourished since the 1970s.

and the area covered by lands equipped with this type of irrigation before the Islamic Revolution is estimated at 50,000 ha (Valizadeh, 2003). Analysis of the development of various types of pressurized irrigation methods also reveals that although the use of pressurized irrigation methods in lands is increasing, various types of micro-irrigation methods have gradually been accepted by the farmers. The variety of sprinkler and drip irrigation systems has increased to such an extent that it is very difficult to categorize all of them under the two general names of sprinkler and drip irrigation, and it is more appropriate to use the term *pressurized* irrigation.

A review of the relevant literature reveals that a number of studies have been already conducted on equipping agricultural lands with new irrigation systems in the villages of Iran and a few studies have been conducted on barriers to equipping agricultural lands with the new irrigation technologies, some of which are reported in Table 1

Table 1. Relevant studies
(Source: Authors' library studies, 2019)

Author	Results
Taghvaei et al. (2010)	The results showed that the fragmentation and dispersion of farmers' lands has been the most important barrier in the development of pressurized irrigation systems. Pressurized irrigation systems and encouragement of farmers in the region, with financial support and easier provision of banking facilities are among the suggestions for further studies.
Kiani & Shaker (2019)	Results showed that despite the development of supportive programs and policies by the parliament and the government, no serious action has been taken and cultural, social, economic and technical barriers played a key role in the lack of development.
Noori et al. (2017)	Results showed that four hardware barriers to the use of irrigation systems are: executive system, agricultural characteristics, behavioral and environmental incompatibility.
Gholikhani Farahani (2013)	Results showed that factors such as communication channels can be effective in removing barriers to the use of these systems, and visiting, television, participation in training courses had the first to third ranks. Also, the high cost of spare parts, land dispersion, lack of skilled labor had the first to third ranks of the existing barriers.
Gholikhani Farahani (2013)	Results of stepwise multivariate regression showed that arable land area, increasing crop yield, cost-effectiveness of sprinkler irrigation, insurance impact, obtaining innovation information from promotional centers totally explain 77.7% of the acceptance of innovations of advanced irrigation systems.
Mahboubi et al. (2011)	The results showed that it is important to hold training classes and facilitate farmers' use of loans to establish new irrigation methods.
Niknami et al. (2013)	The results showed that the variables of educational level, history of gardeners' activity, history of using pressurized irrigation system, participation in the promotional training courses, visiting pressurized irrigation systems, and the like had a significant relationship with the variable of gardeners' knowledge in using pressurized irrigation systems. The results of multiple stepwise regression also revealed that the variables of contact with promoters and participation in promotional classes explained the proper use of pressurized irrigation systems.

Author	Results
Amini & Afzali Abarghuei (2013)	The results showed insignificant success of users in installing the pressurized irrigation systems. The research findings show that the variables "Individual characteristics, exploitation, management, economic of operators" and "participation, encouragement and cooperation of related organizations in the implementation of pressurized irrigation systems" affect the success of operators. It has had a positive effect on the establishment of these systems. In contrast, the "status and social activity of users" had a deterrent effect on their success.
Nazari et al. (2013)	The results showed that land integration and reduction of the number of land plots are noticeable, and on the other hand, with the implementation of sprinkler irrigation systems, the area of sugar beet cultivation has sharply increased (doubled). The results of evaluating the effect of systems on the production of crops in the region showed that the average production of wheat, barley and sugar beet increased by 1.31, 0.52 and 31.84 tons per hectare, respectively.
Al-Ghobari & Dewidar, (2018)	Crop and tomato yields were evaluated for two consecutive years under surface and subsurface drip irrigation and three methods: 1 full irrigation supply (T1), 0.8% full irrigation supply (T2) and 0.6% of complete irrigation (T3). The results showed that the highest yield is in the types that are irrigated by subsurface drip irrigation at T1 (94.1 tons per hectare) and T2 (81.4 tons per hectare).

According to the available information (theoretical research foundations), it seems that despite the many advantages of using pressurized systems in irrigation efficiency in Bardaskan, this type of irrigation has not been enough considered due to climatic conditions and the dominance of the agricultural sector in supply residents' livelihoods (Figure 1).
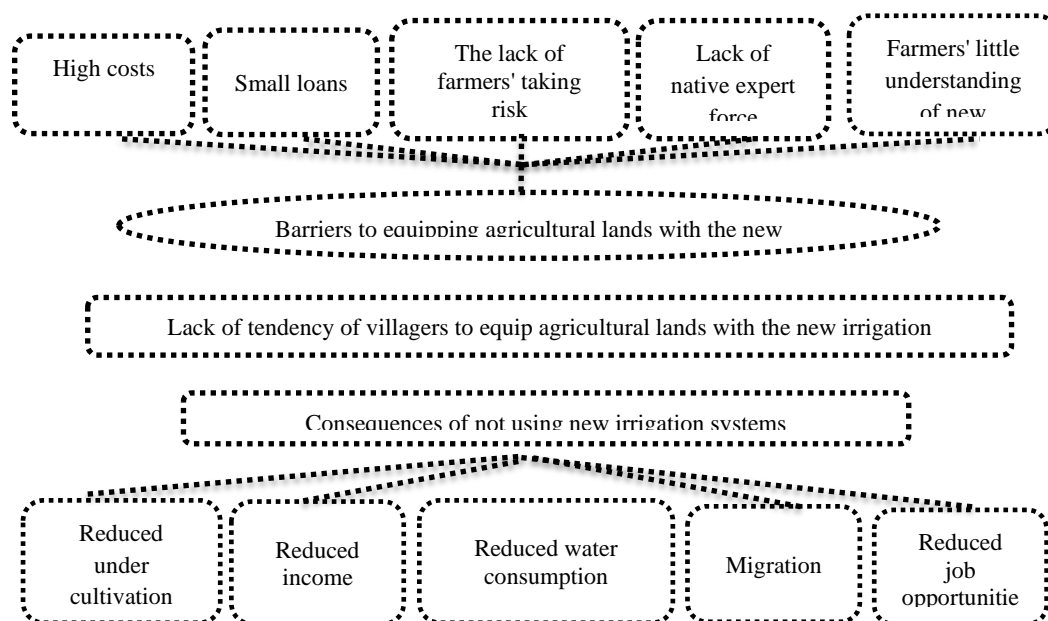
Figure 1. Conceptual model of the study
(Source: Authors, 2019)

3. Research Methodology

3.1 Geographical Scope of the Research

Bardaskan is located in the southwest of Khorasan Razavi province, with an area of 7664 km² in the southwestern Khorasan Razavi province. It is confined to Shahroud in Semnan province from west, to Khalilabad and Kashmar cities from the east and northeast, to Sabzevar city from the north and to Tabas city from the south (Figure 2). In the 2016 census, Bardaskan had 21,732 households with a

population of 75,631. According to the latest political divisions of the country, it consists of three parts (Anabad, Markazi and Shahrabaad) and six villages (Jolge, Shahrabaad, Sahra, Daroneh, Kenar Shahr and Kuhpayeh) and three cities (Bardaskan, Anabad and Shahrabaad). Shahrabaad rural district as a research area of Bardaskan city has 2830 households with a population of 9000, of whom 4601 are men and 4399 are women (Statistics Center of Iran, 2016).
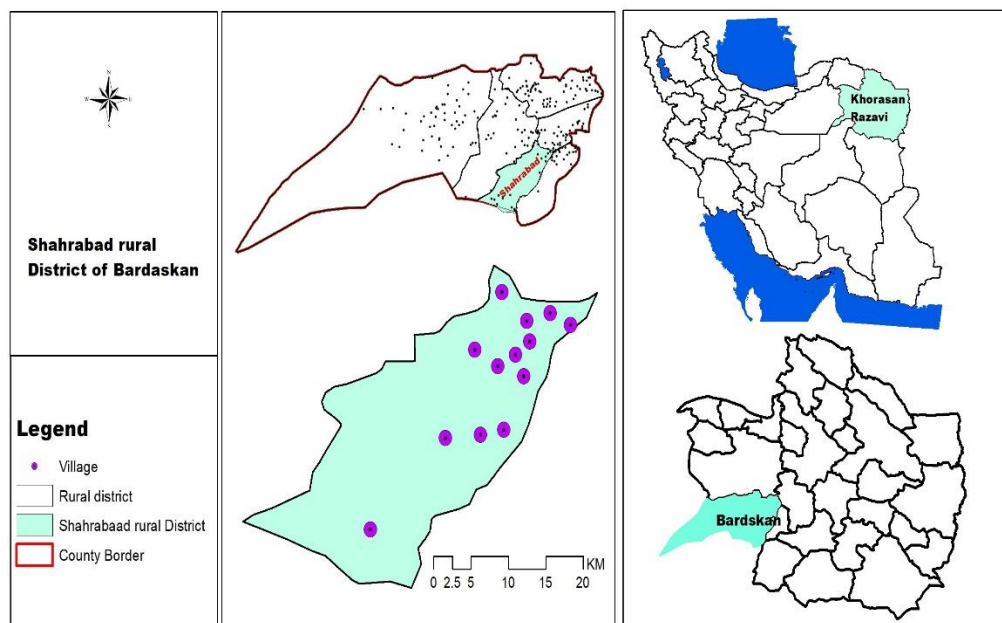
Figure 2. Location of the research area
(Source: Authors, 2019)

Water resources consist deep and semi-deep wells; there are 57 wells in Shahrabaad. In Bardaskan, residents mainly earn living through agricultural activities due to its geographical location and population (rural) texture (Table 2).

Table 2. Area of pistachio, grape and saffron under - cultivation lands in the research villages (ha)
(Source: Agricultural Jihad Office of Bardaskan County, 2019)

Village	Village Area of arable land	Number of water resources	Pistachio orchards	Grape orchards	Saffron cultivation area
Kooshe	437	6	437	5	62
Mohammadabad	180	3	195	15	77
Khorramabad	424	3	91	20	53
Zangineh	276	3	259.5	5	50
Zirakabaad	526	5	195	15	58
Hassanabaad	815	8	520	75	62
Kazemabad	711	12	624	60	80
Jalalabaad	750	9	585	5	70
Rahmaniyeh	726	8	520	0	0

According to the data reported in Table 2 and the significant ratios between horticultural products as products with high water requirements and saffron as a crop with very low water requirement, and climatic conditions of the research area, change in irrigation methods is of great importance.

3.2. Methodology
This is an applied study which uses the descriptive-analytical method to study the research parameters and consists of two main parts. The first part covers the library and documentary studies for examining theoretical literature and research background, and

the second part consists of field research and survey to collect data and information from related organizations and centers, as well as completing the questionnaire in the studied villages. Similarly, in the framework of field (researcher-developed) and library studies, a wide range of indicators in socio-economic and structural dimensions were examined in the questionnaire (Table 3).

Table 3. Indicators considered in the analysis of the barriers to equipping agricultural lands with the new irrigation technologies in the research area
(Source: Authors, 2019)

Criterion	Indicator(s)
Economic	Economic small loans, farmers' financial status, difficult conditions for receiving loan, difficult loan repayment conditions, high cost of pressurized irrigation systems, insufficient profit from agricultural income, lack of easy access to loans in terms of guarantors and collateral, providing free facilities for farmers
Social	lack of supply of equipment and tools with reasonable prices and quality, lack of support companies, Lack of sufficient knowledge about pressurized irrigation systems, lack of training courses on system construction, lack of local experts, lack of acceptance of innovation, lack of taking risk, lack of coordination between farmers, poor management capacity, variety of crops, illiteracy and low level of literacy, lack of consideration of justifying and training of farmers to implement the system, encouraging farmers to benefit from the new irrigation system, difficulty in using the modern irrigation systems, lack of farmers' awareness of challenges of water scarcity and water crisis, and lack of land ownership
Structural	dispersion of parts and inefficiency of new irrigation systems, small parts, lack of access to information and results of agricultural research, lack of insurance of pressurized irrigation systems

On the other hand, the statistical population of the research area consists of 2830 households from Shahrabaad rural district. Using the Cochran's alpha, 338 questionnaires were selected as the sample size and based on the proportional allocation formula, the sample size in each village was determined (Table 4)

Table 4. Estimating the number of samples by villages
(Source: Statistics Center of Iran, 2016)

No.	Village	Household	Number of questionnaires
1	Koshe	511	61
2	Mohammadabad	291	35
3	Khorramabad	237	28
4	Zangineh	269	32
5	Zirakabaad	338	40
6	Hassanabaad	468	56
7	Kazemabad	378	45
8	Jalalabaad	284	34
9	Rahmaniyeh	54	7

Moreover, content and face validity were used in this study in order to increase its validity, relying on the experts' views (university professors) on research questions in so as to determine the extent to which the questions are representative in terms of content and objectives of the research. Then, 30 questionnaires were prepared. After completing the questionnaire and entering data into SPSS software, Cronbach's alpha coefficient was calculated (Table 5). The alpha value was higher than 0.70, indicating the high internal correlation of the research tool (questionnaire) and its high reliability. Finally, SPSS software was used for data analysis

Table 5. Cronbach's alpha
(Source: Research findings, 2019)

No	Dimensions	Cronbach's Alpha
1	Economic	0.82
2	Social	0.70
3	Structure	0.75

4. Research Findings

Findings show that, out of 338 heads of households in the sample population, 97% were male and 3% were female. Respondents were divided into five age groups, of whom, 40-49 years old age group had the highest frequency (34.9%, 118 people) and 20–29 years old age group had the lowest frequency (36%) of all participants. The maximum number of household members was 10 and the average number of members in the participating households was 4.4. Concerning the respondents' educational level, people with elementary literacy had the highest frequency and people with a bachelor's degree or higher had the lowest frequency. Furthermore, 68.3% of the respondents were exclusively engaged in agricultural activities, 29.6% were engaged in both agriculture and animal husbandry, and 2.1% were engaged in the livestock sector (Table 6).

Results also showed that participants stated that they mainly used flood irrigation system (98.8%) and drip irrigation system (1.2%) (Table 7).

Table 6. Statistical results of some descriptive variables
(Source: Research findings, 2019)

Variable	Group	Frequency	Percentage	Rank
Age	20 – 29	12	3.6	5
	30 - 39	73	21.6	3
	40 - 49	118	34.9	1
	50 - 59	87	25.7	2
	above 60	48	14.2	4
Gender	Male	328	97	1
	Female	10	3	2
Educational level	Illiterate	59	17.5	4
	Elementary school	100	29.6	1
	Middle school	92	27.2	2
	Diploma	64	18.9	3
	Bachelor's and higher	23	6.8	5
Occupation	Agricultural	231	68.3	1
	Livestock	7	2.1	3
	Agriculture - Livestock	100	29.6	2
Total		338	100	---

Table 7. Frequency distribution and percentage of irrigation system type in rural households in the research area
(Source: Research findings, 2019)

Type of irrigation system	frequency	percentage
flood irrigation system	334	98.8
drip irrigation system	4	1.2

In terms of annual income, results showed that 15–30 m Toman income group had the highest frequency as 34.9% and the over 30 m Toman income group had the lowest frequency. This group includes 15.7% of the respondents or 53 persons. In the agricultural land area, the maximum area in the group is less than 5000 m with 1.33% and the minimum area is in the group was more than 2 ha. In other words, more than 60% of farmers were land owner with less than 1 ha (Table 8).

Table 8. Frequency and percentage of annual income variables, agricultural land area and agricultural work experience in research area
(Source: Research findings, 2019)

Variable	Group	Frequency	Percentage	Rank
Annual income	1-5 m-toman	82	24.3	3
	5-15 m-toman	85	25.1	2
	15-30 m-toman	118	34.9	1
	Above 30 m-toman	53	15.7	4

Variable	Group	Frequency	Percentage	Rank
Agricultural land area	Less than 5000 m	112	33.1	1
	1-5000 ha	108	32	2
	1-2 ha	74	21.9	3
	More than 2 ha	44	13	4
Agriculture work experiences	less than 5 years	42	12.4	4
	5 – 10 years	82	24.3	2
	10 – 15 years	78	23.1	3
	More than 15 years	136	40.2	1
Total		338	100	---

On the one hand, the majority of rural households (71.8%) in the research area use promotional services, 62.1% are members of production cooperatives and 55.5% are members of rural organizations (Table 9).

Table 9. Frequency distribution and percentage of rural households' use of promotional services and membership in cooperatives and rural organizations in the research area

(Source: Research findings, 2019)

Criterion	Item	Frequency	Percentage
Use of promotional services	Yes	240	71.8
	No	98	28.2
	Total	338	100
Membership in production cooperatives	Yes	208	62.1
	No	130	37.9
	Total	338	100
Membership in the rural organizations	Yes	186	55.5
	No	152	44.5
	Total	338	100

On the other hand, most rural households in the study area uses 47.31% of common wells as a water source and also the majority of rural households reported that 80% of the amount of water available for irrigation was "less" than the amount required for irrigation

Table 10. Frequency distribution and percentage of use of rural households according to water source and amount of water available for irrigation in the research area

(Source: Research findings, 2019)

Criterion	Item	Frequency	Percentage
Water source for irrigation	River	70	20.3
	Spring	10	3
	Qanat	57	17
	Common well	160	47.3
	Dedicated well	41	12.4
	Total	338	100
The amount of water available for irrigation	More	12	3
	Enough	58	17
	Less	268	80
	Total	338	100

As shown in Table 11, in the villages, indicator of "providing free facilities for farmers" with 3.71% had the highest average and "insufficient profit from agricultural income" with 3.18% had the lowest average in the economic dimension. In terms of social dimension, indicators of "lack of farmers' awareness of challenges of water scarcity and water crisis, ineffective government policies in implementing new irrigation systems and the lack of executive companies" with the values of 3.75, 3.70 and 3.59, respectively had the highest average. Indicators of lack of land ownership, lack

of acceptance of innovation, lack of local experts and increased household members with the values of 2.72, 2.94 and 2.99 had the lowest average. Finally, in terms of structural dimension,

dispersion of parts with the value of 3.28 had the highest average and the lack of insurance of pressurized irrigation systems with the value of 3.09 had the lowest average.

Table 11. Barriers to equipping agricultural lands with the new irrigation technologies in different economic, social, structural dimensions in the research area

(Source: Research findings, 2019)

Dimension	Indicator	Rate					Average	Sig
		Very low	Low	medium	high	Very high		
Economic	small loans	38	67	79	90	64	3.22	1.27
	insufficient profit from agricultural income	52	51	81	91	63	3.18	1.32
	farmers' financial status	34	42	99	70	93	3.43	1.28
	difficult conditions for receiving loan	30	31	56	123	98	3.67	1.23
	difficult loan repayment conditions	24	36	75	107	96	3.64	1.20
	high cost of pressurized irrigation systems	18	48	72	108	92	3.62	1.17
	lack of easy access to loans in terms of guarantors and collateral	45	52	43	75	123	3.53	1.44
	providing free facilities for farmers	27	30	71	95	115	3.71	1.24
Social	lack of supply of equipment and tools with reasonable prices and quality	33	51	77	95	82	3.42	1.27
	lack of support companies	31	55	57	123	72	3.44	1.24
	lack of enough awareness of irrigation systems	27	43	85	81	102	3.56	1.26
	lack of training courses on system construction	45	36	83	97	77	3.37	1.30
	lack of farmers' awareness of challenges of water scarcity and water crisis	26	32	67	87	126	3.75	1.26
	lack of land ownership	91	68	82	38	59	2.72	1.42
	lack of local experts	21	64	76	128	49	2.99	1.19
	lack of acceptance of innovation	37	86	106	62	47	2.94	1.24
	lack of taking risk	57	65	94	86	37	3.30	1.30
	lack of coordination between farmers	۳۴	71	71	82	80	3.49	2.10
	poor management capacity	35	62	68	106	67	3.04	1.24
	variety of crops	45	71	98	75	49	2.98	1.23
	illiteracy	45	86	77	90	40	2.98	1.23
	lack of consideration of justifying and training of farmers to implement the system	42	54	78	81	83	3.32	1.33
	encouraging farmers to benefit from the new irrigation system	29	70	83	97	59	3.26	1.21
	Lack of executive companies	29	46	70	122	71	3.59	1.86
Structural	Failure to repair the system on site	23	71	83	102	59	3.30	1.18
	Lack of tools for repair	57	58	75	99	49	3.07	1.31
	High cost of repairs	38	77	83	102	38	3.42	1.29
	difficulty in using the modern irrigation systems	37	50	68	101	82	3.14	1.11
	Ineffective policies of the government in implementation	32	58	116	96	36	3.70	1.26
	Lack of compatibility of the cultivation operation of the crops with the new irrigation method	27	55	85	76	95	3.46	1.27
	dispersion of parts	22	86	78	78	74	3.28	1.24
	Small parts	48	62	91	69	68	3.14	1.32
	lack of access to information and results of agricultural research	32	60	95	90	61	3.26	1.21
	lack of insurance of pressurized irrigation systems	59	45	89	95	50	3.09	1.30

In order to measure the barriers to equipping agricultural lands with the new irrigation technologies in the studied villages, fuzzy-TOPSIS similarity method was used. These dimensions include economic, social and structural. Fuzzy-TOPSIS final score calculations show that Koosheh, Hassanabad and Kazemabad have the highest rate of barriers to

equipping agricultural lands with the new irrigation technologies in Shahrabaad rural district. The villages of Mohammadabad, Jalalabaad, Zirakabaad, Zangineh have lower rate of the barriers to equipping agricultural lands with the new irrigation technologies (Table 12).

Table 12. Classification of villages in terms of barriers to equipping agricultural lands with the new irrigation technologies using the fuzzy TOPSIS method in the study area
(Source: Research findings, 2019)

Village	Ideal solution	Anti-ideal solution	Similarity index	Effectiveness
Khorramabad	3.25	2.71	o.37	Less
Rahmaniyeh	3.10	2.88	0.42	
Mohammadabad	3.55	2.23	0.38	Medium
Jalalabad	3.62	2.18	0.38	
Zirakabaad	3.65	2.15	0.33	
Zangineh	۴.۱۲	2.41	0.23	
Kooshe	4.32	2.10	0.17	More
Hassan Abaad	4.25	2.19	0.15	
Kazem Abaad	4.38	2.08	0.11	

Barriers to using such systems by rural households in the study area are: economic, social and structural. Accordingly, the findings show that most of the barriers to equipping agricultural lands with the new irrigation technologies can be seen in the economic dimension. Low financial

status of farmers, small loans and similar factors are the most important factors that lead to the lack of farmers' tendency towards the equipment of the agricultural lands with modern irrigation systems (Table 13).

Table 13. Results of Student t test in investigating barriers to equipping agricultural lands With the new irrigation technologies in Shahrabaad rural district
(Source: Research findings, 2019)

Indicators	T value	(Sig 2- tailed)	Std. Deviation	Rank
Economic	12.525	0.000	0.625	1
Social	11.12	0.000	0.502	2
Structural	9.42	0.000	0.381	3

The results of Kruskal-Wallis test in economic, social and structural dimensions show the barriers to equipping agricultural lands with the new irrigation technologies in the villages of the research area with a significance level (Sig) of less than 0.1. Therefore, hypothesis H0, namely equality of barriers to equipping agricultural lands with the new irrigation technologies in economic,

social and structural dimensions in the villages of the study area is rejected and the opposite assumption (H1), namely the difference between barriers to equipping agricultural lands with the new irrigation technologies in terms of economic, social and structural dimensions in the villages of the study area is confirmed.

Table 14. Kruskal-Wallis test results in terms of economic, social and structural dimensions in the study area
(Source: Research findings, 2019)

items	Structural average	Social average	Economic average
Chi- Square	47.847	41.589	36.634
Df	8	8	8
Asymp. sig	0.000	0.000	0.000

5. Discussion and Conclusion

Nowadays, human development, especially in most Third World countries, is highly dependent on the development and reform of water resources management. Hence, water is one of the vital resources with no alternative. Despite this, agriculture sector is the main consumer of water. However, the distribution of water in terms of time and space often does not meet the needs of this sector. Water is the most important factor limiting agricultural development in the world, especially in arid and semi-arid regions. Moreover, Iran is considered as one of the water-scarce regions in the world because its average annual rainfall is less than 250 mm, which is equivalent to one third of the world's annual rainfall. Thus, the limitation of water resources as well as the growing population and consumption of agricultural products, necessitates the consideration of economical methods of water consumption and improvement of irrigation systems. The present study sought to analyze the barriers to equipping agricultural lands with the new irrigation technologies which is of great importance in terms of analysis of barriers to equipping agricultural lands with the new irrigation technologies. The results of statistical analysis revealed that reducing and eliminating the barriers to equipping agricultural lands with the new irrigation technologies in rural households in Shahrabaad lead to increased level of equipping agricultural lands with modern irrigation systems. The results of this study are consistent with those of Masoumi Jashni (2016) who reported that the challenges of modern irrigation in rural areas lead to the lack of use of this irrigation system by the rural households and may not result in achieving the research objectives. Hence, the comparison of the results of this study with those of other studies indicated that Koosheh, Hassanabad and Kazemabad villages had the highest rate of barriers to equipping agricultural lands with the new irrigation technologies in Shahrabaad in terms of village ranking using the fuzzy TOPSIS analytical model. Mohammadabad, Jalalabad, Zirakabad, and

Zangineh villages had the medium rate of barriers to equipping agricultural lands with the new irrigation technologies. And finally, Khorramabad and Rahmaniyeh had the lowest rate of barriers to equipping agricultural lands with the new irrigation technologies. On the other hand, three economic, social and structural dimensions were used in order to determine the most important reasons of barriers to equipping agricultural lands with the new irrigation technologies in the research village. To this end, one-sample t-test with a value of $\mu=3$ (expected mean) was performed to determine the main reason. The research findings showed that economic components had the highest rank (12.525). Thus, if the barriers to equipping agricultural lands with the new irrigation technologies are not eliminated, it may lead to the negative consequences, economic vulnerability and threat livelihood of residents in the study area. The Kruskal-Wallis test was used in order to answer the second research question. The results of Kruskal-Wallis test in three economic, social and structural dimensions showed that the barriers to equipping agricultural lands with the new irrigation technologies in the studied villages had a significance level (sig) less than 1. Therefore, hypothesis H0, namely the equality of barriers to equipping agricultural lands with the new irrigation technologies in terms of these dimensions was rejected and hypothesis (H1), namely the difference of barriers to equipping agricultural lands with the new irrigation technologies in terms of these dimensions was confirmed.

Finally, considering the findings and results of the research, the following suggestions are provided to eliminate barriers to equipping agricultural lands with the new irrigation technologies in Shahrabaad rural district:

- Paying special attention to the participation of rural households in the implementation of plans and projects related to the new irrigation system in the study area;
- Encouraging the rural households in the study area to use and equip their agricultural lands to

the new irrigation system by providing facilities such as low-interest loans, guaranteed purchase of products in order to reduce potential damages, payment of subsidies, and the like;

- Using appropriate promotional methods such as face-to-face consultation with experienced experts who are accepted by the farmers of the area to convince and direct them, providing a pilot farm in the city and visiting rural households (who tend) to use the new irrigation system similar to the successful farmers who equipped their lands with this system can lead to the effective mental orientation of rural households in the study area to consider and use this technology;

- Eliminating the traditional time-consuming bureaucracy for the implementation of such projects to equip agricultural lands with a new irrigation system by the users as soon as possible.

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بررسی عوامل بازدارنده تجهیز اراضی کشاورزی به سیستم‌های آبیاری نوین

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چکیده مبسوط

۱. مقدمه

با حرکت جوامع بشری به سوی صنعتی شدن و کم شدن وابستگی اقتصاد به منابع آبی و همچنین استحصال منابع آب به کمک فناوری های جدید، آب جایگاه خود را از دست داد اما با رشد فزاینده جمعیت نیاز به غذای بیشتر برای سیر کردن آن ها، باعث شده تا بخش کشاورزی عمده ترین مصرف کننده آب به شمار رود. این امر در بسیاری از نقاط دنیا و مخصوصا در مناطقی مانند ایران که کشاورزی آنها به منابع آب زیرزمینی وابسته است، باعث ایجاد بحران در آن منابع گردیده و اصل پایداری کشاورزی را به چالش کشیده است (. دهستان شهرآباد واقع درشهرستان بردسکن دراستان خراسان رضوی به لحاظ قرار گرفتن در اقلیم خشک و نیمه خشک و رویارویی با کاهش بارندگی در سال‌های اخیر، در وضعیت بسیار نامطلوبی قرار گرفته است. محدودیت شدید حاکم بر منابع آب موجود و پیش بینی خشکسالی در آینده، احتمال به خطر افتادن معاش و رفاه اقتصادی کشاورزان را بالا برده است. با توجه به پتانسیل کم تولید در جریان‌های سطحی و تغییرات شدید بارندگی از سالی به سال دیگر، ذخیره آبی بسیار ناچیز است. کمبود منابع آب سطحی و استفاده از آن برای مصارف کشاورزی اهمیت کاربرد استفاده از استراتژی‌های بهینه‌سازی مصرف آب به خصوص در شرایط کم آبی و خشکسالی بیان می‌کند. یکی از این استراتژی‌ها استفاده از سیستم‌های آبیاری نوین در منطقه است.

تجربیات در زمینه استفاده از سیستم‌های آبیاری نوین در استان، نشان می‌دهد که استفاده از این سیستم می‌تواند در دستیابی به اهداف مذکور کمک شایانی کند. اما با وجود حمایت‌های فراوان از این فناوری شاهد عدم استقبال زارعان از آن هستیم.

۲. مبانی نظری تحقیق

با توجه به اقلیم خشک و شکننده کشور و با در نظر گرفتن خشکسالی‌های اخیر اهمیت آب به عنوان یک نهاده حیاتی بیش از پیش مشخص می‌شود و در صورتی که براساس توسعه پایدار برای منابع اب برنامه‌ریزی نکنیم در آینده کشور با معظلاتی غیر قابل حلی مواجه خواهد شد. از طرف دیگر، نظر به اینکه بیش از ۹۴ درصد منابع اب کشور در بخش کشاورزی مصرف می‌شود، یکی از اساسی‌ترین نیازهای تحقیقاتی کشور مسائل مربوط به اب و آبیاری در این بخش می‌باشد. از این رو، نیاز به یافتن شیوه جدید در توسعه کشاورزی که بر مبنای حفاظت منابع مربوط به کشاورزی استوار بوده و در عین حال روش‌ها و دانش اکولوژیکی نوین را نیز به خدمت بگیرد، ضروری می‌باشد. در حوزه کشاورزی کشورهایی همچون ایران که در اقلیم خشک و نیمه خشک قرار گرفته است، بنا به دلایلی نظیر تلفات انتقال آب از منبع به محل مصرف، تلفات زیاد اب در مزارع کشاورزی، نامناسب بودن شکل و اندازه مزارع در رابطه با میزان اب و نحوه آبیاری، آگاهی کشاورزان از بهینه سازی مصرف آب، عدم استفاده از شیوه‌های مناسب آبیاری، کارآیی پایین آبیاری باعث شده است تا تلفات آبیاری بسیار زیادتر از میانگین آن در سطح جهان باشد.

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از این رو، در سال‌های اخیر بـه منظـور بهبـود رانـدمان آبیـاری، اقداماتی در سطح کشور صورت پذیرفته که از مهم‌ترین آن‌ها طـرح معرفی و گسترش استفاده از سیستم‌های نـوین آبیـاری بـه وسـیله کشاورزان بوده است. در شرایط فعلی، استفاده از فناوری‌هـای نـوین آبیاری و مدیریت اقتصـادی آب، از جملـه راه‌کارهـای مهـم و مـوثر مقابله با بحران کمبود اب در بخش کشاورزی محسوب می‌شود.

۳. روش تحقیق

تحقیق حاضر در در این مطالعه، از نظـر هـدف، کـاربردی و از نظـر روش، توصیفی- تحلیلی است. در این پژوهش، روش نمونه‌گیـری تصادفی بوده است و با فرمول کوکران۳۳۸ خانوار در سطح محدوده مورد مطالعه، حجم نمونه تعیین گردید. داده‌ها بخشـی، براسـاس مطالعات میدانی: پرسشنامه، مشاهده: شاخص‌های انتخابی و محقق ساخته و بخشی دیگر با اسـتفاده از مطالعـات کتابخانـه‌ای جمـع آوری شده است. روایی پرسشـنامه هـا توسط متخصصـین مـورد بررسی قرار گرفته است. ضریب روایی پرسشنامه نیز برابر بـا ۰/۷۸ بدست آمده است. در این میان، برای رتبـه بنـدی روسـتاها از نظر میـزان اثر گـذاری عوامـل بازدارنـده بـرای تجهیـز اراضـی بـه سیستم‌های آبیاری نوین از مدل Fazy- Topsis و برای تجزیه و تحلیل سوالات تحقیق، از نرم افزار SPSS استفاده شده است.

۴. یافته‌های تحقیق

یافته‌های تحقیق از یک سو، مویـد آن اسـت کـه بیشـترین عوامـل بازدارندگی در امر تجهیز اراضی کشاورزی به سیستم‌های آبیـاری نـوین، در بعـد اقتصـادی قابـل مشـاهده اسـت. بضاعت مـالی کـم کشاورزان، پایین بودن میزان وام و عواملی از این قبیل باعـث شـده است که خانوارهای روسـتایی محـدوده مـورد مطالعه گرایشـی بـه تجهیز اراضی کشاورزی به سیستم‌های آبیاری نوین نداشته باشند. از سویی دیگر، نتایج آزمون کروسکال – والیس در بعـد اقتصـادی و اجتماعی و ساختاری نشان مـی‌دهـد کـه عوامـل بازدارنـده تجهیـز اراضی کشاورزی به سیستم‌های آبیاری نوین در روستاهای محدوده موردمطالعه با سطح معنی‌داری (sig) که کمتر از(۰/۱)بوده است؛ بنابراین فرض HO، یعنی برابری عوامـل بازدارنـده تجهیـز اراضی

کشاورزی به سیستم‌های آبیاری نوین در بعد اقتصادی و اجتماعی و ساختاری در روستاهای محدوده موردمطالعه رد شده است و فـرض مخالف (H۱)، یعنی تفاوت عوامل بازدارنده تجهیز اراضی کشاورزی به سیستم‌های آبیاری نوین در بعد اقتصادی و اجتماعی و ساختاری در روستاهای محدوده‌ی موردمطالعه تأیید گردیده است

۵. بحث و نتیجه گیری

امروزه توسعه انسانی به ویژه در اکثر کشورهای جهان سوم به شدت وابسته به توسعه و اصلاح مـدیریت منـابع آب است. از ایـن رو آب یکی از سرمایه‌های حیاتی است که جایگزینی دیگر ندارد. بـا وجـود این بخش کشاورزی عمده‌ترین مصرف کننده آب به شـمار مـی‌رود. این در حالی است کـه توزیـع آب از لحـاظ زمانی و مکـانی اغلـب منطبق بـا نیازهـای ایـن بخش نمی‌باشد. آب مهم‌تـرین عامـل محدودکننده توسعه کشاورزی در جهان، به ویژه در مناطق خشک و نیمه خشک محسوب می‌شود. در این میان ایران جز مناطق کـم اب جهان به شمار رفته چرا که متوسط بارندگی سالانه آن حدود ۲۵۰-۳۰۰ میلیمتر است که معادل یک سوم باران سالانه کره زمین مـی‌-باشـد. از ایـن رو محـدودیت منـابع آب همـراه بـا رشـد روزافـزون جمعیت و مصرف محصولات کشاورزی، ضرورت توجه هرچه بیشتر به شیوه‌های صرفه‌جویانه مصرف آب و اصلاح سیستم‌های آبیاری را طلب می‌کند. همان‌طور که مطرح شد، پژوهش حاظر بررسی عوامل بازدارنده تجهیز اراضی کشاورزی به سیسـتم‌های آبیاری نـوین را مورد پژوهش و تحلیل قـرار داده کـه در نـوع خـود در مقایسـه بـا مطالعات مشابه در ارتباط با بررسی موانع وعوامل بازدارنـده تجهیـز اراضی کشاورزی به سیستم‌های آبیاری نوین قابل توجه است.

کلیدواژه‌ها: سیستم های آبیاری نوین، عوامل بازدارنده، کـم آبـی، دهستان شهرآباد.

Original Article

Spatial Analysis of the Indicators of Rural Eco-resorts
(Case Study: Sari County, Iran)

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Abstract

Purpose- The development of eco-resorts is important for the accommodation of domestic and foreign tourists; therefore, their quality of indicators should be improved regardless of its economic approach. The purpose of this study is to spatially analyze the status of rural eco-resorts in Sari. In doing so, the present study seeks to answer these key questions: 1) What is the current status of rural eco-resorts indicators? 2) What is the level of the studied villages in terms of eco-resorts indicators?

Design/methodology/approach- The current study is of descriptive-analytical and applied type in terms of approach and aim, respectively. Documentary and field study methods were used to obtain the required data. The statistical population of this study consisted of two groups. The first group included experts in tourism who were selected through the census method (N=15). The second group included tourists who had stayed in these eco-resorts. According to the Cochran's formula, with an error value of 0.07, 181 questionnaires were completed randomly. In order to analyze the data, descriptive statistics (mean, standard deviation and variance), inferential (one-sample t-test) and VIKOR method were used.

Findings- Findings of the study showed that based on the significance level of the one-sample test, there is a significant relationship and difference between 7 indicators of the research. Late Letkan & Late Leteka, Tapurestan and Miansheh ranked first to third, and eco-resorts in Mah Joon (Q = 0.785), Senam and Saray Khan (Q = 0.828) had the lowest ranks. Therefore, it can be said that the resorts, which are at an acceptable level in terms of the studied indicators, have appropriate facilities and services in eco-resorts.

Key words: Eco-resorts, Rural areas, VIKOR method, Sari County.

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1. Introduction

Today, the category of eco-resorts (ecotourism resorts) is not a new topic from tourists' perspectives. The fact that people have long been curious to explore unknown and new places is proven in the history of human life. Initially, the goal of the explorer human was to reach unseen and pristine places on earth, but now tourists have different motivations to travel on this planet; They go on trips for the sake of recreation, tourism, pilgrimage and leisure (Maleki, Parvizian, & Ahmadi, 2017). As ecotourism is a new type of tourism and is not a source of consumption, it has been proposed and studied as a tool for sustainable development since 1990 by non-governmental organizations, development experts and academic centers (Rostampisheh et al., 2019). Ecotourism is suitable for people with adventurous characteristics and interest in learning. It focuses on natural, cultural and historical places that are less considered (Lenao & Basupi, 2016). Therefore, its significance for tourists has caused this branch of tourism to account for approximately 27% of international trips, and if it is properly managed, it can even lead to local employment, local development opportunities and the preservation of the natural environment (Roshanali & Riahi, 2017). It has been argued that ecotourism should be comprehensively conceptualized in local environments to significantly assess the relationship between the natural environment and local communities and to meet sustainable consequences based on local community needs and environmental goals.

In fact, this is consistent with the UNs sustainable development goals, especially with regard to the protection of forests, water and climate change, as well as the improvement of the living conditions of local people (Yaghoubi et al., 2018). Therefore, in order to be able to assess the condition of eco-resorts, we need the use of indicators, which can be explained. Therefore, the issue of improving the quality of eco-resorts indicators through the development of appropriate services, facilities and infrastructure and its management in order to meet the needs of tourists is necessary (as cited in Sojasi Gheidari & Sadeghloo, 2016). Therefore, in planning rural areas with an emphasis on eco-resorts, objectives such as protection of the natural environment and quality of services should be considered, because these items, on the one hand, keep the rural population, and on the other hand, attract tourists to ecological destinations (Lenao & Basupi, 2016). The development of eco-resorts is important for the accommodation of domestic and foreign tourists. To this end, regardless of their economic approach and their income generation, various factors affecting the formation and development of these resorts must be considered. And the management of positive and negative effects of this form of development projects needs to be pondered (Tavaklan & Davari, 2017).

Today, in Iran, due to the existence of various tourist attractions, including natural, cultural, historical and ritual along with climatic and ethnic diversity, ecotourism has become one of the developed and common types of tourism. The development of ecotourism and the improvement of the quality of its indicators can lead to the strengthening and prosperity of the economy, local and rural employment, nature protection and indigenous lifestyle. The county of Sari also has potential opportunities and actual conditions for the development of ecotourism due to the diversity of dialects, lifestyle along with historical background. Therefore, the decision makers in this field should take steps to strengthen and create the necessary infrastructure for eco-tourism prosperity. To this end, the purpose of this study is to spatially analyze the status of rural eco-resorts in Sari. In other words, the present study seeks to answer these key questions: 1) What is the current status of rural eco-resorts indicators? 2) What is the level of the studied villages in terms of eco-resorts indicators?

2. Research Theoretical Literature

The last three decades have seen the expansion of laws, policies, paradigms, frameworks and strategies related to environmental protection around the world. As environmental concerns increased, many operators around the world began to understand the importance of their sustainability in their operations, and this was the beginning of a sustainable hospitality industry (Yusof & Jamaludinn, 2013). In this regard, Millison et al. (2007) stated that the green hospitality industry in the mid-1990s led to the expansion of and green resorts and hotels with the support of few pioneers in this field (Yılmaz et al., 2019). In ecotourism, the main motivation for traveling to nature is to observe the natural attractions of a region including

the physical features and the culture of natives, and the ecotourists leave there without disturbing and destroying them after observing the attractions (Mirzadeh Koohshahi and Dehghani, 2016). Nevertheless, it is noted that "ecotourism as a branch of tourism is a tool for environmental protection and sustainable development" (Tsaur et al., 2006). The goal of ecotourism development is to protect natural areas through monetization, environmental protection, education and the participation of local people; this is based on the idea that the environment is a local resource which provides economic value by attracting tourists (Das & Chatterjee, 2015). Table 1 provides several definitions of ecotourism.

Table 1. Key definitions and characteristics of eco-resorts
(Source: Yaghoubi et al., 2019)

Author	Definitions	Key Features	Key indicators
Weaver (2001)	Ecotourism is known as a sustainable way to develop areas with multiple tourism resources	- For resource sustainability	Water, forests, rivers, weather
Fung & Wong (2007)	Tourism that has sustainable natural resources is called ecotourism	- For resource sustainability	River, pleasant climate, pristine nature
Bunruamkaew & Murayama (2012)	In responding to the needs of sustainable development, ecotourism as a tourism method was formed in the 1990s to reduce the disadvantages of conventional (mass) tourism	- To meet basic needs	Job creation, income generation, cultural and social interactions, pristine nature
Jeong et al (2014)	Ecotourism is an important issue and is known as a form of sustainable tourism and is expected to help protect the environment and economic development.	- A strategy for environmental protection - A strategy for economic development	Environmental protection, economic development
Cobbinah, (2017)	As a sustainable development strategy ecotourism is based on five principles: A spur to protect the environment; encouraging community participation (cooperation and collaboration of local people); Empowerment of vulnerable groups (for example, women); Provide economic benefits and preserve local culture	- A strategy for sustainable development - A strategy for interactions and participation of civil society A strategy for empowering the local community	Environmental protection, cooperation of local people, empowerment, preservation local culture

Therefore, based on the interpretations of Table 3, it can be stated that eco-resorts (eco-lodges) are resorts built in natural and rural environments in line with the possible level of environmental criteria and in a way compatible with the local architecture and natural appearance of the region to accommodate and service tourists. They are historical and old houses in the villages which are converted to resorts after a restoration. While interacting with the local community, these places provide the best condition for ecotourists to stay with a desirable and defined quality in natural and rural environments (Hawkins, 2014). Eco-resorts cause a chain of economic and cultural activities to be directly and indirectly involved and create excellent opportunities for small and family enterprises (Bozarjemehri, 2017). As important service elements in ecotourism, Eco-resorts play an important role in tourism development and emerge in pristine areas and rural or nomadic areas. They include traditional cottages or lodges, guest houses, eco-camps, rural ecotourism, organic farms, ecological homes, and traditional hotels. These residences have certain principles and criteria from the cultural, economic, managerial, environmental and social perspectives, which should be considered in their construction and management (Jafari, 2000). Since 1994, in the first international symposium of eco-lodge associations, a new type of accommodation called "indigenous accommodation or eco-lodge" was officially introduced to the world of tourism; In this type, the structure of the residence was intertwined with its identity (Anabestaniet al.,

2017). In other words, the main purpose of creating and developing eco-resorts with indigenous identity and structure is to achieve sustainable rural development by organizing and providing services for tourists and nature lovers. Eco-resorts are not just about accommodation; they offer a variety of activities such as supplying local foods and drinks, making, teaching and selling local handicrafts, performing traditional drama and music, holding local events and tours, and doing ecotourism activities. The physical location of the residence is part of a tourist attraction due to its architectural style, organic materials, interior design and furniture, as well as its local eco-museum. However, "the most important principle observed in ecotourism accommodation is the participation of the local community in tourism activities" (Hawkins, 2004). For example, tourism projects in Borobudur and its suburbs in Indonesia are the result of cooperation between villagers, local NGOs and tour guides, which has led to the promotion of tourism services to tourists and ultimately rural development (Fatimah,

2015). Ecotourists are considered as an economically practical option for visiting natural origins and habitats in addition to protecting cultural heritage. So far, in various studies, several classifications of items and classification of eco-resorts indicators have been researched. Ecotourism assessment indicators are often classified into groups, such as economic, social, environmental and physical groups; therefore, a review of previous research findings shows that in any of them the relationship and significance between these indicators have not yet been addressed. In this regard, understanding the relationship and the importance of these indicators provide important data for decision makers and ecotourism development planners. Therefore, in order to achieve the purpose and answer the research questions using a comprehensive review of the research literature, indicators for measuring eco-resorts were extracted, and these indicators were classified into environmental, physical, economic and social categories (see Table 2).

Table 2. Classification of indicators for status quo of eco-resorts in rural areas
(Source: Authors, 2019)

indicator	sub-indicator	Source:	indicator	sub-indicator	Source:
Green service	Green welfare facilities and services Use local staff Use local food (provide local food and drink) with local and healthy ingredients Local products and handicrafts Allocating suitable space for guests	Alwani and Dehdashti (1994) Vossoughi & Shamsi Marini (2015); Giannakis (2014)	local management and participation	local investment and management participation and empowering the local community Tour guiding by members related to the resorts Local people's attitude toward tourists Interaction with the local community	Sojasi Gheidari & Sadeghloo (2016); Atazadeh & Mahmoudi Zarandi (2017); Johns & Mattsson (2005)
Sustainable design and protection	Sustainable design and tourism green spaces in the region Maintaining rural appearance and form and preserving historical monuments and remnants Follow of the principles of local architecture Protection of the natural environment	Maleki, Parvizban & Ahmadi (2017); Anabestani et al. (2017); Brandth & Haugen (2012)	Ecological environmental structure	Being located in pristine rural environments Use of organic materials Local interior and exterior design Traditional and indigenous furniture and equipment (wooden bed, quilt, mattress and bed ....) Use of renewable energy (solar energy in heating and cooling) Adapting the architecture of the residence with the climate and environment Waste and wastewater management and recycling Creating complementary spaces needed by tourists (pavilion, parking)	Jaafar & Maideen (2012), Jeong et al. (2014)

indicator	sub-indicator	Source:	indicator	sub-indicator	Source:
Pristine geographical location	Being in a pristine natural position Existence natural attractions near the residence Located next to human, historical and cultural attractions Access to the site in terms of location and signs	Sojasi Gheidari & Sadeghloo (2016) Atazadeh & Mahmoudi Zarandi (2017)	Others	Save water (use low-consumption faucet) Energy efficiency (lighting as much as guests want) Reduce environmental pollution Heating and cooling air conditioning system Use local organizations (associations ...) Performing dramas and folk music	Tavaklan & Davari (2017), Bozarjemehri (2017), Andriotis (2002) Chen et al. (2016)
Appropriate infrastructure	Public services (accessablity , roads, electricity, gas, etc.) Radio communication services (mobile, internet) Security and law enforcement services Health care services (drinking water, toilet, bath, first aid kit, etc.) Traditional and indigenous furniture and equipment	Tavalaee (2006) Roshanali & Riahi (2017) Rostampisheh et al. (2018)			

So far, numerous studies have directly and indirectly addressed the issue of ecotourism resorts. The background of the research shows that most of the studies conducted in the field of rural eco-resorts have examined its effects and consequences, whereas the present study, on the one hand, identifies the indicators of eco-resorts and examines their status in these residences, and on the other hand, it offers the spatial analysis of these indicators, which has not been paid much attention in other studies (see Table 3).

Table 3: A summary of the research conducted on the subject
(Source: Authors, 2019)

Author	Findings summary
Vosoughi (2016)	The findings showed that despite the differences in some items and indicators, this site has been able to achieve relative success as a green accommodation.
Salehi et al. (2018)	The results showed that the attitude of the local community towards the development of ecotourism is positive. They are also aware of the social cultural economic and environmental effects and consequences and, accordingly, support ecotourism development projects.
Yaghoubi (2018)	The results of this study showed that the development of eco-resorts has improved the indicators of psychological and social empowerment, but in economic and political indicators, the level of impact has not been acceptable.
Stronza & Gordillo (2008)	The results of this study showed that the local community achieved economic benefits, residents' self-esteem has been strengthened and community organization has improved, but over time, while it decreased reciprocity, and social conflict.
Jaafar & Maedin (2012)	The results of this study showed that the product development and activities of small and medium ecotourism houses are strongly related to environmental attractions, so it positively contributes to the economic sustainability of these eco-resorts
Kapiki (2012)	The results of this study showed that planning can cause saving energy and reducing waste production, increasing hoteliers 'satisfaction via reducing operating costs and also increasing guests' satisfaction with the features and benefits of these hotels.
Xing (2013)	The results of this study showed that energy saving, non-disposable use of green hotels can create the ground for environmentally friendly activities.
Rebecca et al. (2015)	The results of this study showed that eco-lodges are effective in protecting natural resources and tourism development through increasing the awareness of local communities and changing tourists and the government officials' attitudes towards the natural environment.
Lenao & Basupi (2016)	The results of this study showed that the development of ecotourism in Botswana has led to the empowerment of women in rural areas.

3. Research Methodology

The current study is of descriptive-analytical and applied type in terms of approach and aim, respectively. Data collection is a combination of field and documentary methods; therefore, first, studies were conducted based on historical documents, statistical sources, information layers, etc. To complete the research, field visits (observation and questionnaire) were used. Then, eco-resorts were identified with the assistance of the General Directorate of Cultural Heritage, Tourism and Handicrafts of Mazandaran Province. Eventually, 11 eco-resorts were distinguished in the county; two of them were inactive and newly established, and the rest were active. Finally, 7 indicators and sub-indicators including green services, sustainable design and protection, pristine geographical location, appropriate infrastructure, local management and partnership, ecological environmental structure and others were considered. The statistical population of this study consisted of two groups. The first group included experts in tourism who were selected through the census method (N=15). The second group included tourists who had settled in these eco-resorts in which a total of 2600 tourists were estimated according to the statistics announced by the owners of these resorts from Farvadin1397 to Bahman 1398 (March 2018 - January 2020). Based on Cochran's formula 181 questionnaires were completed randomly with the error rate of 0.07. Table 4 shows the number of samples in the eco-resorts of Sari County

Table 4. Number of examples of eco-lodges in Sari County

(Source: General Directorate of Cultural Heritage and Handicrafts of Mazandaran Province and research findings, 2019)

Row	Name of the resort	Village	Rural district	District	Number of eco-tourists (persons)	Accommodation activity status	Number of questionnaires
1	Cheshmehsort	Malkhavast	Poshtekooh	Chahardangeh	360	active	25
2	Saray Khan	Gelvard	Tangeh soleyman	Kelijan rostagh	330	active	23
3	Senam	Senam	Chahardangeh	Chahardangeh	150	active	10
4	Mah Joon	Serkat	Kelijan rostagh	Kelijan rostagh	350	active	24
5	Late Letka	Vezmela	Banaft	Dodangeh	130	active	9
6	Miyansheh	Chort	Garmab	Chahardangeh	350	active	24
7	Sareh Khatoon	Langar	Chahardangeh	Chahardangeh	300	active	21
8	Galesh Manzel	Telobagh	Asfiyoord Shoorab	Central	360	active	26
9	Late Letka Tepoorestan	Vermela	Banaft	Dodangeh	270	active	19
10	Gol Mohammadi	Saeed Abad	Chahardangeh	Chahardangeh	-	Newly established	-
11	Jamal-o-din Kola	Jamal-o-din Kola	Chahardangeh	Chahardangeh	-	Inactive	-
	total	-	---	---	2600	-	181
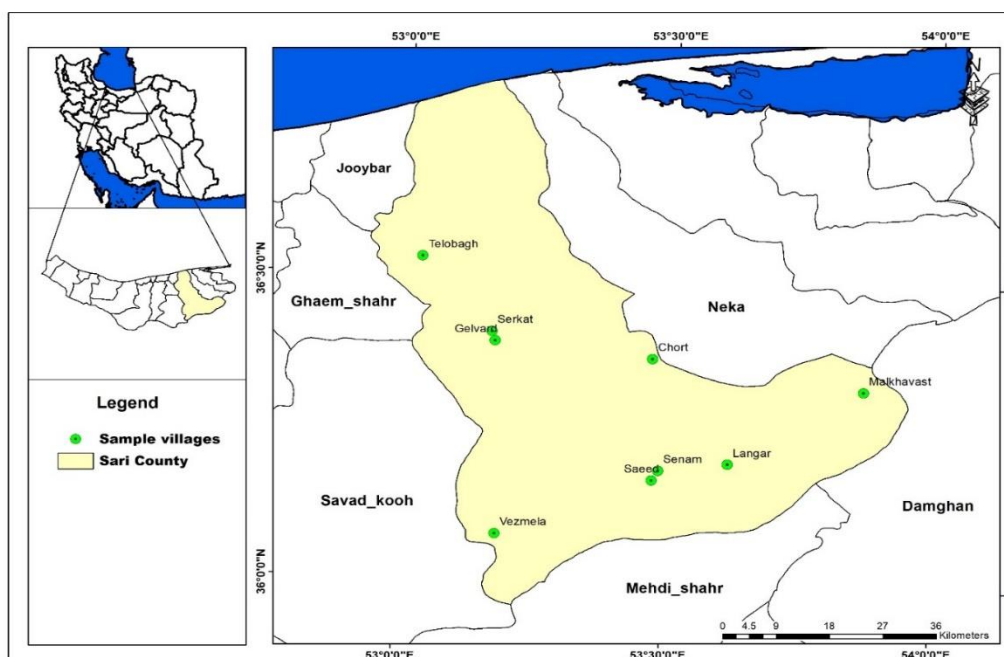
Figure 1. Villages with eco-resorts in Sari County
(Source: Authors, 2019)

Cronbach's alpha results showed that indicators have the desired reliability in the following: the green service indicator with 5 sub-indicators and coefficient of 0.567, sustainable design and protection indicator with 4 sub-indicators and coefficient of 0.645, pristine geographical location indicator with 4 sub-indicators and coefficient of 0.624, suitable infrastructure structures indicator with 6 sub-indicators and a coefficient of 0.589, local management and partnership indicator with 5 sub-indicators and a coefficient of 0.621, an ecological environmental structure indicator with 8 sub-indicators and a coefficient of 0.652 and others with 5 sub-indicators and a coefficient of 0.597. After identifying the indicators of eco-resorts using the background and theoretical foundations of the research, the opinions of tourism experts (7 indicators in the form of 37 sub-indicators) were used to classify them. To analyze the

data, descriptive statistics (mean, standard deviation and Variance) and inferential statistics (single sample t) and to rank eco-resorts, Vikor model was used.

4. Research findings
Descriptive findings on the characteristics of tourism experts showed that most of them were between 31-40 and 41-50 years old, and 80% of the respondents were men. Education level of most of them was bachelor degree (46.7%) and around 40% of them were employed in the Department of Cultural Heritage, Tourism and Handicrafts and had a job experience of 6-10 years. Of the group of tourists, about 47% of the respondents were in the age group of 31-40 years and 74% of tourists had an associate degree, whereas 86.2% were men and 85.6% were married. The majority of respondents were also self-employed (75.1%) (see Table 5).

Table 5. Descriptive characteristics of experts and tourists in rural eco-resorts
(Source: Research finding, 2019)

Descriptive characteristics of experts				Descriptive characteristics of tourists			
indicator		Frequency	Percent	indicator		Frequency	Percent
Age	21-30	1	7/6	Age	Less than 20	27	9/14
	31-40	5	3/33		21-30	50	6/27
	41-50	5	3/33		31-40	85	47
	More than 50	4	7/26		41 and above	19	5/10
Gender	Male	12	80	Gender	Male	156	2/86
	Female	3	20		Female	25	8/13

Descriptive characteristics of experts				Descriptive characteristics of tourists			
indicator		Frequency	Percent	indicator		Frequency	Percent
Education	Bachelor degree	7	7/46	Education	Primary and high school	37	5/20
	Master degree	4	7/26		Associate degree	134	0/74
	Doctoral	4	7/26		Bachelor degree and above	10	5/5
Marital status	Single	1	7/6	Marital status	Single	26	4/14
	Married	14	3/93		Married	155	6/85
Job	Rural managers	5	3/33	Job	Self-employment	136	1/75
	University professors	4	7/26		Governmental	45	9/24
	Cultural heritage Dep.	6	40	Number of households	2 persons	16	8/8
Experience	1-5 years	5	3/33		3-4 persons	138	2/76
	6-10	6	40		5-7 persons	25	8/13
	11-15	3	20		More than 7	2	1/1
	25-21	1	7/6				

Table 6 shows the measurement of the perspective of experts and tourists in terms of mean, standard deviation and variance. Findings showed that from the experts' point of view, the average of green services indicator is equal to 4.69. Sustainable design and protection and pristine geographical location is 4.68, rough infrastructure is 4.72, and local and institutional management is 4.77, The ecological structure of the ecology is 4.79, while the indicator of others is 4.76. In addition, in terms of ranking, others indicator with a variance of 0.023 and local and institutional management indicator with a variance of 0.028 were ranked first and second among all. From the tourists' point of view, the average of green services indicator is 4.52. Sustainable design and protection and rough infrastructure is 4.54, pristine geographical location is 4.20, local and institutional management is 4.09, ecological environmental structure is 3.82, while the other indicator is 3.55. In terms of ranking, the infrastructure indicator with a variance of 0.064 and green services with a variance of 0.065 are ranked first and second, and others indicators are ranked after them. A comparison between the views of experts and tourists shows that there is a difference of opinion between them; therefore, tourists paid careful attention to the details in the eco-resorts and express their opinions based on the services they received, and this shows that the tourists' view of the evaluated indicators is more real and objective than the experts' opinions.

Table 6: Descriptive features of eco-resorts indicators from the perspective of experts and tourists
(Source: Research finding, 2019)

indicator	Experts' view				indicator	Tourists' view			
	Mean	Standard deviation	Variance	Rating		Mean	Standard deviation	Variance	Rating
Green service	69/4	212/0	045/0	6	Green service	52/4	255/0	065/0	2
Sustainable design and protection	68/4	220/0	049/0	7	Sustainable design and protection	54/4	315/0	100/0	4
Pristine geographical location	68/4	99/1	040/0	4	Pristine geographical location	20/4	437/0	191/0	7
Infrastructure	72/4	197/0	039/0	3	Infrastructure	54/4	253/0	064/0	1
local management and Institutional	77/4	166/0	028/0	2	local management and Institutional	09/4	329/0	108/0	5

indicator	Experts' view				indicator	Tourists' view			
	Mean	**Standard deviation**	**Variance**	**Rating**		**Mean**	**Standard deviation**	**Variance**	**Rating**
Ecological environmental structure	79/4	209/0	044/0	5	Ecological environmental structure	82/3	272/0	074/0	3
Others	76/4	151/0	023/0	1	Others	55/3	381/0	146/0	6

Moreover, a one-sample t-test was used to evaluate the status of eco-resort indicators in rural areas of Sari County. According to Table 7, the numerical mean analysis obtained from the calculation of the indicators of eco-resorts from the perspective of experts and tourists has been obtained using questionnaire data. Findings of one-sample t-test showed that with the confidence level of 0.99 and error level less than 0.01, there is a significant difference between the mean of ecotourism indicators and the assumed mean (3); therefore, the mean obtained in all indicators in the study is higher than the assumed mean (3). In other words, the mean in all components has been evaluated above the numerical desirability of the test (3).

Table 7. Status of eco-resort indicators from the view of experts and tourists using one-sample t-test
(Source: Research finding, 2019)

Numerical desirability of test capacity = 3 (from the experts' view)						
Criterion	**Mean**	**T-test statistic**	**Degree of freedom**	**Significance level**	**The difference from the optimal limit**	**95% confidence interval**
						Below	**Above**
Green service	69/4	932/30	14	000/0	69/1	57/1	81/1
Sustainable design and protection	68/4	510/29	14	000/0	68/1	56/1	80/1
Pristine geographical location	68/4	64/32	14	000/0	68/1	57/1	79/1
Infrastructure	72/4	79/33	14	000/0	72/1	61/1	82/1
local management and Institutional	77/4	18/41	14	000/0	77/1	68/1	86/1
Ecological environmental structure	79/4	11/33	14	000/0	79/1	67/1	90/1
Others	76/4	10/45	14	000/0	46/1	68/1	85/1
Numerical desirability of test capacity = 3 (from the tourists' view)						
Criterion	**Mean**	**T-test statistic**	**Degree of freedom**	**Significance level**	**The difference from the optimal limit**	**95% confidence interval**
						Below	**Above**
Green service	52/4	19/80	180	000/0	52/1	48/1	56/1
Sustainable design and protection	54/4	06/66	180	000/0	54/1	50/1	59/1
Pristine geographical location	20/4	11/37	180	000/0	20/1	14/1	26/1
Infrastructure	54/4	08/82	180	000/0	54/1	50/1	58/1
local management and Institutional	09/4	95/44	180	000/0	09/1	05/1	14/1
Ecological environmental structure	82/3	81/40	180	000/0	827/0	787/0	867/0
Others	55/3	65/19	180	000/0	558/0	502/0	614/0

4.1. Spatial analysis of eco-resort indicators in the study area

To determine the rank of each village based on the indicator of eco-resorts in Sari County, the VIKOR method was used. First, the raw data matrix was formed in the form of m options (9 active eco-resorts located in rural areas of Sari County) and n attributes (7 indicators). Then the matrix was normalized from the following relation:

$$f_{ij} = \frac{x_{ij}}{\sqrt{\sum_{j=1}^{n} x_{ij}^2}} \quad , i = 1, 2, \ldots, m; \quad j = 1, 2, \ldots, n$$

Where xij is the initial value, fij is the normalized value of option i and criterion j. The result of the normalized data is the normal matrix. In the next step, the best and worst values were determined for all criteria functions (Chen & Wang, 2009). Thus, if the criterion function represents the advantage (positive), the best and worst values are calculated based on the following relation:

$$f_{\mathrm{i}}^* = \max_j f_{ij} \quad , \quad f_i^- = \min_j f_{ij}$$

So if the criterion function represents the disadvantage (negative), the best and worst values are calculated based on the following relation:

$$f_{\mathrm{i}}^* = \min_j f_{ij} \quad , \quad f_i^- = \max_j f_{ij}$$

In this way, the best and worst values can be determined for the criteria. In the next step, the weight was determined for each of the indicators. To express the relative importance of indicators / criteria, their relative weight must be determined. For this purpose, there are various methods such as Linmap, AHP, ANP, Shannon entropy, Eigenvector, rank exponent method that can be used for different purposes (Hajinejad et al., 2015. To prioritize the indicators of eco-resorts in the study area and also to determine the weight of each criterion, first a questionnaire was developed and 15 experts in this field were then asked to complete it and finally their importance was determined in terms of the weight of variables. Thus, the rank exponent function has been used to determine the weight of the indicators (see Table 8).

Table 8. The best and worst value along with the weight of eco-resorts indicators
(Source: Research finding, 2019)

	Green service	Sustainable design and protection	Pristine geographical location	Infrastructure	local management and Institutional	Ecological environmental structure	Others
W	11/0	15/0	17/0	18/0	13/0	15/0	11/0
f*	037/0	051/0	059/0	061/0	044/0	050/0	038/0
f-	035/0	048/0	055/0	058/0	042/0	049/0	035/0

In the next step, the distance of each option from the positive ideal solution was calculated and then its aggregation was calculated based on the following equations:

$$S_j = \sum_{j=1}^{n} \frac{w_i(f_{ij}^* - f_{ij})}{f_j^* - f_j^-}$$
$$R_j = \max_j [w_i(f_{ij}^* - f_{ij})/(f_j^* - f_j^-)]$$

Where Sj is the distance from option i to the ideal solution (best combination) and Rj is the distance of option i from the negative ideal solution (worst combination). High ranking will be based on Sj and poor ranking will be based on Rj values. In other words, Rj and Sj represent 1L and i1L of the Lp parameters, respectively. Finally, the value of Qi is calculated as follows:

$$\mathrm{Q_i} = v\left[\frac{S_i - S^*}{S^- - S^*}\right] + (1 - v)\left[\frac{R_i - R^*}{R^- - R^*}\right]$$

In this regard:

$$S^* = \min_j S_j \quad و \quad S^- = \max_j S_j$$
$$R^* = \min_j R_j \quad و \quad S^- = \max_j R_j$$

And V is the weight of the strategy (majority of criteria) or maximum group desirability. It shows the distance from the positive ideal solution for option. In other words, it indicates the distance from the negative ideal solution for option i. If 0.5 v, the Qi index has the maximum agreement and when 0.5 v, this index indicates the maximum negative attribute. In general, v = 0.5 denotes equal group agreement. Based on the Qi values of the options calculated in the sixth step, the options can be ranked. Options with higher Qi values are given lower ranking, and lower Qi values mean higher rankings. Therefore, according to the calculations, the eco-resorts of Late Letka and Late Latka Tapuristan and Miansheh were ranked first and third according to the indicators. In addition, the resorts of Mah Joon (Q = 0.785), Senam and Saray Khan (Q = 0.828) had the lowest rank (see Table 9).

Table 9. Ranking of eco-resorts in villages based on the distance to the ideal solution
(Source: Research finding, 2019)

Eco-resorts	Village	S	R	Q	Rating
Cheshmehsort	Malkhavast	512/0	180/0	725/0	6
Saray Khan	Gelvard	695/0	15/0	828/0	7
Senam	Senam	635/0	169/0	828/0	8
Mah Joon	Serkat	706/0	150/0	785/0	9
Late Letka	Vezmela	352/0	110/0	0	1
Miyansheh	Chort	512/0	118/0	282/0	3
Sareh Khatoon	Langar	513/0	125/0	337/0	4
Galesh Manzel	Saeed Abad	481/0	132/0	338/0	5
Late Letka Tepoorestan	Vezmela	411/0	13/0	137/0	2

In Figure 2, the spatial level of villages with eco-resorts is evaluated. This map shows that Late Letka eco-resorts in Vezmala village were ranked first and Saray Khan in Golord and Senam in Senam villages were ranked lowest in terms of eco-resorts.
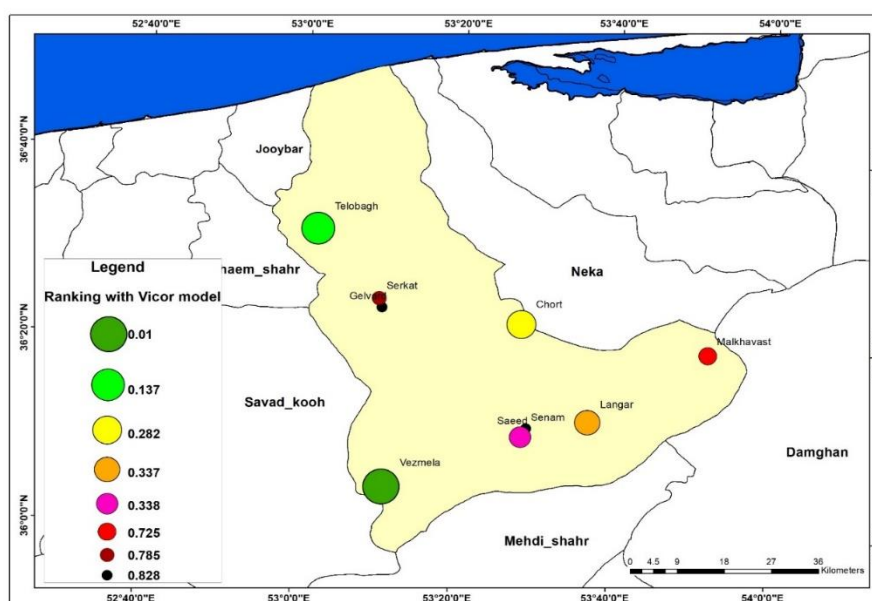
Figure 2. Spatial analysis of eco-resorts based on research indicators in Sari

5. Discussion and Conclusion

The history of eco-resorts in the world dates back to 1994, which was built in pristine natural environments, rural textures and historical contexts of cities. They were in the highest possible level of environmental consideration and in a way compatible with local architecture and regional appearance and maximum interaction with local community. They provide the context and the accommodation of tourists with acceptable and defined quality. In fact, the main purpose of creating and developing this type of accommodation, which has a local identity and structure, has been the sustainable development of tourism, and this emphasizes the quality of life of the host community, tourist satisfaction and environmental protection, human and social resources. Also, eco-resorts are examples of small businesses with less pressure on the natural and human environment and reduction of economic leakage which are key activities in achieving sustainable development. Therefore, in recent years, eco-resorts, as sustainable infrastructure and superstructure, have combined accommodation and ecotourism activities and have taken a very effective step towards achieving the goals of sustainable development in such resorts, where almost in all of them families provide services. They tend to introduce the traditional way of life in that particular place, and the guests use the local food there and make their trip in a natural environment. Reviewing the theoretical foundations and research background shows that ecotourism is the acquisition of experience related to the understanding of existential values, which can strengthen natural environments and be compatible with environmental policies. Therefore, taking notice of ecotourism to meet the demand of tourists in the global context causes tourism capabilities and development strategies to be measured in different regions. Hence, this kind of tourism will be formed by creating the flow of tourism, job creation and increasing income for local residents of vulnerable areas.

Iran, a country with diverse climatic conditions, tourist attractions and local customs, has the ability to provide opportunities out of the threats with the help of recognizing and evaluating the position of tourism and identifying the strengths and weaknesses of rural tourism. By doing this, it will cause sustainable rural development and benefit the present and future generations from a sustainable livelihood. Instructions for the construction and operation of eco-resorts were prepared by the Deputy Minister of Tourism of the Cultural Heritage, Handicrafts and Tourism Organization and also with the help of the General Directorate of the National Committee for Eco Tourism in December 2014. In this regard, the description of the specifications and criteria for construction, operation and grading of ecotourism resorts was provided. The purpose of developing these criteria is to organize eco-resorts, preserve and protect traditional and indigenous culture, increase tourism products and create a new types of tourist destinations and attractions. Having registered eco-resorts and a variety of tourist attractions, Sari County is one of the places that have caught attention of domestic and foreign tourists. Therefore, this study was conducted to assess the status of eco-resorts in Sari County. The results showed that from the perspective of the two groups, namely experts and tourists, the average status of the studied indicators is higher than the theoretical average (3), and this indicates that the studied indicators are in good conditions. Also, all indicators are almost the same from both groups' perspectives. However, the main point is that the view of tourists is more real and tangible. From the experts' point of view, the average of green services indicator was 4.69. The sustainable design and protection and pristine geographical location was 4.68, and rough infrastructure was 4.72, local and institutional management was 4.77. The ecological structure of the ecology is 4.79 and the indicator of others is 4.76. Moreover, from their point of view, other indicators with the variance of 0.023 and local and institutional management with the variance of 0.028 rank first and second, and from tourists' point of view, infrastructure indicator with variance of 0.064 and green services with variance of (0.065) took the first and second ranks. The results of VIKOR method showed that Late Latkan and Late Letka Taporestan and Miansheh resorts were ranked first and third in terms of the studied indicator; the reasons for this are that they have the indicators of eco-resorts such as the existence of pristine natural space, having access to appropriate infrastructure and indigenous services in this area; however, the resorts of Mah Joon (Q = 0.785) Senam and Saray Khan (828 / 0Q =) had the lowest ranks, which can be attributed to geographical isolation from urban centers, lack of managers' attention to the development of eco-

resorts and lack of financial support. However, the results of this study can be compared with the studies of Alwani & Dehdashti (1994), Vosoughi (2016), Maleki et al. (2017), Salehi et al. (2018), Jaafar & Maedin (2012) and Lenao & Basopi (2016). In their findings for indicators such as natural environment protection, the preservation of physical attributes of the village and historical monuments, reduction in environmental pollution, the improvement of the heating and cooling system, energy saving, and the improvement of green resorts were emphasized, which is in line with the present study. Therefore, the findings of field studies and objective observations are well consistent with the realities of eco-resorts. Thus, the indicators of the present study can be considered as a suitable model for other eco-resorts in the country. These indicators can also help ecotourism development planners review the results of policies and programs and also present new programs. At the regional and local level, tourism planners and officials in charge of promoting ecotourism resorts need to pay more attention to the eco-resorts at a lower level and also strengthen these indicators in eco-resorts.

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بررسی و تحلیل فضایی وضعیت شاخص‌های اقامتگاه‌های بوم‌گردی روستایی

(مطالعه موردی: شهرستان ساری)

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بر این اساس، هدف اصلی پژوهش، بررسی و تحلیل فضایی وضعیت شاخص‌های اقامتگاه‌های بوم گردی روستایی در شهرستان ساری است، لذا سوال های پژوهش حاضر به این شکل مطرح شده است، ۱- وضعیت موجود شاخص‌های اقامتگاه های بوم گردی روستایی در چه شرایطی است؟ ۲- وضعیت روستاهای مورد مطالعه از لحاظ شاخص‌های اقامتگاه های بوم گردی در چه سطحی است؟

۲. مبانی نظری تحقیق

بوم‌گردی به مثابه یک شاخه گردشگری، ابزاری برای حفاظت محیط زیست و توسعه‌ای تداوم پذیر است. هدف از توسعه بوم‌گردی، حفاظت از مناطق طبیعی، از طریق کسب درآمد، حفاظت از محیط، آموزش و مشارکت مردم محلی بوده و مبتنی بر این ایده است که محیط، یک منبع محلی است که ارزش اقتصادی از طریق جذب گردشگران فراهم می کند.

اقامتگاه های بوم‌گردی یا اکولوژ، اقامتگاه‌هایی هستند که در محیط های طبیعی و روستایی با رعایت سطح ممکن ضوابط زیست‌محیطی و به شکلی سازگار با معماری بومی و سیمای طبیعی منطقه برای اسکان و پذیرایی از گردشگران احداث شدند یا خانه‌های تاریخی و قدیمی موجود در روستاها هستند که پس از مرمت به اقامتگاه تغییر کاربری دادند و ضمن بیشترین تعامل با جامعه محلی، زمینه حضور و اقامت طبیعت گردان را با کیفیتی پسندیده و تعریف شده در محیط‌های طبیعی و روستایی فراهم کردند.

چکیده مبسوط

۱. مقدمه

امروزه مقوله اقامتگاه‌های بوم‌گردی، موضوعی جدید برای ذهن گردشگران محسوب نمی‌شود، بوم‌گردی برای افراد با خصوصیات ماجراجو و علاقمند به یادگیری مناسب بوده و بر مکان های طبیعی، فرهنگی و تاریخی که کمتر مورد توجه هستند، متمرکز است. لذا اهمیت آن از نظر گردشگران باعث شده است که این شاخه از گردشگری تقریبا ۲۷ درصد سفرهای بین‌المللی را در برگیرد و چنانچه به صورت مناسب مدیریت شود، می‌تواند به اشتغال محلی، فرصت‌های توسعه بومی و حفظ محیط‌طبیعی منجر گردد. بنابراین برای این که بتوان وضعیت اقامتگاه‌های بوم‌گردی را مورد سنجش و ارزیابی قرار داد؛ نیازمند، استفاده از شاخص‌هایی است، که قابل تبیین باشد. به همین جهت، مسئله ارتقاء کیفیت شاخص‌های اقامتگاه‌های بوم‌گردی از طریق توسعه خدمات، تسهیلات و زیرساخت‌های مناسب و مدیریت آن به منظور پاسخگویی به نیازهای گردشگران، ضرورت دارد. شهرستان ساری نیز به واسطه تنوع در گویش ها، سبک و الگوی زندگی در کنار سابقه تاریخی، فرصت های بالقوه و شرایط بالفعلی برای توسعه بوم گردی دارد، به همین دلیل مسئولان این حوزه باید در زمینه تقویت و ایجاد زیرساخت‌های لازم برای رونق بوم گردی گام‌های اساسی بردارند.

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بوم‌گردها به قصد بازدید از خاستگاه‌ها و زیستگاه‌های طبیعی و با هدف حفاظت از میراث فرهنگی به مثابه گزینه سودمند اقتصادی تلقی می‌شوند. بنابراین در پژوهش‌های گوناگون، تاکنون تقسیم‌بندی متعددی از گونه و دسته‌بندی شاخص‌های اقامتگاه‌های بوم‌گردی انجام شده است. شاخص‌های ارزیابی بوم‌گردی اغلب در قالب گروه‌هایی چون اقتصادی، اجتماعی، زیست محیطی و کالبدی طبقه‌بندی می‌شوند. بنابراین بررسی نتایج پژوهش‌های گذشته نشان می‌دهد که در هیچ یک به روابط و میزان اهمیت این شاخص‌ها نسبت به یکدیگر توجهی نشده است، در صورتی که آگاهی از روابط و میزان اهمیت این شاخص‌ها، خود داده های با اهمیتی را برای تصمیم گیران و برنامه‌ریزان توسعه بوم‌گردی در بر خواهد داشت.

۳. روش تحقیق

پژوهش حاضر براساس هدف، کاربردی و بر حسب روش؛ توصیفی-تحلیلی است. جمع‌آوری داده‌ها ترکیبی از روش‌های میدانی و کتابخانه‌ای است. ۱۱ اقامتگاه بوم‌گردی در قالب ۷ شاخص شامل خدمات سبز، طراحی پایدار و حفاظت، موقعیت جغرافیایی بکر، ساختارهای مناسب زیربنایی، مدیریت محلی و مشارکت، ساختار محیطی بوم‌گرا و سایر و ۳۷ زیرشاخص در نظر گرفته شد. جامعه آماری این پژوهش شامل ۱۵ کارشناسان حوزه گردشگری و بر اساس فرمول کوکران تعداد ۱۸۱ گردشگری هستند که در بازه زمانی فروردین ۱۳۹۷ تا بهمن ۱۳۹۸ در این اقامتگاه های بوم‌گردی اسکان داشته‌اند. برای تجزیه و تحلیل داده ها از آمارهای توصیفی (میانگین، انحراف معیار و واریانس) و استنباطی (t تک نمونه‌ای) و مدل وایکور برای رتبه‌بندی اقامتگاه های بوم‌گردی استفاده شد.

۴. یافته‌های تحقیق

بررسی وضعیت شاخص‌های اقامتگاه‌های بوم‌گردی در مناطق روستایی شهرستان ساری با استفاده از آزمون t تک نمونه ای نشان داد که مقادیر میانگین بدست آمده در تمام شاخص‌های مورد نظر تحقیق، بالاتر از میزان مطلوبیت عددی مورد آزمون(۳) بوده است. مقایسه میانگین دیدگاه کارشناسان و گردشگران نشان داد که نگاه گردشگران به شاخص های مورد ارزیابی، ملموس‌تر و عینی‌تر از

نظرات کارشناس می باشد. به طوری که گردشگران به جزئیات در اقامتگاه‌های بوم گردی توجه می‌کنند و بر اساس خدماتی که از اقامتگاه های بوم‌گردی دریافت کردند، نظرهای خود را بیان داشتند. بر اساس نتایج حاصل از مدل ویکور، اقامتگاه های بوم‌گردی لته لتکان و لته لتکا تپورستان و میانشه رتبه‌های اول و سوم را از لحاظ شاخص های مورد بررسی به خود اختصاص دادند. همچنین اقامتگاه‌های ماه جون(۰/۷۸۵=Q) سنام و سرای خان(۰/۸۲۸=Q) پایین ترین رتبه را دارا بودند.

۵. بحث و نتیجه‌گیری

هدف اصلی از ایجاد و توسعه اقامتگاه‌های بوم‌گردی که دارای هویت و ساختاری بومی هستند، توسعه پایدار گردشگری بوده است و توسعه پایدار گردشگری نیز بر کیفیت زندگی جامعه میزبان، رضایت گردشگران و حفظ محیط‌زیست، منابع انسانی و اجتماعی تاکید دارد. همچنین، اقامتگاه‌های بوم‌گردی نمونه های از کسب و کارهای کوچک مقیاس با مالکیت محلی هستند که با فشار کمتر بر محیط‌طبیعی و انسانی و کاهش نشت اقتصادی از فعالیت‌های اساسی در تحقق توسعه پایدار محسوب می‌شوند. شاخص‌های پژوهش حاضر را می توان الگویی مناسب برای سایر اقامتگاه‌های بوم گردی در کشور دانست. همچنین این شاخص‌ها می‌توانند برنامه‌ریزان توسعه بوم گردی را در بازبینی نتایج سیاست‌ها و برنامه‌ها و ارئه برنامه‌های جدید یاری کنند، در سطح منطقه‌ای و محلی باید برنامه ریزان و مسئولین گردشگری و متولی رواج اقامتگاه‌های بوم‌گردی؛ به اقامتگاه‌های بوم‌گردی که در سطح ضعیف‌تری قرار دارد توجه بیشتری کنند و درصدد تقویت این شاخص‌ها در اقامتگاه‌های بوم‌گردی باشند.

کلیدواژه‌ها: اقامتگاه‌های بوم‌گردی، مناطق روستایی، مدل وایکور، شهرستان ساری.

تشکر و قدردانی

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

Original Article

The Effect of Decentralized Concentration on the Spatial Organization of Rural Settlements (Case Study: Molkabad Village Town, Mashhad)

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Abstract

Purpose- In the hierarchical planning of central places, systematic and calculated settlement is based on the desired spatial system, and small cities play a major role in striking balance and equilibrium in the residential system. The role and function of this type of rural centers lay the theoretical basis for strategies of developing a balanced settlement model. The proponents of small towns point to importance of these settlements as service centers in rural development, stressing the construction of a cohesive settlement hierarchy and the effects of top-down distribution. According to their view, small towns are at the forefront of rural and regional development in terms of production and institutional structure, preventing the over-concentration of population and activities in large cities. It is an issue that has deprived these cities of proper economic returns and investment.

Design/methodology/approach - In this study, the effect of Molkabad City on the spatial organization of rural settlements is investigated, and research hypotheses are tested using t-test, Wilcoxon, Kruskal-Wallis and WASP.

Finding- Of the sample villages in various geographical areas located at varying distances, Derakht-e Sepidar Village has the highest Qi in WASPAS model and is ranked first, thus having the highest spatial development among the sample villages. It is true because this village is located in a plain area adjacent to a dirt road that leads to Molkabad City. In the same region, Razan Village has the lowest Qi in WASPAS model and is ranked last, mainly because this village is located on a plain, but far from communication routes. Further, this village is within the jurisdiction of Binalood Town rather than Molkabad or even the center of its county, Imam Taghi Village. In general, according to the results obtained from the WASPAS model, it can be mentioned that there is a slight difference between the first and the last village and the rate of spatial development in the studied villages is almost identical. That is, it is not pertained to the remoteness and proximity to Molkabad City.

Key words: Spatial organization, Decentralized concentration, Middle and small city, Hierarchical system of villages, Molkabad city.

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1. Introduction

Most small towns, or more accurately, large villages that have transformed into urban areas over the last decade in Iran struggle with inadequate support services. One of the most basic measures for the strengthening and improvement of living conditions and attraction of small cities is to build up infrastructure and development facilities in these cities. This is the issue that have always posed a barrier economic returns and investment in these cities. However, as noted in the land planning of Islamic Republic of Iran, "Since the economy of these cities is chiefly reliant on agriculture, the industrial development of these cities, without strengthening the income of the agricultural sector might wreak havoc on this sector" (Fani, 2003) On the other hand, in the analysis of urban-rural relations, many theorists recognize that the goals of rural development would not be achieved without considering cities. It is because the markets that are recipient to the surplus of agricultural products are located in urban centers. Small and medium-sized cities, as central areas, have forged complex connections and relations with rural settlements in their jurisdiction. In these cities, the desirable solution for rural development is controlling rural-urban migration and bridging the gap regarding the reception of necessary services needed by rural settlements. With their special function, these cities can exploit the potentials and capabilities of regional development and mobility (Rahnamaei et al., 2009).

Today, "most urban populations in developing countries settle in small and medium-sized cities. The population residing in rural areas have close relations with these cities" (Owusu, 2005) Therefore, the policy of supporting small and medium-sized cities in developing countries has now received growing attention as a way of developing the surrounding areas and distributing services and facilities to the neighboring rural areas (Shokouei, 2006) In fact, developing small and medium-sized cities and decentralization in the spatial organization prompts a direct flow of migrants to these cities. As a result, there will be expansive growth in a certain geographical area, which can drum up the economy of rural areas, reduce migration to large cities, and distribute the benefits of economic growth in backward areas

(Gharkhloo et al., 2008). The city-village nexus is an issue that has been the subject of scholars such as Randalli and Lipton. Sociologists have also shown active interest in the link between the city and its rural hinterland, focusing mainly on changes in rural communities and their spatial organization in the wake of urban transformations (Kaur, 1995). In this sense, the equitable distribution of facilities in the majority of a country's population is a feature of developing societies (Shakour et al., 2013).

The importance of rural development in the spatial organization of rural settlements in less developed countries lies in its crucial role in rural economy (UNDP, 1992). Despite the fundamental role of rural settlements in a geographical area as a spatial organization covering both villages and cities, there is still an imbalance in the settlement hierarchy, which has deteriorated into a critical problem. It has provoked centralism for the urban settlement, leading to the expansion and enlargement of the main urban settlement and gradual funneling of rural capital to the cities, which undermines the balance between the size and rank of the settlements. The first fallout of this imbalance is the evacuation of some villages and stymied growth of small towns entangled in this process. Explaining the role of small towns in the national development of the space agency, Hinrey (2007) attributes bottom-up urbanization to small and medium-sized cities. He considers it a practical tool for developing countries, which is aimed at creating job opportunities, regional growth and meeting the needs of the villagers inhabiting in the vicinity of these cities.

In general, early theorists have addressed the role of small and medium-sized urban centers in rural and regional development within the general framework of modern theories. For this reason, small and medium-sized urban areas are seen as centers that bestow innovation and modernization upon the population of rural settlements (Sarvar & Lalehpour, 2006). On the one hand, these centers can lead to demolition and disarray; on the other hand, it can lead to the reinforcement of relations in the spatial organization of rural settlements. Given that some of the major problems for local and regional planning emerge as at macro scale, these problems can modify planning policies. In the meantime, it should be noted that one of the characteristics of developed societies and also one of the indicators of development is the

decentralization of cities. However, some researcher working on espouse regional balance have dismissed the impact of government intervention in decentralization, and they argue that "any efforts in this area would be a waste of time and financial resources" (Gharkhloo et al., 2008). However, national peace comes from reasonable settlement of the population, and unless such a peace is achieved, other programs, including development plans, would be doomed to failure. Factors such as greater access to welfare facilities, job opportunities, educational and health facilities and better health services, among other things, draw rural groups to urban areas. The inflow of investments, capitals, communications and education, etc. to small and medium-sized cities has altered the spatial organization that cannot be overlooked. Agricultural and horticultural lands or other natural resources as the levels of spatial organization are flushed out of economic cycle, and sometimes coveted by city dwellers for land use change or other purposes.

The theory of decentralized concentration or the establishment of small and medium-sized cities has been proposed by many urban planners as a solution in recent years (Fani, 2003). In this regard, we have attempted to draw on the experience of other countries or even other provinces in this paper, chiefly because this trend has affected all urban areas throughout the country.

With this in mind, the new small city of Molkabad with a long history as a village and more than a decade experience as an urban area, located at a distance of 40 km from Mashhad metropolis, was chosen as the case study of this research. In general, the strategy of decentralized concentration could be highly popular due to environmental considerations. One of the long-term goals of developing Mashhad City is to delegate regional and intra-provincial roles of Mashhad metropolis to other cities in order to decentralize this city and reduce service load and activities with the aim of striking an intra-regional and intra-spatial balance (of course at small scale). Therefore, the spatial development and spatial organization driven by decentralization in rural settlements of Molkabad have come under study. Many case studies have been conducted across the country in the same fashion but with different subjects, some of which will be reviewed here. The new city of Zahedshahr in Fasa and

Humeh County in Harsin City can be cited as successful examples and the city of Deilman and BaghMolk District in Khuzestan Province or the new city of Andisheh in Tehran as unsuccessful instances.

In light of the above, the main question of this research is: How does the concentration of population in small and medium-sized cities affect the spatial organization of rural settlements? Geographically, one should understand natural and human phenomena scattered on the surface of the earth and be cognizant of their position in the space.

Accordingly, this paper aims to study the effects of some aspects of the spatial organization, for example an urban point, on rural settlements so that several trends could be directed to the same urban point. Also, we seek to assess the position of this urban point as a decentralized phenomenon (small and medium-sized towns) and its effect on laws governing spatial organization (i.e. nodes, networks and levels) in the study area and to investigate whether changes have been commensurate with the plans or have sparked trends in the direction of larger cities. The main policy is establishing small and medium-sized cities and reducing population and service pressure load on metropolises. The main research questions would be answered by conducting studies and presenting hypotheses related to the subject.

Q1: Does the concentration of population in new cities affect the spatial development of villages?

2. Research Theoretical Literature
2.1. Definitions and concepts
2.1.1. Space, place and spatial development
Simply put, space is the field of interaction between phenomena. After all, "space is the home to the interactions of factors and phenomena" (Rezvani, 2002) As a result, "recognizing the relevant components and effective factors is the prerequisite of any calculated actions by human beings, which is undertaken for the management of environment" (Zarabi et al., 2012)

In fact, "the growth and development of cities may take the form of horizontal or vertical expansion" (Zamiri et al., 2014). In the wake of spatial growth of cities, new growth centers appear. Of course, "the idea of growth centers do not imply the formation of new settlements, but its true meaning is to reorganize the rural housing

model for the benefit of centers that have the highest potentials for development and transformation into growth centers or services" (Friedman, 1979).

2.1.2. Spatial organization

Spatial organization describes the systematic arrangement and distribution of units in a space, which is compatible with the general functions of the complex; "this organization is in a constant state of flux with respect to length, width, height, time and even trends (i.e. the quality of change)" (Masoumi Eshkevari, 1997).

Therefore, small and large settlements in a geographical space together with the diversity and scope of activities related to these settlements and socio-economic links forged through communication networks in temporal-spatial context shape an organization (Molazadeh, 1998).

Hossein Shokouei (2007) divides the components of spatial organization as follows:

1- Points or nodes (central location): cities, villages, industrial areas;
2- Networks or links: roads and paths, streets, highways, canals, pipelines, etc.;
3- Stretches or surfaces (area of influence) of agricultural lands, forests, etc.;

Nodes are central locations connected by transportation, communication and other factors. Central locations are at varying distances from each other with divergent accessibility.

Hence, the scope of their influence is also variable with larger nodes, exerting a wide sphere of influence. They are often divided into six categories in terms of their importance: 1) Growth pole; 2) Growth centers, 3) Growth points; 4) Service centers; 5) Central villages; 6) Village (Shokouei, 2007).

2.1.3. Spatial structure

The spatial structure usually reflects the general relations at the levels of spatial organization in the form of communications, showcasing the connections of units through the spheres of influence (Masoumi Eshkevari, 1997). The spatial organization should not be equated with the spatial structure. Organization describes how the elements of a structure are arranged. In other words, natural-human and economic-cultural processes reveal a certain order of those phenomena in a space, which is the spatial structure or the adaptation of the spatial

organization to the physical environment. In this case, the developments and cultural and economic relations of humans or environmental and climatic changes can alter this arrangement of phenomena and the spatial structure.

The spatial reorganization can be performed through the reconstruction of nodes and linking of the sphere of influence, which is known as "multi-level planning". In this process, "centralization is abandoned and decentralization substitutes centrality in human activities so that the reconstructed organization emerges as a multi-level planned spatial organization" (Shokouei, 2007).

2.1.4. Decentralization and spatial organization of the population

Gloeden (1933) proposed the theory of urban complexes for decentralization of cities in accordance with rural examples. These theorists were under the assumption that "new cities play the most important role in decentralization or regional reconstruction". In underdeveloped or developing countries, the decentralization policy was shaped differently so that in the 1960s and 1970s in Asia, Africa, and Latin America, various spatial plans for decentralization and regional balances were developed. One of these policies involves deescalating the growth of large cities by providing the necessary facilities for the growth of middle cities, or the formation of new urban centers (Shokouei, 1994).

The development and strengthening of small towns is an urban policy program compatible with the goals of decentralization, and in the long run build up capacity for productive activities within these urban areas, which can affect the entire region under the influence of its performance and role.

Building new cities, land preparation plans, inclusive plans and urban spheres of influence, rural guide plans, city master planning and other similar plans can be successfully completed when its general policies are in keeping with the country's macro-socio-economic goals and appropriate housing and settlement of the population. This is a fundamental step towards economic self-sufficiency, giving priority to sparsely populated areas as compared with centralized areas (Shia, 2007).

Today, rural-urban development has maintained the organized relationship between cities and villages, placing development factors and areas in the rural spheres of influence. It forges spatial links between agricultural activities and consumer markets, develops

the capacity to provide services and empowers villagers (Mohammadi Yeganeh & Hosseinzadeh, 2013). The village-city strategy, however, has come under a lot of criticism.

In this regard, the spatial planning adopts an integrated approach to land development, regional dimensions and its subdivisions to strikes balance at the international, national, regional and local levels. In the past, there was some evidence for growing social, economic and cultural changes around the world, mainly leading to spatial change. Many communication paths have been built now, residential complexes have been extended and forest lands have been demolished; in fact, the statistical indicators suggest that lands are usually taken from natural space (rural areas) in the development of residential and spatial areas (urban areas). With the development of technology and public access to this technology, it seems that humans' dependence on elements and natural conditions have been largely diminished, while the degree of its dependence on social, economic, cultural and environmental processes has increased.

2.1.5. The impact of small towns on spatial organization

Small towns as central places forge most connections with the surrounding rural settlements, and these relations are shaped in the wake of economic relations, transportation, population mobility, technological advances, service delivery, administrative-political relations, and the extent and functional role of villages. Over time, however, it may undergo profound changes. At present, the impact of cities in all villages is not identical, but the villages in the proximity of cities are more likely to be affected than villages farther away from the city (Nikseresht et al., 2012). It is also considered as a factor to prevent over-concentration of population and activity in metropolises (Amkachi, 2004) The expansion of the road network and convenient access to vehicles has also accelerated the transfer of innovation from small towns to neighboring rural sphere of influence (Fani, 2003).
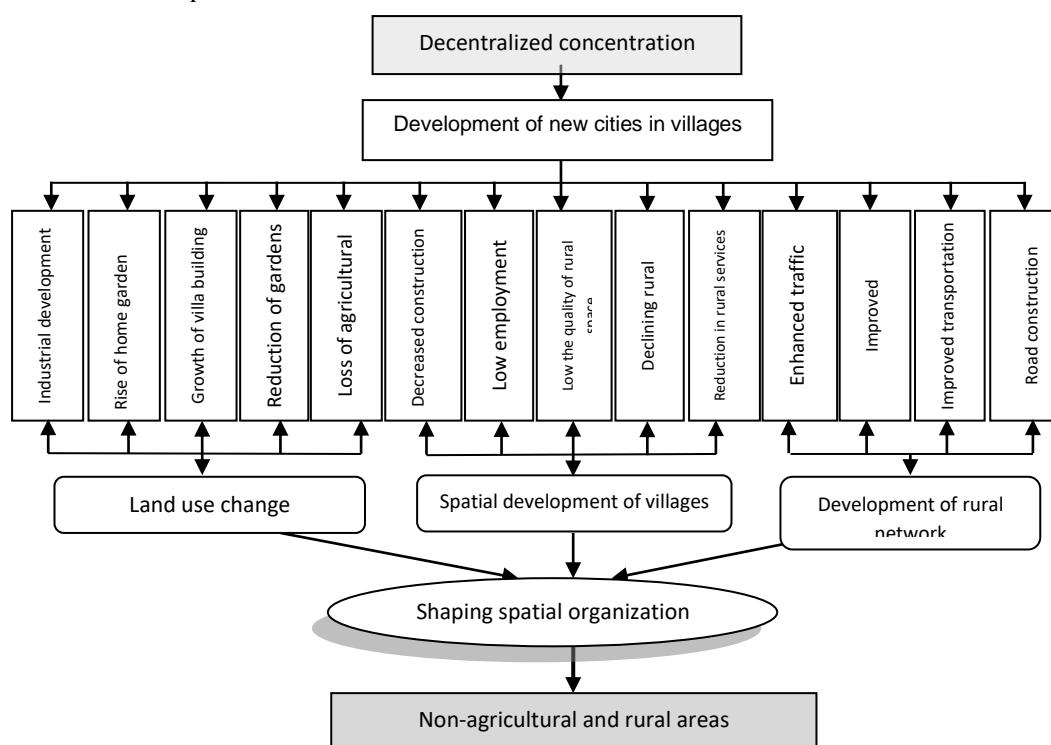
Figure 1. Conceptual model of research
(Source: Authors, 2020)

2.2. Theoretical background of the research

In the review of literature, we did not find a study on this subject, while similar studies have been performed in this field. In the following, some of the relevant research is discussed.

Table 1. Theoretical background of the research

(Source: Authors, 2020)

Authors	Results
Mohammadi Yeganeh & Hosseinzadeh (2013)	This article explores rural-urban links through a set of flows including the flow of people, technology, capital, resources and data, which have focused on small towns and rural areas in development planning. In this study, apart from explaining the position of village-cities in the hierarchical system, the existing capabilities and limitations in the county-rural areas of Zarrinehrud have been examined along with its positive and negative aspects. The highest effects of village-city in the study area were attributable to the socio-cultural dimension and the village-city of Zarrinehrud has failed to establish the regional balance in the study area.
Mehdibeigi & Mahdavi (2011)	The findings of this study suggest that the urbanization process of Vahidiyeh has exerted a positive impact on the balanced distribution of population and settlement at districts, population stabilization and welfare status of subordinate villages, but the agricultural growth has not been desirable. However, at some point, the growth of the industrial sector in Shahriar and Tehran left a positive effect on population growth due to the low cost of housing for people working mainly in the service and industrial sectors. Finally, the transformation of Vahidiyeh has not played an effective role in the development of the surrounding villages.
Nikseresht et al. (2012)	This article asserts that small urban centers strengthen the organic relationship between urban-rural communities, transferring the areas for development to rural areas. By analyzing and measuring the impact of service functions in Sarablah city on the development of peripheral villages, the spatial distribution of population and resources in the area and position of rural settlements have been studied. Finally, the research results reveal that the city of Sarablah has exerted a direct effect on rural development, leading to greater income, collective participation, increased motivation to stay and life expectancy in rural areas. The models also suggest that centrality plays a dominant role in providing rural services.
Goli (2011)	In this article, in order to reduce the concentration of different functions in a specific point(s), a variety of patterns are utilized by planners and development policy makers to convert rural settlements with appropriate population size into cities and provide urban functions, which is a common approach in many countries. The main goal of turning a village into a city is to promote the sustainability of the population through the development of urban infrastructure and functions, which while meeting the needs of its residents in a wide range of dimensions, reduces the number of visits and referrals to metropolises and large cities. The results of censuses and various studies at the national and provincial scales show that this approach has been largely unsuccessful. The results suggested that this pattern was still associated with the dominance of the provincial capital and large cities over temporary population flows in Fars province, so that most of small urban settlements have turned into rural areas over the past decade, though they play a slight part in fulfilling the needs of the surrounding villages.
Mikaeli & Sajjadi (2011)	The results of this study show that Oshnaviyeh enjoys a better position than other places in terms of providing infrastructure facilities, health status, literacy level, administrative facilities, financial and credit institutions. Oshnaviyeh has also a pivotal role in supplying services to its rural sphere of influence through economic functions reliant on agricultural products, which serve as a market for the exchange of local products of rural residents, and the provision of social, cultural, and economic services.
Taleshi et al. (2019)	This article looks into the spatial-spatial changes of rural settlements that are affected by the type and nature of trends and their spatial relations with cities. The flow of people and money are the major drivers for transformation in the surrounding villages. These developments have been in chiefly in physical and socio-economic structures. Today, these trends are embodied in the framework of new quasi-capitalist relations in rural areas, so that developments in the rural settlement system are directly proportionate to their size. The results show that some small and medium-sized villages can have a higher level of development due to their greater comparative advantage in interacting with cities, and the range of spatial interactions is a key factor in this regard.

In Iran, a host of studies have investigated satellite cities, middle or medium-sized cities, village-city or rural-urban transformation and its effects on these areas or their surrounding regions as well as socio-economic development planning at both regional and provincial levels.

However, the important issue is the paucity of studies on the spatial organization of rural settlements in these areas. Despite the fact that this trend started from the 60's or earlier in developed countries, still the country's planners base their approach on growth poles, regional or local planning, or the establishment of satellite towns in the periphery of metropolis, which may be able to mitigate or eliminate the adverse issues associated with immigration and overcrowding in central cities or growth hubs. However, most of such programs fail to consider the regional spatial organization. The spatial organization of all regions is more or less identical in terms of components. A spatial organization approach consists of 4 main spatial dimensions with 3 components: nodes (urban and rural areas), communication networks (all roads and transportation routes), levels, or stretches of lands between nodes (farms and barren lands, pastures, etc.).

The bulk of articles and theories about spatial organization are in essence concerned with creating new cities or upgrading villages into cities; however, what is often ignored is the effects of creating middle and satellite cities on the rural settlement system, which is the subject of the present study.

3. Research Methodology
3.1 Geographical Scope of the Research
The study area of this research is Molkabad City and the villages in Ahmadabad District of Mashhad City, including two villages of Sarjam and Pivehjan with Molkabad and Imam Taghi (Shah Taghi) as their capitals, respectively. This county is located to the southwest of Mashhad City on Mashhad-Torbat Heydariyeh road and includes 64 villages. Using different sampling methods, 8 villages were selected as the sample.

Ahmadabad District has a total area of 1596.1 km^2 of which 935.6 and 660.6 km^2 are the share of Pivehgen and Sarjam villages, respectively. The county is located at 59 degrees and 40 minutes longitude and 36 degrees and 12 minutes latitude with a longitude of 59 degrees and 15 minutes and a latitude of 35 degrees and 43 minutes in the southernmost point. Also, it has a longitude of 59 degrees and 45 minutes and a latitude of 36 degrees and 2 minutes in the easternmost point as well as a longitude of 59 degrees and 15 minutes and a latitude of 36 degrees in the westernmost point.

Fig. 2 depicts the location of Mashhad City in Khorasan Razavi Province, Ahmadabad District in Mashhad City, and Sarjam and Pivehjan villages in Ahmadabad District.
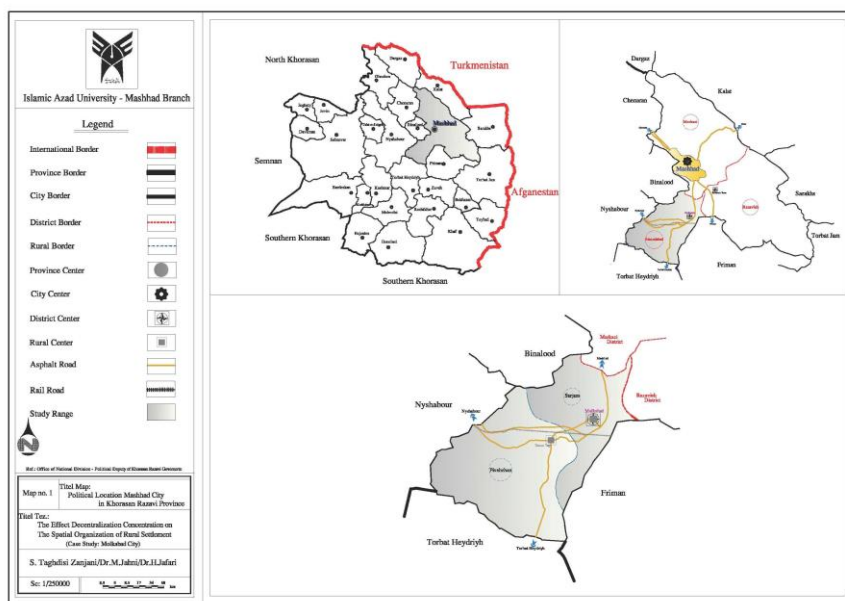
Figure 2. Location of Mashhad in Khorasan Razavi, location of Ahmadabad District and towns and villages of the county
(Source: Authors, 2020)

3.2. Methodology

To explain and clarify the subject, theoretical foundations from domestic and foreign sources are presented in the present study. The results of these studies are analyzed using a descriptive-analytical method. Data collection is also conducted using the library method and online databases. In this study, the dimensions and indicators of the questionnaire are listed in Table 2. The dimensions are presented in terms of components, components in terms of indicators, and indicators in terms of items to determine the items of the questionnaire.

In addition, to gain a more accurate picture of Molkabad City and the immigrants flowing to this city as well as its location in relation to Mashhad, some field visits were made and a number of questionnaires were completed to learn more about the demographic composition of the city residents and the immigrants. The GIS software was used for data integration to identify the rural areas and settlements linked to this city and draw a general map of the distribution of these settlements in relation to the city of Molkabad and Mashhad metropolis, which allows more detailed plans for Molkabad. Moreover, theoretical and statistical models and multi-criteria decision-making methods as a new method of descriptive-analytical research have was also used in this paper.

Table 2. Main components and indicators
(Source: Eftekhari et al., 2019)

Indicator	Index	Item
area	Spatial development (quality)	Expansion or shrinkage of villages
	Environment (quality)	Improving the physical space of village (lighting, asphalt, etc.)
Population	Rural demographic changes	Increase or decrease in rural population
	Immigration control	Immigrants leaving
Non-natives residents	Number of non-native inhabitants	Non-native residents of the city
		Non-native resident of the village
	Return of non-natives to their homeland	Cause and length of residence of non-native inhabitants
Constructions	Number (quantity)	Rising number of residential houses in the village
	Constructions (quality)	Type of materials used in constructions
		Dependence on the supply of new materials to the new city
Employment	Improving the status of existing jobs	The income and its changes in rural areas
	Creating new jobs	Creating jobs related to underlying professions such as handicrafts, greenhouse products and services

The sample size was determined using the Cochran's formula. According to calculations, n=367 questionnaires were required from 8 sample villages (Aghanj, Derakht-e Sepidar, Razan, Baghcheh, Islam Qaleh, Gonbad Deraz, Sarghayeh and Robat Sefid); however, given that 40 questionnaires were completed at the baseline, this figure was decreased to 320 questionnaires. Sample villages were selected from both plain and mountainous areas with the uniform distribution of villages in the entire section. In addition, using stratified sampling based on the population distribution in villages from each demographic class, some samples were selected. As required by the cluster classification, the sample size was estimated at different classes of each village and each group of samples. Then, through simple or systematic sampling, a number of households in the villages were surveyed.

The distribution of questionnaires among households in the sample villages of Ahmadabad District (1491 households from 8 sample villages) is described in Table 3.

Table 3. Distribution of questionnaires among households in the sample villages of Ahmadabad District
(Source: Authors, 2020)

Row	Village	No. of households 20016	Population (2016)	questionnaires distributed among households	Description	Class frequency
1	Aqanj	34	100	11	Population class 100-249 people	11
2	Derakht-e Sepidar	61	191	13	Population class 100-249 people	11
3	Razan	85	291	18	Population class 250-499 people	16
4	Baghcheh,	122	451	26	Population class 250-499 people	16
5	Islam Qaleh	145	471	31	Population class 250-499 people	16
6	Gonbad Deraz	236	803	51	Population class 500-999 people	8
7	Sarghayeh	361	1086	78	Population class 500-1000 people	6
8	Robat Sefid	447	1544	92	Population class 1000-2499 people	6
	Total	1491	4937	320	-	-

Note: The total population of Ahmadabad District, excluding villages less than 100 people, covered 8073 households with a population of 26583 people.

The validity of the items explaining social capital was estimated at 0.71. Also, based on the results of structural validity test, the Cronbach's alpha coefficient obtained from the questionnaire which would measure social capital in the studied villages (0.793) and spatial factors (0.883) was estimated, which confirmed the reliability or validity of the questionnaire.

To ensure the reliability of the questionnaire, according to the table below, indices related to the dimensions of items were examined and the Cronbach's alpha was computed. This allows finding more accurate indicators for each category of items.

Table 4. Evaluating the reliability of questionnaire based on dimensions and indicators obtained from the items of the questionnaire
(Source: Research Findings, 2019)

Dimension	Index	Range of items	No. of items	Cronbach's alpha
Agriculture	Employment	5-1	5	0.699
	Marketing	7-6	2	0.275
	Income	10-8	3	0.717
	Investment	13-11	3	0.495
	Agriculture	13-1	22	0.449
Industry	Employment	19-14	6	0.688
	Investment	21-20	2	0.120
	Industry growth	24-22	3	0.720
	Income	26-25	2	0.290
	Industry	26-14	13	0.828
Services	Infrastructure development	29-27	3	0.351
	Employment	33-30	4	0.636
	Income	36-34	3	0.841
	Investment	38-37	2	0.803
	Marketing	40-39	2	0.450
	Services	40-27	14	0.865
Total questionnaire		40-1	40	0.916

In this study, Wilcoxon, t-test, Kruskal-Wallis and Kolmogorov-Smirnov tests were used for data analysis. Along with inferential statistics, descriptive statistics of the data were obtained from 320 questionnaires; data analysis was conducted based on inferential and descriptive statistics using appropriate statistical techniques to test the hypotheses. For this purpose, first the data were analyzed based on descriptive statistics and then the hypothesis was tested to answer the research problem through inferential statistics and appropriate statistical techniques.

4. Research Findings

According to the results, 14.6% of respondents are 20-30 years old, 25% are 30-40 years old, 26.8% are 40-50 years old, 16.8% are 50-60 years old, and 15.7% are 60-70 years old. Also, 15.7% of the respondents are housewives, 23.7% are self-employed, 10.6% are liver stock breeders and 42.7% are farmers. As for the level of education, 52.8% of the respondents have primary education.

4.1. Statistical description of research findings

In the following, the respondents' views on the questionnaire items are described. For each item, a valid percentage of each option along with the mean, standard deviation, and significant level of chi-square ($\chi2$) are presented. Given that the items were evaluated on a 5-point Likert scale (very high = 5, high = 4, medium = 3, low = 2 and very low = 1), a mean value of higher than 3 indicates a higher degree of agreement among the respondents' responses. Chi-square test was performed for each item to check the equal chance of selecting each option by respondents. A significant level of less than 0.05 signifies that the respondents did not select the desired options equally; however, a level of significant greater than 0.05 suggests that the same item has been uniformly selected by the respondents.

Table 5. Statistical description of findings related to the rural areas
(Source: Research Findings, 2020)

Row	Item	Very low	Low	Medium	High	Very high	Mean	SD	Significance of chi-square test
4	How many people have moved to this city since the establishment of Molkabad?	15.7	22.1	54.3	6.4	1.4	2.56	0.88	0.000
5	Have you seen a surge in the return of rural migrants to the villages since the establishment of Molkabad?	18.2	44.3	32.5	3.6	1.4	2.26	0.84	0.000
6	Have you seen a rise in the number of non-natives in the villages since the establishment of Molkabad?	26.4	38.9	25.4	7.9	1.4	2.19	0.96	0.000
7	Have you seen a surge in constructions by villagers since the establishment of Molkabad?	3.9	23.6	43.6	21.1	7.9	3.05	0.96	0.000
8	How you seen an increase in the physical area of villages since the establishment of Molkabad?	5.7	28.2	48.6	10.4	7.1	2.85	0.94	0.000
9	Has the quality materials used in building rural houses improved since the establishment of Molkabad?	6.8	19.3	43.9	26.1	3.9	3.01	0.94	0.000
10	Since the establishment of Molkabad city, there has been an improvement in rural space (sanitation, asphalt and street lighting)	8.6	20.4	57.5	10.4	3.2	2.79	0.86	0.000
11	Since the establishment of Molkabad, public services (baths, parks, playgrounds, etc.) have been improved	12.5	38.9	38.2	9.6	0.7	2.47	0.86	0.000

Row	Item	Very low	Low	Medium	High	Very high	Mean	SD	Significance of chi-square test
12	Has the handicrafts industry thrived in the village since the establishment of Molkabad?	22.5	43.6	26.4	7.5	0	2.19	0.87	0.000
13	Has the income of the villagers increased since the establishment of Molkabad?	14.6	36.1	37.5	9.6	2.1	2.48	0.93	0.000

As shown in the above table, most of the respondents believed that the rural population had increased moderately; however, the return of rural immigrants to the village since the establishment of Molkabad, and the surge in the number of non-natives, the improvement of public services and the prosperity of handicrafts were not significant. Meanwhile, to most of the respondents, the construction by villagers, the physical expansion of villages, the improved quality of construction materials used in rural houses and rural spaces and the increase in the villagers' income were all moderate.

4.2. Rural spatial development in terms of indicators and components

In this section, the improvement in indicators and components at the level of rural areas is examined. Given that the studied indicators contain a question with an ordinal scale, we used the Wilcoxon test to compare the median of each index (3 out of 5 in the Likert scale). The results of this test are listed in the table below:

Table 6. Results of comparing the median of node indices using Wilcoxon test
(Source: Research Findings, 2020)

Variable	Items	Data	No	Rank sum	Statistics	P-value	Result
Area	Physical expansion of village	> 3	73	6163.5	-0.072	0.943	Medium
		< 3	84	6239.5			
		= 3	123	-			
	Improved rural space	> 3	81	4951.5	-3.858	0.000	Above average
		< 3	38	2188.5			
		= 3	161	-			
	Public service improvement	> 3	144	12891.5	-8.685	0.000	Above average
		< 3	29	2159.5			
		= 3	107	-			
Population	Demographic changes in the village	> 3	106	7109	-7.364	0.000	Above average
		< 3	22	1147			
		= 3	152	-			
	Controlled migration	> 3	175	16632	-10.682	0.000	Above average
		< 3	14	1323			
		= 3	91	-			
Non-native people	Number of non-native residents	> 3	183	19811	-10.493	0.000	Above average
		< 3	26	2134			
		= 3	71	-			
Constructions	Number (quantity)	> 3	77	5720	-1.04	0.298	Below medium
		< 3	81	6841			
		= 3	122	-			
	Construction (quality)	> 3	95	6329	-2.343	0.019	Above average
		< 3	49	4110.5			
		= 3	136	-			
Employment	Prosperity of handicrafts	> 3	185	19809	11.196	0.000	Above average
		< 3	21	1512			
		= 3	74	-			
	Increased income of villagers	> 3	142	12746.5	-7.934	0.000	Above average
		< 3	33	2653.5			
		= 3	105	-			

In Wilcoxon test, if the p-value divided by 2 is less than 0.05, the status of items could be determined by comparing rank sum of data less than 3 and more than 3. Based on the results, the following conclusions could be drawn:

☐ Regarding the index of area, two items of rural space improvement and public service improvement are above average.

☐ Regarding the index of population, both rural population change and migration control items are above average.

☐ Regarding the index of non-native people, the related item is above average.

☐ Regarding the index of constructions, the item of improved rural materials is above average.

☐ Regarding the index of employment, both items of handicraft prosperity and increased income of the villagers are above average.

According to the field findings, the city of Molkabad has produced a greater effect in terms of improvement of rural spatial and public services as well as changes in rural population and migration control, which has reduced this trend to some extent. It is because the vicinity of villages to small and medium-sized cities, especially for access to services, can settle many problems. As for the attraction of non-indigenous people and the improvement of rural materials and its reflection in rural constructions, it appears that a small and medium-sized town can fulfill many of the needs of its hinterland. On the other hand, due to the improved living standards in this category of villages, non-native people from other places, who go through the transition period before entering the metropolis, are drawn to these villages and cities, which can help them prepare for metropolis.

Regarding the employment index, although small towns are expected to mainly contribute to the agricultural sector due to their agricultural potentials, the boom of handicrafts based on livestock breeding can also be seen as a key factor contributing to the agricultural sector and its employees. It is because the handicrafts sub-sector as a small local industry can forge close relations with the sub-sector of livestock breeding, which in turn influences the rural economy and attracts the support of other sectors, including services from local and micro investments and their target market.

Given that the studied components contain more than one index (except for the component of non-indigenous people), they have a quantitative scale, the volume of data exceeds 30, the mean data has a normal distribution according to the central limit theorem, and finally the t-test can be used to compare the mean of the components. The results of this test are listed in the table below:

Table 7. Comparison of the mean value of components related to the node using t-test
(Source: Research Findings, 2020)

Variable	Mean	SD	t statistics	df	p-value	Result
Area	2.76	0.676	5.981–	279	0.000	Below average
Population	2.41	0.681	14.556–	279	0.000	Below average
Constructions	2.95	0.798	1.011–	279	0.313	Average
Employment	2.34	0.695	15.945–	279	0.000	Below average

In t-test, if the p-value divided by 2 is less than 0.05, the status of the component in the question could be assessed considering the positive or negative t-statistic. According to the results, it is observed that the component of constructions is at the moderate level, while the other components are significantly below average.

4.3. Spatial development of rural points in each component in the studied villages

To examine the mean value of components related to the development of rural space by villages, the mean value of these components for each village is presented in the following table:

Table 8. Average components related to the nodes for the sample villages
(Source: Research Findings, 2020)

Village	Population	Non-native residents	Constructions	Area	Employment
Aqanj	2.54	2.91	3.23	2.82	2.04
Islam Qale	2.36	2.46	2.90	2.69	2.29
Baghcheh	2.48	2.56	3.36	2.69	2.38
Derakht-e Sepidar	3	3.37	2.91	3.03	2.95
Razan	2.12	2.25	2.72	2.23	2.12
Robat Sefid	2.21	2.32	2.78	2.73	2.22
Sarghayeh	2.47	2.57	2.59	2.80	2.49
Gonbad-e Deraz	2.61	2.87	3.58	2.95	2.35

As indicated in the table, the population factor in Derakht-e Sepidar Village, the non-indigenous population in Darakht-e Sepidar Village, constructions in Gonbad Daraz, Baghcheh and Aqanj villages, physical area in Darakht-e Sepidar Village, and employment in Darakht-e Sepidar Village had a desirable status.
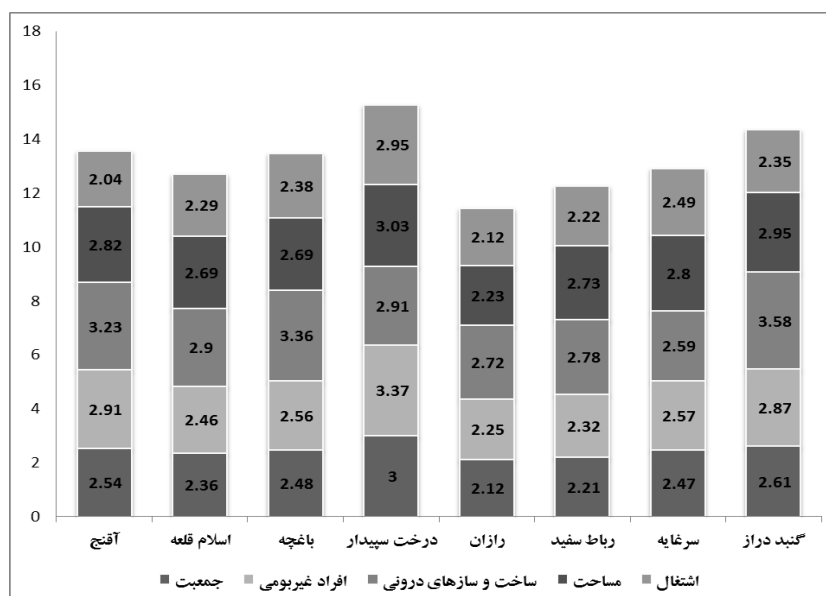
Figure 3. Comparison of the studied villages based on the average value of components related to the development of rural space
(Source: Authors, 2020)

According to the above figure, it can be seen that Derakht-e Sepidar Village has the mode desirable status in terms of all components, while Razan Village has the most deplorable situation with regard to the studied components.

Figure 4. Comparison of the studied villages based on the mean value of components related to the development of rural space
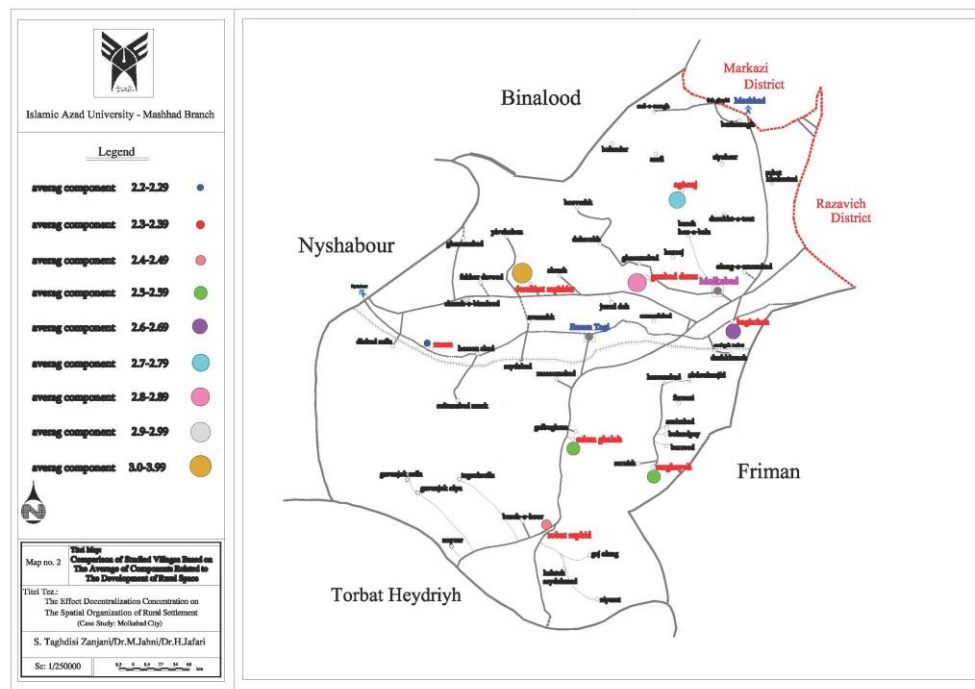(Source: Authors, 2020)

4.4. Inferences related to research hypothesis

In this section, the research hypothesis is tested to decide about the confirmation or rejection of the hypothesis based on the results. As stated earlier, the research hypothesis is presented as follows:

There is a relationship between concentration of new cities and development of rural space. This hypothesis can be tested as a statistical hypothesis as follows:

H0: The degree of development of rural space following concentration in new cities is below average.

H1: The degree of development of rural space following concentration in new cities is above average.

The present study looks at the development of rural space following the establishment of Molkabad, investigating development in terms of area, population, constructions and employment. The items of the questionnaire are designed in a way that a higher score is obtained in the event that development ensues the concentration of Molkabad City. Therefore, the mean value of relevant components and indicators of rural space development, as discussed in the node section, was compared with the median number in the Likert scale (No. 3) using a single-sample t-test. The results are presented in the table below:

Table 9. Results of the mean development of rural space using t-test
(Source: Research Findings, 2020)

Node	Mean	SD	t statistics	df	p-value	Result
Rural space development	2.58	0.463	-14.973	279	0.000	Null hypothesis is rejected

According to the results of t-test listed in the table above, the p-value of this test is below 0.05; therefore, the null hypothesis is rejected at an error level of 5%. Based on the value of t-statistic, which is a negative number and the mean development of rural space (2.58), it can be concluded that the development of rural space is below average. Hence, the research hypothesis is rejected at an error level of 5%. In addition to the t-test, the hypothesis could be tested based on a

confidence interval for the mean difference and

No. 3, as listed in the following table:

Table 10. Confidence interval for the difference in mean values of components related to the dimension of sustainable development

(Source: Research Findings, 2020)

Node	Mean	Difference of mean and No. 3	Lower limit of CI	Upper limit of CI	Result
Development of rural development	2.58	-0.414	-0.469	-0.360	Below average

In this table, if the confidence interval contains only negative figures, the difference will be negative, and therefore the average would be significantly lower than 3 (average). In other words, the research hypothesis is rejected.

Also, the components of rural spatial development were compared with the median (No. 3) using t-test and Wilcoxon test, with the results suggesting that out of 5 components, four components of area, population, employment and non-native residents were below average and only the component of construction was at the moderate level.

Table 11. Results of comparing node-related components with number 3 using t-test and Wilcoxon test

(Source: Research Findings, 2020)

Variable	Test	df	P-value	Result
Area	T	279	0.000	Below average
Population	T	279	0.000	Below average
Non-native residents	Wilcoxon	279	0.000	Below average
Constructions	T	279	0.313	Medium
Employment	T	279	0.000	Below average

Testing hypotheses for each village- In order to test the research hypothesis for each village, first the normality of variable distribution was assessed using the Kolmogorov-Smirnov test in villages with a sample size of less than 30, the results of which are listed in the table below. In villages with a normal variable distribution or a sample size of above 30 (based on the central limit theorem), the t-test was used to compare the mean with No. 3, and in other cases, the Wilcoxon test was utilized.

Table 12. Results of testing the normality of variable distribution in rural spatial development of villages with a sample size of below 30

(Source: Research Findings, 2020)

Village	Sample size	p-value	Result
Aqanj	11	0.785	Normality is confirmed
Islam Qala	26	0.376	Normality is confirmed
Bagcheh	25	0.517	Normality is confirmed
Derakht-e Sepidar	11	0.429	Normality is confirmed
Razan	16	0.993	Normality is confirmed

The result of testing hypothesis for each villages using t-test is listed in the following table:

Table 13. Results of comparing the mean spatial development of villages with No. 3 using t-test
(Source: Research Findings, 2020)

Village	No.	Mean	SD	t-statistics	df	P-value	Result
Aqanj	11	63.2	473.0	–611.2	10	026.0	Below average
Islam Qale	26	52.2	224.0	–918.10	25	000.0	Below average
Baghcheh	25	71.2	441.0	–307.3	24	003.0	Below average
Derakht-e Sepidar	11	88.2	199.0	–969.1	10	077.0	Medium
Razan	16	27.2	507.0	–709.5	15	000.0	Below average
Robat Sefid	86	47.2	496.0	–819.9	85	000.0	Below average
Sarghayeh	60	56.2	345.0	–914.9	59	000.0	Below average
Gonbad Deraz	45	83.2	533.0	–098.2	44	042.0	Below average

According to the results, the first hypothesis is rejected in all of the studied villages except Derakht-e Sepidar Village. In other words, after the establishment of the new city of Molkabad, the development of rural areas has been below average. **Evaluating the weight of each dimensions' indices-** In order to evaluate the weight of each index, the structural equation method and PLS software were used. Given that research dimensions had to be defined as a composite construct to calculate the weight of each index, other structural equation software such as LISREL or AMOS could not be used. The weight of indicator in each dimension is listed in the table below:

Table 14. Results of indicators' weight for each dimension
(Source: Research Findings, 2020)

Index	Weight	t-statistics
Population	0.061	9.893
Area	0.729	11.247
Employment	0.238	2.90
Non-native people	0.222	3.083
Constructions	0.098	1.145

According to the table above, it seems that in rural spatial development, the index of area has the highest weight, while population has the lowest weight.

In the table below, the weight of each dimension in the concentration of new cities is listed. As can be seen, the highest weight is related to land use change.

Table 15. Results of investigating the weight of research components in the concentration of new cities
(Source: Research Findings, 2020)

Dimension	Weight	t-statistics
Node	0.480	17.360
Level	0.208	7.067
Network	0.454	18.206

In the rest of study, WASPAS technique was employed to analyze the spatial development of rural areas in the sample villages. One of the parameters that have a bearing on the selection of multivariate decision-making method is the accuracy of these models. These researchers suggest that "merging these two models can enhance its accuracy". The accuracy of the results of multi-criteria decision models WSM (weighted sum model) and WPS (weighted production model) models are well recognized. The accuracy of hybrid models has been analyzed and corroborated by researchers in previous studies. Accordingly, these models have been shown to

have significantly higher accuracy compared to individual models. The WASPAS model is a common hybrid model that can be highly efficient in complex decision making problems, and the results of this model have been shown to be considerably accurate. The WSM is one of the best and notable decision-making models used for solving multi-criteria problems. In WASPAS,

attempts have been made to use a hybrid measure to determine the ultimate significance of each option. In this composite criterion, an equal share of WSM and WSP is assigned for the final evaluation of options. The goal of WASPAS model is to determine the rank of villages based on obtained indicators and their weight .

Table 16. Calculation of λ and Qi and rank of villages
(Source: Research Findings, 2020)

Village	λ	Qi	Rank
Islam Qale	0.751	0.335	6
Aqanj	0.727	0.359	3
Baghcheh	0.738	0.356	4
Derakht-e Sepidar	0.693	0.412	1
Razan	0.766	0.304	8
Robat Sefid	0.760	0.322	7
Sarghayeh	0.743	0.343	5
Gonbad-e Deraz	0.723	0.379	2

According to the table above, Derakht-e Sepidar Village has the highest Qi in WASPAS, and therefore ranks first. As a result, it has the highest spatial development among the sample villages, mainly because it is located in a relatively plain area adjacent to a dirt road leading to Molkabad City. Razan Village has the lowest Qi in WASPAS, and is therefore ranked last. It is due to the fact that his village is located in the plain,

which is not adjacent to the communication routes. Moreover, this village is mainly under the jurisdiction of Binalood Town rather than Molkabad or even the capital of the village of Imam Taghi. In general, in light of the final score obtained from the WASPAS model, it can be argued that there is a slighter difference between the first and the last villages, and the degree of spatial development in the studied villages is almost comparable.
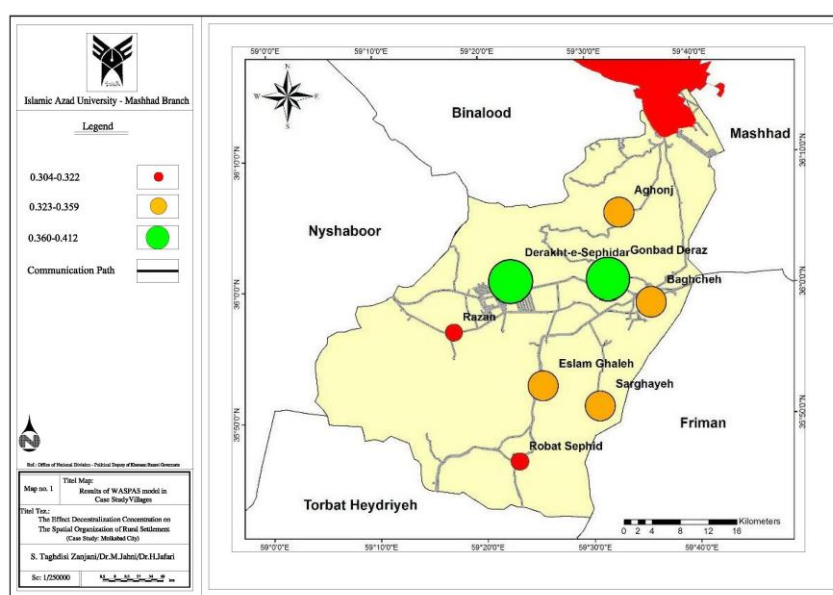
Figure 5. Results of WASPAS model in sample villages of Ahmadabad District
(Source: Authors, 2020)

5. Discussion and Conclusion

A general analysis of the study area and research findings suggest that the city of Molkabad, informed by its rural background and the history of residence for years, has not been successful in embracing the potentials of the region and completely reflecting feedbacks from distant and nearby villages.

Spatial ranking is necessary for ranking rural centers, because each rural space is home to a number of population centers and activities with constrained and extensive functional areas. Of these settlements, there are a few centers with the capacity and potential to provide services for the entire area. They could relied upon to strengthen the network of rural settlements. The rural centers are small towns in the county, which shape the last link between the urban and rural system in the structure of the urban system. These centers represent "the centers of growth for rural areas and the basis of coordinated and balanced urban and rural development" (Nouri & Hosseini Abri, 2009).

The comparison of the results obtained from previous research on Zarrinehrud in Khodabandeh, Vahidiyeh in Shahriyar and Tonekman Village in Karaj City, and several small cities in Fars Province as well as Molkabad City in the present study suggest the similarity of findings in the above studies. The city of Molkabad, like the aforementioned cities, cannot be economically, socially, culturally effective for its hinterland villages. Although these cities might have wielded influence on cultural and social issues, they had no effect on the spatial organization of rural settlements. As a result, in response to the research question, it is concluded that the population concentration in new cities does not affect the spatial development of villages.

According to the research findings, several suggestions can be made. These suggestions might be in line with review strategies, or in some cases, as described below, they might be creative strategies, and even national, provincial or regional goals:

- ❖ Improving the economic performance of Molkabad City to forge economic ties and interactions with its hinterland;
- ❖ Resolving the drawbacks of existing infrastructure networks and providing opportunities for the participation and investment of the private sector in the agricultural sector;
- ❖ Using the geographical location of other important villages, strengthening leading sectors for the growth of the desired area, fostering connections with Molkabad and decentralize Mashhad metropolis;
- ❖ Considering successive droughts and their adverse effects;
- ❖ Promoting supplementary activities that can be conducive to agriculture and livestock breeding;
- ❖ Building an atmosphere of confidence to draw in private investment inside and outside the city of Mashhad to inhibit changes in the method of transferring the ownership of agricultural lands;
- ❖ Defining the national development model based on the Islamic-Iranian model with the proper implementation of land management;
- ❖ Establishing engineering services office for monitoring rural constructions in Molkabad City and its agencies in one or more villages in order to improve the quality of life and internal constructions of villages;
- ❖ Achieving long-term goals requires consistent and unceasing growth in certain areas in less developed areas, which are not directly related to the city of Molkabad
- ❖ Strategies for maintaining the rural population through a hierarchical migration policy by strengthening small or medium-sized cities;
- ❖ Increasing incomes and quality of life in rural areas and bridging the gap between urban and rural life;
- ❖ Directing government subsidies to rural households by considering minimal costs;
- ❖ Creating and strengthening ties between rural and urban society through the growth of small and medium-sized cities;
- ❖ Forging a direct connection in various fields between Molkabad City and Imam Taghi Village (the center of Pivehjan rural district) and gaining the trust of people in the neighboring villages to utilize some services;
- ❖ Providing incentives to eliminate unreal attractions of city life and planning to mitigate rural repulsions by directing urban concessions to villages and reducing taxes on rural and service and tourist activities;

- ❖ Supporting industries in several large villages which offer relatively good services;
- ❖ Delegating some of the functions of Mashhad metropolis to Molkabad;
- ❖ Identifying potentially underdeveloped agricultural areas and recognizing the unknown capabilities of these areas;
- ❖ Creating sustainable cities and supporting rural constructions, attracting non-natives, fostering sustainable employment and population sustainability and preventing the expansion of villages;
- ❖ Middle cities with a high degree of public participation provide a greater chance for the development and social solidarity, which prevents the change of agricultural and horticultural land uses and hampers the expansion of non-agricultural and non-rural areas.

The goals of hierarchical transformation of rural settlements into middle city has benefited rural settlements rather than neighboring large cities. If all the facilities are available in the villages proportionate to their level, it will gradually promote social and economic justice and ultimately will lead to a regional balance, which will then maintain the size and area of the nodes.

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Original Article

نقش تمرکز غیرمتمرکز در سازمان‌یابی فضایی سکونتگاههای روستایی

(نمونه موردی: روستا شهر ملک‌آباد – شهرستان مشهد)

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۲. مبانی نظری تحقیق

برنامه ریزی سلسله مراتبی مکانهـای مرکـزی، مبتنـی بـر اسـتقرار آگاهانه و سنجیده نظام مطلوب فضایی است و شهرهای کوچک و محلی به عنوان یکی از این مراکز، نقش عمده ای در ایجاد تعـادل و توازن نظام سکونتگاهی به عهده دارد. نقش و عملکرد متعددی کـه برای این نوع مراکز روستایی برشمرده می‌شـود، در واقـع پایـه‌هـای نظری راهبردهای توسعه الگوی سکونتگاهی متـوازن و متعـادل را تشکیل می‌دهد. طرفداران شهرهای کوچک جنبـه‌هـایی از اهمیـت این سکونتگاه‌ها را به عنوان مراکـز خـدمات منطقـه ای در توسـعه روسـتایی مطـرح مـی‌کننـد و بـر ایجـاد سلسـله مراتـب منسـجم سکونتگاهی و نیز اثرات توزیع و رخنه به پایین تأکید دارند. بـه نظر آنها شـرایط شهرهای کوچک از نظر تولید و ساختار، پیشتاز توسعه روستایی و منطقه‌ای است و عاملی برای جلوگیری از تمرکز بیش از حد جمعیت و فعالیت در شهرهای بزرگ می باشد.

۳. روش تحقیق

با تکمیل پرسشنامه ها و اسـتفاده از روشهای مختلـف آمـاری و از سطوح مختلف طبقات جمعیتی و عرصه ای روستاهای ایـن بخـش، اطلاعات ابعاد، مؤلفه‌ها، شاخص‌ها و گویه‌های تحقیق به دست آمده است.

چکیده مبسوط

۱. مقدمه

درکشورهای در حال توسعه به دلیل تمرکز زیرساخت‌ها و امکانات در شهرهای بزرگ، شبکه شهری زنجیره ای است. در ایـن کشـورها برای آهسته کردن رشد بزرگترین شـهرها نقـاط جدیـد شـهری در سطح میانی و کوچک را بـا امـکاناتی فـراهم آورده‌انـد. شـهرهای مـــیانی وکوچک با پذیرش سهم قابل تـوجهی از عـــوامل تولیـد، سرمایه‌گذاری‌ها و نیروی انسانی و جمعیت، در فواصلی متناسـب بـا پهنه منطقه، عمل کرده و قادر به تثبیت مجموعه عوامل لازم بـرای شکوفایی ناحیه پیرامونی خود می‌گردند. با این کار، به همراه کاهش تفاوتهای مرکز با پیرامون مـی‌تـوان بـه تعـادلی مـوزون در سراسـر منطقه دست یافت. در ایران نیز رشـد شـهرها، علـی‌رغـم گسـترش برنامه های شهری، ماهیتی برون‌زا (درآمدهای نفتی) به خود گرفته است. نوشهرهای کوچک و اقماری با دیدگاه شهری شکل گرفته ولی بیشتر سعی در رفع مشکلات شهرهای بزرگ داشته تـا روسـتاها. در این تحقیق، به تأثیر شهر ملک آبـاد بـه عنـوان یـک شـهر کوچـک (تمرکز غیرمتمرکز) در مرکز بخش احمـدآباد و در جـوار کلانشـهر مشهد بر روی سازمان یابی فضایی سکونتگاههای روستایی پسـکرانه آن پرداخته شده است

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ولی هم‌جوار راه ارتباطی نبوده است و این روستا کاملا تحـت تـأثیر عامل دیگری به نام شهرک صـنعتی بینـالود اسـت. در مجمـوع بـا توجه به امتیاز نهایی به دست آمده از مدل WASPAS می تـوان این نکته را ذکر نمود که بین روستای اول و روستای آخـر اخـتلاف کمتـری وجـود دارد و میـزان توسـعه فضـایی در روسـتاهای مـورد مطالعه همه تقریباً در یک سطح می باشد.

۵. بحث و نتیجه‌گیری

سطح بندی فضاها، بستر لازم برای سطح‌بندی مراکز روستایی است. زیرا هر فضای روستایی، عرصه استقرار تعدادی از کانونهای جمعیت و فعالیت با حوزه‌های عملکردی محدود و گسـترده اسـت. در میـان این سکونتگاه‌ها، مراکز معدودی وجود دارند که قابلیت ارائه خدمات برای کل محدوده را دارند که با اتکا به این مراکز می‌توان به تقویـت شبکه سـکونتگاه‌های روستایی اقـدام نمـود. مراکـز منظومـه‌هـای روستایی، شهرهای کوچک منطقه هسـتند کـه در سـاختار نظـام شهری، آخرین حلقه اتصال نظام شهری با روستایی می باشند. ایـن مراکز نقش کانونهای رشد نواحی روستایی و بستر توسعه هماهنگ و متعادل شهری و روستایی محسوب می‌گردند.

با دستیابی به اهداف تغییرات سلسله مراتبی سکونتگاههای روستایی به شهر میانی (تمرکز غیرمتمرکز)، کمک به سکونتگاههای روستایی شده نه شهر بزرگ هم‌جوار آن. اگـر همـه امکانـات در روسـتاها بـه تناسب سطح آنها وجود داشته باشد بـه تـدریج عـدالت اجتمـاعی و اقتصادی را به‌وجود می‌آورد و در نهایت به تعادل ناحیه ایـی منجـر می گردد که باعث ابقای اندازه و مساحت گره‌ها می‌شود.

کلیدواژه‌ها: سـازمان فضـایی، تمرکـز غیرمتمرکـز، شـهر میـانی و کوچک، نظام سلسله‌مراتبی روستاها، شهر ملک‌آباد.

تشکر و قدرانی

در نهایت، این نتیجه به دست آمـده کـه ایـن شـهر فقـط بـر روی روستاهای همجوار خودش تا اندازه ایـی تأثیرگـذار بـوده و بـر روی روستاهای با مسافت بیشتر در حـوزه نفـوذش کـوچکترین تـأثیری نداشته و حتی به دلیل همجواری با کلانشهر مشهد، بـه ایـن شـهر کوچک مراجعه نمی کنند. زیرا مسافت اندک این شهر بـا کلانشـهر مشهد و پیشینه روستایی آن و عدم وجود امکانات و زیرسـاخت هـا باعث شده نقش آن، تحقـق نیابـد. از سـویی تغییـرات در گره‌هـا و کاهش سطوح یا اراضی کشاورزی و گسترش شبکه‌های ارتباطی، بـا وجود شهر ملک آباد با توجـه بـه مسـافت تغییـر مـی یابـد کـه بـا آزمونهـای ماننـد آزمـون t، ویلکاکسـون، کروسـکال – والـیس و کلموگروف – اسمیرنوف و تکنیک WASPAS به بررسـی فرضـیه این تحقیق پرداخته شد.

۴. یافته‌های تحقیق

در بررسی توسعه فضای روستاها به تفکیک شاخص ها و مؤلفه هـا این نتیجه حاصل شده که شهر ملک آبـاد از نظـر بهسـازی فضـای روستایی و ارتقاء سطح خدمات عمومی و همچنین تغییرات جمعیت روستاها و کنترل مهاجرت‌ها توانسته تأثیرگـذاری بیشـتری داشـته باشد و تا حدی این روند را کاهش دهد. در بررسی وزن هر شـاخص در تشکیل هر بعد از پژوهش، از روش معادلات ساختاری و نرم افزار pls استفاده شده و با توجه به این که ابعاد پژوهش به صورت سـازه ترکیبی تعریف می شود تا وزن هر شاخص به دست آید، با سایر نرم افزارهای معادلات ساختاری این کار قابل انجام نبود و نتـایج نشان می دهد که در توسعه فضای روستاها، شـاخص مساحت بیشـترین وزن را داشته و شاخص جمعیت از وزن کمتری برخوردار می باشد. در ادامه بـرای تحلیـل توسـعه فضـایی نقـاط روستایی از تکنیـک WASPAS نیز استفاده شد. در این تکنیک نشان داده شـده کـه روستای درخت سپیدار بیشترین توسعه فضایی را در بین روستاهای نمونه داشته، به این دلیل که از نظـر طبیعـی در یـک پهنـه نسـبتا دشتی و در جوار جاده عبوری خاکی است که بـه شـهر ملـک آبـاد منتهی می شود و در مقابل روسـتای رازان دارای کمتـرین میـزان Qi بوده است. زیرا این روستا به دلیل موقعیـت جغرافیـایی دشـتی

Original Article

Studying the Rehabilitation of Valuable Rural Texture and its Effect on the Development of Tourism
(Case Study: Hajij Village, Kermanshah Province, Iran)

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Abstract

Purpose- The project of valuable rural texture was proposed with the aim of rehabilitating the tourist villages with valuable physical features. Since the project aimed at developing tourism in tourist villages and preserving the local and cultural features of these areas, conducting a research to study the dimensions and effects of rehabilitation of valuable rural texture on rural tourism was of great importance. Therefore, the present study aimed to study the rehabilitation of valuable rural texture and its effect on tourism in the village of Hajij, Kermanshah, Iran.

Design/methodology/approach- The two groups of population involved in rehabilitation of the rural residential texture were the local people and the tourists. The tools used in this study to collect data were applied, quantitative, and survey methods. The statistical population consisted of 300 tourists and 95 local people.

Findings- The results showed that the rehabilitation of rural valuable texture had positive effects on development of rural tourism. The four variables of attraction of tourists, providing local services to tourists, affecting the performance of governmental and non-governmental organizations and institutions, and the advertising role of rehabilitation of dilapidated texture have been influenced by valuable textures. Local people and tourists were satisfied with the rehabilitation project and reported its great effect on the village.

Conclusion-: This study showed that the rehabilitation project of rural valuable texture caused harmony and agreement between the village's new texture and body and its traditional and local texture. Furthermore, rehabilitation of valuable texture gravitated the tourists' attention to the village and increased local employment. Nonetheless, there were challenges to the rehabilitation project of valuable rural texture. One of the most important challenge was the adverse effect of rural tourism on the village's environment, causing pollution and destruction of natural environment.

Key words- Valuable Rural Texture, Development of Rural Tourism, The Village of Hajij, Environment

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1. Introduction

R ural textures have useful information to assess the effectiveness of the formation process and natural development of the village body, as well as different environmental, local, economic, social-cultural, and religious factors. Nowadays, the rural residential textures have mainly formed according to the local features of the village, which include 1) use of suitable construction materials in different cold, temperate, and hot climates to cope with the climate problems of the residential area, and 2) dependence on water resources (springs, subterranean canal, and reservoirs). Such problems have existed in the past and are still more or less effective. In this context, attention and rehabilitation of these textures can prevent the destruction of part of culture and local identity (Aghili & Aghili, 2016).

The physical texture of villages in Iran have both architectural values such as simplicity, and visual and aesthetic patterns, which are compatible with the natural environment, in harmony with biological and subsistence functions, and use eco-friendly materials and local indigenous knowledge. Among all rural textures in Iran, the physical texture of some village are considered as a valuable heritage of the ancestors, due to their specific architectural, historical, and cultural features, which are of great importance to be maintained (Paripishbar et al., 2015). However, due to the influence and fast advance of technology, culture and physical features of the cities besides the degradation of cultural and indigenous values among the villagers, the value and physical structure of the villages in Iran are being destroyed day by day and more than ever. Obviously, this trend alienates the Iranian villages, like the cities, from their original identity and nature. However, some of these textures are still alive and breathe due to their valuable structures and architecture. Therefore, in the physical development projects, the valuable textures need a deep and compassionate attitude to survive, and the valuable rural textures, due to limited studies, need a particular attention; hence, the basic needs of the inhabitants should be observed and the structural, physical, and cultural identity of villages need to be considered with a deeper thought and attention than before (Jame Kasra, 2010). Today, tourism development in rural areas and local communities is influenced by the globalization movement and has found an increasing importance (Ghaderi, 2004). Most villages considered as tourist destinations are the villages with valuable historical and ecological architecture. In fact, tourism development in villages with valuable texture deals with the realization of the local values and physical attractions of architecture and the texture of the village, as well as introducing it as a tourist destination. Therefore, using the tourism potentials of the valuable villages to attract tourists needs an appropriate planning accompanied with implementing the plans and creating appropriate infrastructure in villages (Khodadi & Muhammednejad, 2013).

The village of Hajij is one of tourist villages in the province of Kermanshah. This village is one of the stepped villages in Iran. Considering the tourism status of this village in the province of Kermanshah and the traditional features of this village, especially its physical dimension, the study of rehabilitation project of valuable rural texture and its effects on rural tourism is of great importance. In this context, the main problem of the present study is finding an answer to this question: to what extent the project of rehabilitation of valuable texture in the village of Hajij was effective on the social, economic, physical, and tourist dimensions of this village?

2. Research Theoretical Literature

The early experiences of reviving and improving the dilapidated texture of towns and villages began in the 1870s by Hussmann in Paris, and different committees were gradually formed. At the same time, William Morris took actions in this regard in England, and an association for preserving the old buildings was established. Since the formation of Harold Wilson's labor government in the United Kingdom (1964-1970), extensive practical steps have been taken to revive the rural centers, such as rural deprivation, by implementing the projects of preliminary educational areas, rural development programs, and community development program. In Italy, many projects have been conducted to rehabilitate the valuable textures because this country has valuable historical and architectural places. But these places are often dilapidated and need to be rebuilt. To implement these projects in Italy, public participation was used, which prevented profiteering ideas from changing the texture through preventing the private sector to interfere. Moreover, the textures have been preserved and rehabilitated and the survival of the dilapidated rural texture in Italy has become

possible through the incentive laws and cooperation of the local people in these valuable places. In rehabilitation of the dilapidated rural texture in Italy, it was attempted to encourage people to participate more, and all rehabilitated places have preserved the cultural features of the villages in that country.

In contrast, the experience of the rehabilitation project of rural areas in communist countries showed that the political-social functions, thoughts, and government attitudes interfered in rehabilitation and revival of dilapidated texture of the village. In this sense, the physical-spatial system of the village is obviously influenced by such activities and thoughts, and even the smallest variable of the village develops within this domain and the government attitudes. Therefore, the rehabilitation of dilapidated rural texture was performed in association with the macro plans (the Center for Specialized Urban-Rural Studies and Services, 2006). Here, the public participation has received less attention.

In the 1960s and 1970s, the modern preservation movement that has begun in the past was replaced with the preservation and rehabilitation of the complexes and spaces between buildings and, in other words, the reconstruction of the dilapidated texture, forming the first rural rehabilitation plans and programs. The rural and local architecture is the manifestation of man's best attachment to the natural environment and the objectification of the compatibility of the body with the environment besides the purest and most prominent representation of the architectural cultures (Joseph et al., 2003). The review of the experiences worldwide on the rehabilitation of dilapidated rural texture, both in developed and developing countries, showed that it is of great importance how the dilapidated rural texture has been rehabilitated (Akrami & Same, 2008). Rehabilitation, reconstruction, revival, and rejuvenating the valuable texture should guarantee the link between the life in the past and the modern life in villages and determine the development and future perspective (Altrock, 2006). In the following, some of the theories on rehabilitation are presented.

Empowerment: According to Chambers (2002), people, especially the poor, can have more control over their lives and make a better living by accessing to productive assets as essential variables. Empowerment causes changes in the mental structure of villagers; the empowered villager has a positive attitude, is a risk-taker and flexible person, prefers individual work, is always learning, determined to work, and tries to turn threats into opportunities. The spatial location of rural housing may affect the development of the village in different forms. In this regard, the functional location is a factor that is mostly based on internal and external relations of villages and is determined based on the form and scope of relations as well as the way of meeting the needs of inhabitants (Saeedi, 2009). The experience of more than two decades of guide plan and rehabilitation of valuable rural texture shows that the more indigenous and based on the villagers' opinions the plans are, the stronger and more they are supported and participated by the local people and organizations, resulting in more achievements. Despite of the importance and position of participation in implementing the rehabilitation projects of valuable rural texture, this issue has been of less attention in Iran. However, various evaluations reported relative success of the implementation of rehabilitation projects of valuable textures in different parts of the country (Azizpour & Hosseini Hasel, 2008). These projects empower the villagers and increase their abilities to influence their living place.

Rural tourism as a policy for the reconstruction of rural housing: important changes were made in the attitudes towards tourism in the 1980s; first, it appears that tourism as an activity with ideological value (developing entrepreneurship without government subsidies) has potentials to solve the problem of additional labor force in various sectors of the economy. Second, tourism is considered as a legal activity to reconstruct the villages, even in the areas that have not been involved in tourist activities. Rural tourism, due to economic reasons, is a suitable alternative to agricultural activities since these activities face declined profits and require improvements in the second and third sectors of the economy. The main cause for development of rural tourism is the creation of employment and social changes in rural societies (Roknuddin Eftekhari & Ghaderi, 2002). Tourism is the main focus of reconstructing the rural areas, even the areas where tourism has not been flourished in the past. The advocates of this theory believe that the over-reliance of rural producers on agriculture can be reduced and used in new economic opportunities (to compete with more global marketing). Therefore, three approaches are considered in this strategy: 1) rural tourism, a policy

to reconstruct the rural housing; 2) reconstruction as an alternative to declined agriculture; 3) development and improvement of agricultural products (Roknuddin Eftekhari & Mahdavi, 2006). Sustainable rural development and rural tourism: three important variables are emphasized in the definition of tourism: 1) the quality of sustainable tourism: it can provide the tourist or the traveler with a high-quality experience. It also improves the quality of life in the host community and maintains the quality of the environment. 2) Preservation and sustainability: sustainable tourism ensures the sustainability of natural resources from which it is originated, as well as the preservation and sustainability of the culture of the host community, which is the source of its valuable experiences. 3) Balance: sustainable tourism balances the requirements of the tourism industry, environmental protection, and the local community. There is a kind of cooperation between the common and contradictory goals of tourists, the host community and the destination or the place or area that welcomes tourists (Gi Chak, 2007). The main purpose of sustainable tourism is providing rational methods to utilize natural and human resources and to prevent irrational use of these resources. Since the development of sustainable tourism has two aspects of environmental protection and preservation of cultural resources and heritage, it needs to be implemented under specific and clear policy to ensure the promising movement of this industry towards the comprehensive development of communities.

Merton theory of means and goals: another branch of the satisfaction theory is the theory of meeting the tourists' expectations, which is based on the Merton theory of means and goals. Two variables of social and cultural structures are more important than other variables. They are inseparable in analysis, but are intertwined in an objective situation. The first variable includes goals, intentions, and interests that are defined and determined by the culture of the society and turned into legitimate goals for all or some parts of the society. The goals are more or less correlated. The correlation is practically different in various cases and is classified in a value hierarchy. The common goals that vary in sensitivity and importance include the ideal reference framework; that is, the affairs that are worth the effort. These are the fundamental variables that Linton calls the plans for group life though they are not the exclusive foundations of group life. Although some of cultural

goals, not all, are directly related to environmental factors, they are not determined by these factors (Kozer & Rosenberg, 2007). Merton theory is applied to provide the physical infrastructure for tourism; the more and better the host community provides the facilities for tourist activities, the more satisfied the tourist will be. This satisfaction is the result of the balance between facilities and goals, i.e. tourism. Otherwise, the tourists' satisfaction will decrease.

The expectation theory: it can be considered as a cognitive theory that regards human as a rational economic being. According to this theory, human can make decisions and does action at every moment, which seems useful to him/her. Each person evaluates the consequence of his/her action and does that action if it is thoughtful. This logic is the foundation of theories that are known as expectation and probability theories. According to Porter and Lawler's model, a person's intention to do an action and his/her satisfaction is influenced by factors such as the value and desirability of the reward and the result of the expectation and the probability of reward and the result of the person's ability and talent, perception, and the sense that the reward and result are fair. Obviously, any tourism activity uses this theory and a tourist expects to be rewarded by desirable and valuable tourism activities and services for the time and money s/he spends. Thus, the tourist's satisfaction is achieved (Alvani, 1996).

Reformist theory: Development and expansion of capitalism has made changes in the interaction of rural communities with global capital. Many rural areas are highly dependent on natural resources, and environmental destruction, population change, and especially global restructuring encourage the rural housing change to find a means of survival. Various deep studies have been conducted on processes and rural restructuring. However, as rural areas face a decline in employment and income from agriculture, tourism development planning in rural communities can play an effective role through this entrepreneurial spirit in this regard. In this context, it can be said that tourism can be a strategy to develop villages, and a means of sustainable development and a policy to reconstruct rural housing.

Structuralism theory: the structuralist criticisms of tourism are associated with its effects on culture, environment, and social relations. As Reid (2003) pointed out, the tourism analysis should be

accompanied by capitalism. According to many researchers, tourism is at the forefront of the globalization processes and a factor of change in transportation, communications, and financial investments (Brown, 2003). In this regard, the researchers argued that capitalism needs to introduce and provide new consumption. Tourism can change and transform. The critical evaluations of tourism and its relationship with capitalist relations are on the rise. For example, Watson and Kopachoxi (1997) asserted that tourism is a factor in the new consumption culture and an issue that reflects patterns of exchange and consumption of goods and new house styles. In addition, tourism reflects the unequal relations of power, which play a key role on a global scale. For example, Smith argued that tourism as a mechanism to increase power has a dual function: first, it stabilizes and preserves its superior position as a special image of identity, and second, it plays a role in the gradual change in culture in the world system by encouraging various economic and social groups to accept the existing lifestyle. They also believed that developing tourism to world powers contributes to finding new ways to increase control and superiority and individual interest. Hawse (1997)'s perspective on the need to structuralist approach in tourism studies has influenced the relevant literature. Gradual change in culture and the production of places are considered as the common strategies with critical attitudes towards the tourism development. Studying tourism and its role in the production of places, Scoyer (1994) argued that tourism is a social activity in the body of everyday life. Nifsi (2001) went beyond and believed that the rural cultural economy is the result of social interactions, which is influenced by the process of commodification; however, it is the ground for complex and variable changes. However, it can be said that lack of enough attention to structural and capitalist forces, in the literature of tourism, to understand the role of tourism development in developing local tourism has led to an opportunity to propose various kinds of tourism-related approaches. The gradual change in culture and the production of places are the relatively common issues in structuralist study of tourism, and according to their roles as the explicating processes and strategies, it is of great importance how the local areas respond to the forces of globalization economy.

According to what has been discussed, the studies on this topic are presented as follows.

Sartipipour (2005) conducted a study on the optimal indicators for the architecture of rural housing and found two effective groups of indicators: social indicators (having an ownership document of the residential unit, the length of using the ownership documents of the residential unit, the length of using the residential units compared to vacant residential units, and using the living spaces in the residential units), the economic indicators (the length of construction of the residential unit, average price of one square meter of the residential unit, and the ratio of housing cost to the family income, the level of infrastructure of the residential unit, the class density of the number of rooms in the residential unit, and the durability of materials). Aiming at gaining a model and appropriate method of intervention in dilapidated texture, Arabi & Entezari Yazdi (2008) studied the existing resources in this regard. Jame Kasra (2010) argued that the physical body of the Iranian villages not only have architectural values such as simplicity, but also visual and aesthetical patterns, harmony with the natural environment and biological function, rehabilitation of valuable buildings and texture, and heritage places. Ali Morad Afshari (2012) argued that revival and reconstruction of rural houses improves rural tourism, and if it is well managed, it can cause or motivate a developed process to achieve the sustainability of development in rural areas and the tourism industry. Ghasemi Ardehaei and Rostamalizade (2012) studies the effects of mortgage loan on changing the rural life and indicated the strengths and shortcomings of mortgage loan in the form of rehabilitation and reconstruction projects in the body of economy, society, culture and lifestyle of villagers. Ghahramani (2012) in a study on sustainable tourism development and the position of rural valuable texture in improving tourism pointed out the importance of rehabilitation of valuable texture and believed that rural revival and reconstruction improves the role of rural tourism. Khodadadi & Muhammasnejad (2013) studies the importance of rehabilitation of valuable texture and its effect on attracting tourists and believed that the relationship between valuable texture and tourism development is dynamic. Yaghubi et al. (2013) believed that technical strategies such as considering local features to build houses and using modern technologies and construction to stay safe from natural disasters and using modern theories in designing the rural texture and service and credit

factors such as loans to improve the quality of housing, social and cultural factors and so on affect the rehabilitation process. Sojasi Gheydari (2016) concluded that the greatest effect of guide plans implementation in villages on the rehabilitation of three variables of quality of environment in village were on the variable of form and the minimum effect was on the variable of function. Mahdavi, Norouzi & Miramini (2017) found that three elements of quality, preserving balance, and sustainability are among the variables that affect the rehabilitation of rural valuable texture and tourism industry development. Increasing the level of infrastructure, reducing the local models, strengthening the buildings and changing the function of houses are some of these elements. Tahsildoost (2019) argued that in the discussions of the rehabilitation of rural housing, energy-related variables must be regarded because failure to pay attention to these variables has negative effects on sustainability of the rehabilitated housing. Sarhadi Husseini & Zamani (2019) believed that educating and providing the investors in private sectors and local people with sufficient information and knowledge lead them to participate in the rehabilitation projects. Salimi Yekta & Soltani Fard (2019) concluded that visual attractiveness, ease of access, readability, variety and harmony, reduced visual disturbance, belonging, adaptability, and variety of factors affect rural housing. Therefore, it is suggested to consider these factors alongside the public participation in reconstruction and rehabilitation of textures.

Young et al. (2010) argued that tourism development has affected the body of villages and changed it for the tourists' interests. Uysal et al. (2017) believed that it should be understood that physical and cultural change is a fundamental principle in the rehabilitation and design of new constructions in rural areas and is considered as an integral part of the natural process of change in rural areas. Chao & H Su (2018) asserted that the rehabilitation and reconstruction projects have advantages such as reconstructing of urban areas, improving urban quality of life, improving

sustainable development and preventing dangers. Sassano (2018) stated that in the improvement of rural texture, the harmony and homogeneity between the textures and the landscape from the observer's point of view must be considered and the required innovation should be done, especially when a new texture is to be constructed next to the old one. Attia (2020) argued that most old houses have higher levels of sustainability, as compared to the old ones. The type of materials used in these houses and the good interaction with the environment caused a kind of homogeneity among houses. Over time and alongside the development of villages, this homogeneity has been decreased and the sustainability of houses has changed, and thus, the rehabilitation of houses is necessary. Khalid & Sonica Blank (2020) believed that one of the goals to rehabilitate houses is making sustainable houses, which can be achieved through a systematic approach. They argued that a range of social and cultural interventions are needed to realize the rehabilitation and making sustainable house, and provoke the villagers to participate and cooperate.

3. Research Methodology
3.1 Geographical Scope of the Research
According to the division of the comprehensive tourism development plan of Kermanshah province, the village of Hajij is located in the tourism hub of Uramanat, the region of Paveh and in the tourism area of Nodshe. This village has been recognized as one of the natural and cultural areas. The village of Hajij with a latitude of 35 degrees and a longitude of 46 degrees is located 25 km from Paveh city and is one of the most attractive villages in Kermanshah province and one of the scenic areas of Uramanat. It is located in Paveh city in the northwest of Kermanshah province and has an area of 14.53 hectares. It is located in the Sirwan area of the central part of Paveh city, with an altitude of 900 meters. It is situated along a mountainside; on the west and south of this village are the Koohshalan and Shaho mountains, and on the east is Sirwan village.
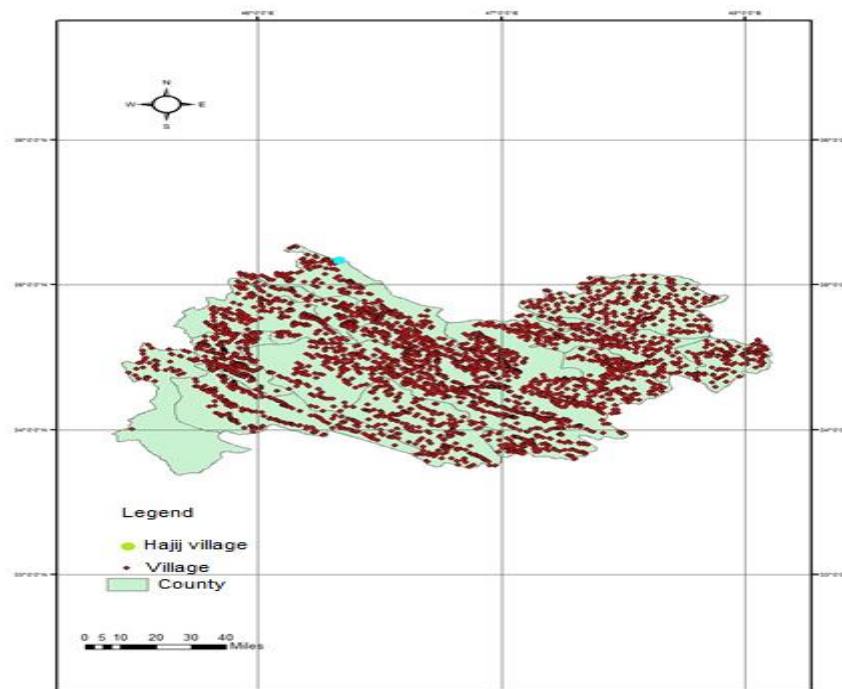
Figure 1. The location of Hajij village among other villages of Kermanshah province

3.2. Methodology

The present study was an applied, quantitative, survey, and descriptive research. The tool to collect data was a questionnaire. The population consisted of two groups of tourists (300 individuals) and local people (95 individuals), and the sample size was obtained using the Cochran's formula. The village under study was the village of Hajij. The reason to select this village was that it was the only village in the province of Kermanshah, where the rehabilitation project of valuable texture was approved and implemented. The questionnaires were distributed among the tourists using random sampling method, and among the local people, they were distributed using systematic sampling method. The validity of the questionnaire was confirmed as 0.7 using the opinions of experts in geography and social sciences and the K.M.O coefficient and Bartlett and the Bartlett value of 0.0. The reliability of the questionnaire was assessed as good using the Cronbach's alpha coefficient (as 0.78).

4. Research Findings

Most of the respondents were at the age range of 30 to 49 years old. Most were male with high school degree, married, and self-employed. First, the suitability of the data for factor analysis was examined. The findings showed that the K.M.O

value was 0.7 and the Bartlett value was 0.0, indicating suitability of data for factor analysis.

In this section, the effective variables on factor analysis are presented in 5 variables from the tourists' points of view. Factor analysis was performed using the principal variables method and the type of varimax rotation. To maximize the relationship between variables and factors, the factors must be rotated. The rotation of factors causes the best correlation between the variables and factor analysis. The main purpose in rotation of factors is to change the factor analysis to a simple system of factor loading that is simply interpreted. The interpretation of the factors of the rotated matrix is much easier than the interpretation of the factors of the unchanged matrix. Varimax rotation is the most famous and the most widely used rotation. In this kind of rotation, the independence of all mathematical factors is preserved. From engineering perspective, it means that rotation must be orthogonal. In other words, the factors remain perpendicular to each other by preserving the right angles. The factors change to new coordinates though varimax rotation to make it possible to interpret the set of test items with a simple structure that reflects the main and relatively clear lines. Though other methods of rotation provide different

interpretations, all are used to maximize the relationship between variables and some of factors. Table 1 presents the variables in 5 variables. These variables that were determined by factor analysis indicate the correlation between variables. In other words, the items are categorized by factor analysis. For example, variable 1 includes the variables with the highest correlation. The other variables also include the variables with the highest correlation, in order of degree.

Table 1. The rotated variables from the tourists' perspective
(Source: Research finding, 2020)

Item	Variable 1	Variable 2	Variable 3	Variable 4	Variable 5
Did you choose the village of Hajij because of its historical places?	0.21				
Dear tourist, how positive do you think was the performance of authorities in Hajij village?				0.29	
Do you think the local people of Hajij have the activities required to attract tourist?				0.25	
Was the transport infrastructure (roads) good for travelling to Hajij village?	0.26				
Have you used the local resorts at night in Hajij village?					0.32
To what extent do you think the natural factors of Hajij village to attract tourists have been damaged?					-0.39
Do you agree with the use of natural materials in the construction of rural housing in Hajij village?					0.40
Do you think the housing in Hajij village are good to attract tourists?					-0.41
How much have you enjoyed the local services in Hajij village?		0.36			
Dear tourist, to what extent do you evaluate the observance of ethical principles by tourists positive?			0.34		
How much did the handicrafts made in this village attract your attention?		0.53			
Was the information technology infrastructure in this village good?					-0.43
How do you define your satisfaction of services provided by the government in the village?					0.49
To what extent do you think the tourist were warmly welcomed by the local people?					-0.34
To what extent do you think the rehabilitation project of Hajij village was effective in attracting tourists?		0.25			
Can you see the traditional principles in the rehabilitation of housing in Hajij village?					-0.46
To what extent do you think the rehabilitation of dilapidated texture in Hajij village and urban architecture were similar?					0.42
Do you think the rehabilitation of the dilapidated texture in Hajij village can be a good model for rehabilitation in other villages?		0.31			
Are you satisfied with your trip to Hajij village?	0.48				
Do you think the local people in Hajij village have used tourists to improve their economic conditions?				0.36	
Do you think the implementation of rehabilitation dilapidated texture in Hajij village was effective in creating job opportunities?	0.26				
Have the local people in Hajij village protected the environment?				0.36	
Have safety rules been observed in the rehabilitation of the dilapidated texture in Hajij village?	0.36				
Do you think the rehabilitation project in Hajij village has followed the urban architectural models?				0.37	
How much variety have you seen in the natural beauty of Hajij village?	0.34				

Item	Variable 1	Variable 2	Variable 3	Variable 4	Variable 5
Do you think the use of natural materials in building the housing of Hajij village is a strength to attract tourists?		0.53			
To what extent do you think the local people have improved the recreational areas for tourists in Hajij village?	0.34				
Do you think the activities of educated young people in Hajij village are effective on attracting tourists to this village?		0.49			
To what extent do you think the rehabilitation project of Hajij village has prevented the local people from immigrating to other areas?	0.58				
Do you think the performance of governmental organizations has been effective in rehabilitating the dilapidated texture?				0.39	
Were you influenced by others to travel to Hajij village?	0.33				
Were you influenced by government advertisement to travel to Hajij village?				0.49	
Have you enjoyed visiting the rehabilitated places in Hajij village?	0.47				
Are you interested in supporting the development projects of your favorite village?		0.51			
Are you interested in investing in rural tourism sections?	0.39				
Do you think the public participation is effective in implementing the development projects?		0.59			
To what extent do you think the women's activities in economic productions are effective?	0.29				
Dear tourist, to what extent do you think the rehabilitation of Hajij village has prevented the risks of damages to housing?		0.52			
Are the damages you observed in Hajij village the result of human factors?	0.35				
Do you encourage your friends to travel to Hajij village?	0.55				
Do you think the housing in Hajij village are good to live?		0.40			
Do you think the construction of a hotel or motel is effective in attracting tourists to Hajij village?	0.36				
To what extent do you think the mass media are effective in attracting tourists to rural areas?				0.42	
To what extent do you think the modern thinking in rural constructions can be effective in sustainability of villages?	0.50				
To what extent does the preservation of traditional model of rehabilitation of dilapidated texture in Hajij village seem new to you?		0.42			
If you lived in Hajij village, would you invest in this village to continue living?	0.55				
Do you think organizing cheap travel tours by the government can motivate urban people to visit villages?	0.40				
Do you think the villager's immigration can be prevented by improving the rural economy?			0.40		
Do you think the government support for the protection of historic villages is effective?				0.39	
To what extent do you think the rural local celebrations can be effective in attracting tourists?			0.44		
Have you seen the place for providing the services in Hajij village to sell the products (garden and agricultural products and handicrafts)?			-0.41		
To what extent has the trip to Hajij village motivated you to revisit this village?			0.54		
Do you think the organization and order of tourists by the rural local people was effective?			-0.45		

Item	Variable 1	Variable 2	Variable 3	Variable 4	Variable 5
How do you evaluate the capacities to attract tourism in Hajij village?			0.57		
Has the location of rural housing in mountains in Hajij village attracted your attention?	-0.46				
Do you think Hajij village has the capacity to create modern technologies of tourism?			0.50		
Do you think the environment of Hajij village can attract tourists?	0.46				
Do you think is there any agreement between the implementation project of dilapidated texture rehabilitation and the village location?			0.40		
To what extent do you think the interaction between human and nature is appropriate in Hajij village?	0.19				
To what extent do you think the public participation in Hajij village has been effective in managing and organizing tourists in different parts of the village?			0.32		

The effective components in rehabilitation of rural valuable texture is discussed in the following. The components 1 to 5 were named. For example, the component 1 includes various items with the highest correlation. The researcher attempted to find a common concept among the items. The concept "tourism facilities and infrastructure" was selected for the component 1. The same method was used for other components. Table 2 indicates that facilities and infrastructure were the most important effect of rehabilitation of dilapidated texture from tourists' view. The sum total refers to the cumulative variance. The last row in Table 2 (the column of cumulative variance) shows the amount of information in variables, which can be presented by a certain number of components. 80.54% of information (out of 100%) can be presented by these components.

1. Tourism facilities and infrastructure showed that, according to the respondents' views, the rehabilitation of valuable texture was effective on rural facilities and infrastructure.

2. The attraction of valuable texture for tourism increased the effectiveness of the rehabilitation project, which was by itself a factor to attract tourists to this village.

3. The social and cultural aspects of rehabilitation of valuable texture have been of great consideration in the effect of rehabilitation of rural valuable texture. In other words, there is a relationship between rehabilitation of valuable texture and social and cultural effects.

4. Local and government management of the village is effective on rehabilitation of valuable texture and the management and direction of this process. It includes state managers, governor of the rural district, and rural councils.

5. The traditional aspects of valuable texture are among the features of rehabilitation of valuable texture, which lead to preservation and reconstruction of old identity of the village.

The other aspects were the issues with less importance and, hence, were deleted by SPSS software.

Table 2. The weighs of effective components in rehabilitation of rural valuable texture
(Source: Research finding, 2020)

Component	Tourists
Tourism facilities and infrastructure	20.42
Attraction of valuable texture for tourists	19.74
Social and cultural aspects of rehabilitation of valuable texture	15.85
Local and government management of the village	14.97
Preserving the traditional aspects of valuable texture	14.55
Total	80.54

In the following, each extracted component is presented:

1. The effect of valuable texture on tourism facilities and infrastructure:

As Table 3 shows, the valuable texture affected all variables. In fact, the infrastructure resulted from rehabilitation of rural valuable texture had considerable development, and significant effect on tourism. For example, the development of ecotourism resorts (with a traditional look), improvement of alleys and the main street, reconstruction of the village water network and medical equipment are among the infrastructures that were created in this village. The development of these infrastructures had significant effect on employment in Hajij village; the respondents also believed that the rural valuable texture is well rehabilitated and had good interaction with the natural environment. In fact, the development of infrastructures and facilities led the tourists to be more interested in visiting and staying in the village. Tourists' longer stay in the village due to development of infrastructures was one of the effects of infrastructure development in Hajij village. In addition, it motivates the local people and authorities to follow the rehabilitation process through developing the facilities and infrastructures.

Table 3. The effect of valuable texture on tourism facilities and infrastructure[1]
(Source: Research finding, 2020)

Item	Very low	Low	Medium	High	Very high	The mean	Attitude
Did you choose the village of Hajij because of its historical places?	24	3.15	28.3	14.3	18	2.87	High
Was the transport infrastructure (roads) good for travelling to Hajij village?	24.3	20	34.7	10.3	10.7	2.63	High
Are you satisfied with your trip to Hajij village?	5	15	25.7	30.3	24	3.53	High
To what extent do you think the rehabilitation project of Hajij village was effective in attracting tourists?	10.3	15.3	31.3	24.3	18.7	2.26	Low
Have safety rules been observed in the rehabilitation of the dilapidated texture in Hajij village?	8.7	17	29	33.7	11.7	3.23	High
How much variety have you seen in the natural beauty of Hajij village?	9	13	20	23	11	3.62	High
To what extent do you think the local people have improved the recreational areas for tourists in village?	8.3	16.7	23.3	30	12.7	3.22	High
Do you think the villager's immigration can be prevented by improving the rural economy?	8.3	15	26	32.3	18.3	3.12	High
Were you influenced by others to travel to Hajij village?	9	12.7	27	32.3	19	3.40	High
Have you enjoyed visiting the rehabilitated places in Hajij village?	8.7	10.7	21.3	30.3	29	3.60	High
Are you interested in investing in rural tourism sections?	8.3	15.7	32.3	27.7	16	3.27	High
To what extent do you think the women's activities in economic productions are effective?	9.7	18	32.7	24.3	15.3	3.18	High
Are the damages you observed in Hajij village the result of human factors?	11	22	31.3	22.7	13	3.05	High
Do you encourage your friends to travel to village?	8.3	15	27.7	31	18	3.35	High
Do you think the construction of a hotel or motel is effective in attracting tourists to Hajij village?	8.3	16.3	22.3	29.7	23.3	3.43	High
To what extent do you think the modern thinking in rural constructions can be effective in sustainability of villages?	8.3	17	29	27.7	18	3.30	High
If you lived in Hajij village, would you invest in this village to live?	11.7	9	26	19.3	34	3.55	High

1. The column of "mean" in this Table includes the mean of answers to each item (the answers were scored from very low to very high). In the column of "attitude", the means was considered from low (1 to 205) to high (2.51 to 5). All subsequent Tables were scored accordingly.

Item	Very low	Low	Medium	High	Very high	The mean	Attitude
Do you think organizing cheap travel tours by the government can motivate urban people to visit villages?	21.7	9.3	26.3	12.3	30	3.20	High
How much did the handicrafts made in this village attract your attention?	9	16.7	26	19.3	29	3.43	High
Do you think the environment of Hajij village can attract tourists?	7.7	16.3	27.3	28.3	20.3	3.37	High
To what extent do you think the interaction between human and nature is appropriate in Hajij village?	6.7	15.7	35.3	23.7	21.7	3.32	High

2. Attraction of valuable texture for tourism

In this part, it was obvious that rehabilitation of valuable texture has been interested to tourists and has attracted their attention. In particular, reconstruction of some old textures has been interesting to tourists. Moreover, most tourists believed that valuable texture has good features to cope with natural hazards and viability. The development of handicrafts and the use of local materials, along with traditional and local constructions, has caused interesting traditional, local, and indigenous landscapes in Hajij village. Also, the public participation in the rehabilitation process has contributed to more success of this project and consequently, attracting more tourists. On the other hand, this led the tourists to use traditional and local services in the village, resulting in making more money and employment (Table 4).

Table 4. Attractiveness of valuable texture for tourism
(Source: Research finding, 2020)

Item	Very low	Low	Medium	High	Very high	The mean	Attitude
How much have you enjoyed the local services in Hajij village?	9	12.3	30.7	29.7	18.3	3.36	High
How much did the handicrafts made in this village attract your attention?	10.3	13.7	23.3	30.3	22.3	3.41	High
Are you satisfied with your trip to Hajij village?	5	15	25.7	30.3	24	3.53	High
To what extent do you think the rehabilitation project of Hajij village was effective in attracting tourists?	10.3	20.3	21.7	31.3	16.3	3.23	High
Do you think the rehabilitation of the dilapidated texture in Hajij village can be a good model for rehabilitation in other villages?	10	17.7	28.3	22.3	21.7	3.28	High
Do you think the use of natural materials in building the housing of Hajij village is a strength to attract tourists?	26.7	9.7	28.7	18	17	2.89	High
Do you think the activities of educated young people in Hajij village are effective on attracting tourists to this village?	8.3	23.3	29	27	12.3	3.12	High
Are you interested in supporting the development projects of your favorite village?	9.7	14.3	26.3	26.7	23	3.32	High
Do you think the public participation is effective in implementing the development projects?	5.3	20	31.3	24	19.3	3.39	High
Dear tourist, to what extent do you think the rehabilitation of Hajij village has prevented the risks of damages to housing?	8.3	15	24	30.3	22.3	3.43	High
If you lived in Hajij village, would you invest in this village to live?	7	16.7	29	31.3	16	3.33	High
To what extent does the preservation of traditional model of rehabilitation of dilapidated texture in Hajij village seem new to you?	9	13.3	29	27.7	18	3.41	High

3. *The social and cultural aspects of rehabilitation of valuable texture for tourists*

The social and cultural aspects played an important role in Hajij village. For example, developing the public participation in rehabilitation project of valuable texture, creation of handicrafts markets, developing local celebrations in the form of event tourism and establishing ecotourism housing can be mentioned as some of considerable and special result of rehabilitation of valuable texture in the village of Hajij. For example, holding various tourism events has caused the revival of local traditions besides the sale of agricultural products in the form of festivals, and has attracted tourists to this village to see these festivals. Even the local people who immigrated to the city return to the village on the day of the event and participate directly or indirectly in these events, and some express their desire to return to the village to live. Another feature of rehabilitation of valuable texture is attention to the environmental principles and the agreement between the rehabilitated texture and the natural substrate and installation of different types of bins and environmental guides that give the village a natural beautiful look. Also, the environmental pollution has been decreased (Table 5).

Table 5. Cultural and social aspects
(Source: Research finding, 2020)

Item	Very low	Low	Medium	High	Very high	Mean	Attitude
Dear tourist, to what extent do you evaluate the observance of ethical principles by tourists positive?	11.3	18.7	34.3	21.3	14.3	3.09	High
Do you think the villager's immigration can be prevented by improving the rural economy?	7.3	16.3	25	30.7	20.7	3.41	High
To what extent do you think the rural local celebrations can be effective in attracting tourists?	8	18.3	19.7	34	20	3.40	High
Have you seen the place for providing the services in Hajij village to sell the products (garden and agricultural products and handicrafts…)?	11	19.3	37	19	13.7	3.05	High
To what extent has the trip to Hajij village motivated you to revisit this village?	8	15.3	24.3	35.7	16.7	3.38	High
Do you think the organization of tourists by the local people was effective?	11.3	20.3	30.7	25.3	12.3	3.07	High
How do you evaluate the capacities to attract tourism in Hajij village?	9.3	13.3	25.3	27.3	24.7	3.45	High
Do you think Hajij village has the capacity to create modern technologies of tourism?	7.7	17	21.7	29	14.7	3.26	High
Do you think is there any agreement between the implementation project of dilapidated texture rehabilitation and the village location?	10	19.3	32	23	15.7	3.15	High
To what extent do you think the public participation in Hajij village has been effective in managing and organizing tourists in different parts of the village?	14.3	11	30.3	22.7	21.7	3.26	High

4. *Local and government management of the village*

People, authorities, and local organizations were very active in rehabilitation of valuable texture and development of rural tourism and there was a bilateral and multilateral cooperation between people and authorities. Even the tourism events are organized in coordination with the villagers. Generally, one of the reasons for developing tourism in the village of Hajij was the cooperation between authorities and local people, as well as development of local participation. Another effective factor in managing rehabilitation of valuable texture is advertising. Advertisement has increased people's awareness and desire to rehabilitate the textures and has motivated the local people to cooperate with the local and government

organizations. Besides, the mass media such as News sites and local newspapers play a key role in attraction local people's attention (Table 6).

Table 6. Local and government management
(Source: Research finding, 2020)

Item	Very low	Low	Medium	High	Very high	Mean	Attitude
Dear tourist, how positive do you evaluate the performance of authorities in Hajij village?	5.3	12	41.7	27.3	3.7	3.32	High
Do you think the local people of Hajij have the activities required to attract tourist?	9.7	19.7	35.3	17.3	18	3.14	High
Have the local people in Hajij village protected the environment?	9.3	16.3	38	21	15	3.16	High
Do you think the rehabilitation project in Hajij village has followed the urban architectural models?	9	21.7	31.7	22.7	15	3.13	High
Do you think the performance of governmental organizations has been effective in rehabilitating the dilapidated texture?	11.3	19.3	31.3	23	15	3.11	High
Were you influenced by government advertisement to travel to Hajij village?	6.7	22.7	23.7	20	17	2.98	High
Are the damages you observed in Hajij village the result of human factors?	10.3	15	37.7	20.3	16.7	3.18	High
To what extent do you think the mass media are effective in attracting tourists to rural areas?	8.3	19.7	28.7	26	17.3	3.24	High
Do you think the government supports in protecting the historical villages were effective?	8.3	20.3	32.3	24	15	3.17	High

5. Preserving the traditional aspects of valuable texture

Tourists could observe the traditional architecture alongside the local materials in rehabilitation of rural valuable texture, helping them to feel they were in a traditional environment. The ecotourism housing with traditional architecture have made the opportunity to see, enjoy and stay in a traditional environment, increasing the capital of village and positive effects on the economy of Hajij village, as well as the desire of local people to participate more (Table 7).

Table 7. Traditional aspects of valuable texture
(Source: Research finding, 2020)

Item	Very low	Low	Medium	High	Very high	Mean	Attitude
Have you used the local resorts at night in Hajij village?	6.7	15.3	35	33	10	3.24	High
To what extent do you think the natural factors of Hajij village to attract tourists have been damaged?	10.3	25.3	33	20.7	10.7	2.96	High
Do you agree with the use of natural materials in the construction of rural housing in Hajij village?	9.7	16.3	25.7	29.3	19	3.32	High
Do you think the housing in Hajij village are good to attract tourists?	9.3	14.7	30.3	28	17.7	3.30	High
Was the information technology infrastructure in this village at good level?	7.8	20	39	18.3	14	3.09	High
How satisfied are you with the government's efforts to reconstruct the valuable texture in form of traditional architecture Hajij village?	9	19	31.3	28	12.7	3.16	High
To what extent do you think the tourist were warmly welcomed by the local people?	10	14.7	21	29.3	25	3.45	High
Can you see the traditional principles in the rehabilitation of housing in Hajij village?	9.3	17.3	31	26.3	16	3.22	High
To what extent do you think the rehabilitation of dilapidated texture in Hajij village and urban architecture were similar?	20.7	22.7	30	9.7	17	2.13	low

This section presents the effective variables on factor analysis in 5 categories. From the tourists' viewpoints (Table 8). The factor analysis method was based on the principal variables and the type of varimax rotation.

Table 8. The matrix of the rotated variables from the local people's viewpoints
(Source: Research finding, 2020)

Item	Variable 1	Variable 2	Variable 3	Variable 4	Variable 5
Has the organization of the dilapidated textures been considered regularly?				0.44	
How positive were the changes in valuable texture after rehabilitation?		0.35			
To what extent has the rehabilitation and reconstruction of rural valuable texture caused change in and destruction of historical places?				0.48	
Has the rehabilitation of the village caused the destruction of the environment?	0.49				
How satisfied are you with the rehabilitation of the dilapidated texture in the village?		0.37			
Have you cooperated the authorities in the rehabilitation project?			0.52		
In your opinion, has the rehabilitation of the village had negative effects on social and cultural factors?	0.39				
Has the rehabilitation and reconstruction of the village led to improved economy in the village by attracting tourist?	0.45				
Is there any positive change in the physical body of the village after the rehabilitation project?		0.49			
Have the implementation methods of the rehabilitation projects in Hajij village been appropriate to the social and cultural conditions of the village?	0.44				
Are the goals of the rehabilitation projects in Hajij village achieved?		-0.33			
Have the indigenous materials been used in the rehabilitation projects in the village of Hajij?				0.43	
Has the rehabilitation project has any positive effect on the protection of the village's dilapidated texture?				0.58	
To what extent do you think the housing of Hajij village were directly influenced by the rehabilitation project?					0.38
Did the dilapidated valuable texture in Hajij village require the rehabilitation project?	0.45				
Did the village's housing need more rehabilitation?		-0.47			
How is the quality of the rehabilitation projects of valuable texture?		0.41			
How do you evaluate the effect of the rehabilitation projects on attracting tourists to the village?	0.58				
How do you evaluate the cooperation between the authorities and the local people in implementing the rehabilitation project in Hajij village?			0.43		
To what extent do you think the rehabilitation project of Hajij village was influenced by urban models?				0.58	
How different are the houses in Hajij village from their body before implementing the rehabilitation project?				0.34	
How are the rehabilitation project of Hajij village in harmony with the geographical factors of that area?				0.48	

Item	Variable 1	Variable 2	Variable 3	Variable 4	Variable 5
How successful was the development and rehabilitation project of the rural housing in preventing the local people from immigrating to the cities?	0.41				
Is there any development in Hajij village after the rehabilitation project of valuable texture, as compared to the adjacent villages?	0.27				
Have the modern beauty been involved in reconstructing the physical projects of the dilapidated textures?		0.51			
Was the rehabilitation project of Hajij village in agreement with the environment?	0.58				
Has the changes resulted from the reconstruction of the dilapidated valuable texture caused negative effects on the environmental cycle?		0.50			
How positive were the rehabilitation projects of valuable texture in Hajij village in preventing the young people from immigrating to the adjacent cities?	0.44				
Has the reconstruction of valuable textures in Hajij village caused creation of employment?		0.57			
Is there any motivation for implementing the rehabilitation projects in the adjacent villages after implementing such projects in Hajij village?		0.58			
Has the communication between Hajij village and other adjacent villages been improved after implementing the rehabilitation project of the dilapidated texture?					0.52
Has the quality and convenience of the rural housing in Hajij been improved after the rehabilitation project?	0.63				
Have the local people participated in presenting their ideas and implementing the rehabilitation projects of the dilapidated valuable textures?			0.37		
Do you think the implemented project could be implemented in a more appropriate manner?		0.30			
Has there been any dissatisfaction with the negligence in implementing the construction activities in the village?	-0.61				
Have the people of Hajij referred to the governmental organizations for implementation of rehabilitation project?			0.41		
How do you evaluate the seriousness and efficiency of the executive authorities of the rehabilitation of valuable textures in Hajij village?			0.52		
Have you been lent by the government organizations in charge for rehabilitation of dilapidated textures to rehabilitate and reconstruct your housing?			0.48		
Was the capacity and acceptance of the village environment enough appropriate for the rehabilitation project?	0.63				
How similar are the rehabilitation projects of dilapidated valuable textures of Hajij village and urban body?				0.52	
Have you thought about immigrating to the city after the implementation of rehabilitation project of dilapidated textures in Hajij village?		-0.56			
Has the implementing the rehabilitation project in Hajij village motivated you to stay in the village?				0.55	
Have you decided to create entrepreneurship for you and others after the rehabilitation implementation if Hajij village?				0.33	

Item	Variable 1	Variable 2	Variable 3	Variable 4	Variable 5
Have you thought about immigrating to the city before the implementing the rehabilitation project in Hajij village, due to dilapidated textures in the village?	0.43				
To what extent did the rehabilitation project of dilapidated valuable textures affect the communication infrastructures (telephone, electricity, healthy water, roads)?					0.59
Has the rehabilitation project of Hajij village improved its economic, social, and cultural relations with the adjacent villages?					0.48
Has the reconstruction of the dilapidated textures in Hajij village affected attracting tourists?					-0.48
How is the local people's satisfaction of the rehabilitation projects of the village's valuable textures evaluated in the local conversations among the villagers?		0.47			
Has the rehabilitation of valuable textures in Hajij village affected the women's employment and entrepreneurship?					0.25
Have the organizations and executive authorities of the rehabilitation project of valuable texture in Hajij village returned to the village after implementing the project to evaluate and assess the effects of the project on the village?			0.50		
Have the negative effects of the rehabilitation project been reported to the relevant authorities by the local people after the implementation of the project?	-0.32				
Have the negative effects of the rehabilitation project of valuable textures been assessed by the authorities after implementing the project?			0.50		
Have the development authorities of Hajij village taken any practice to resolve the problems of the rehabilitation project of valuable textures?			0.26		
Was there any contradiction between the reconstruction project in Hajij village and the native people's local customs?	-0.50				
How positive do you think is modelling of urban models in implementing the rehabilitation project of valuable textures in Hajij village?				-0.34	
What is your evaluation of tourists' interest in implementing the rehabilitation project of valuable textures in Hajij village?	0.41				
Was the rehabilitation project in Hajij village effective in the strength and durability of the village's buildings?				0.52	
To what extent are the local people's needs considered in implementing the rehabilitation project of dilapidated textures in Hajij village?		0.50			
Has the rehabilitation project in Hajij village had any positive effect on health and educational service activities?					0.47
Were the educated young people employed in the implementation of rehabilitating Hajij village?		0.32			

This part presents the effective variables on factor analysis in 5 categories from the local people's viewpoints (Table 9). It shows that the social and cultural aspects of rehabilitation of rural valuable textures are of great importance to the local people.

1. In the part of social and cultural aspects of rehabilitation of valuable texture, the local people's perspectives indicated the significant effect of valuable texture on the village's social and cultural features.
2. The local people were very satisfied with the rehabilitation project of valuable textures.
3. According to the local people's perspectives, the performance of local and government authorities

was good, and the rehabilitation project of rural valuable textures has led to a better interaction between the local people and authorities.

4. The physical performance of the rehabilitation project was high and the local people believed that the rehabilitation project had significant effect on the people and the village, especially in the village's physical dimensions.

5. The quality of services to the village after the implementation of rehabilitation project of valuable textures was improved due to people and organizations' attention to this project and development of infrastructures.

Table 9. The assessment of weighs of effective variables on rehabilitating the rural valuable textures from the local people's view

(Source: Research finding, 2020)

Variable	Tourists
Social and cultural aspects of rehabilitation of valuable texture	25.41
People's satisfaction of the rehabilitation project	19.73
Local and government authorities' performance	15.85
The physical performance of the rehabilitation project	14.97
The quality of services in the village	14.55
Total	90.50

1. Social and cultural aspects of rehabilitation of valuable textures

Local people believed that the rehabilitation of valuable texture had positive effects on attracting tourists and tourism development. However, the rehabilitation of rural valuable textures, from the local people's view, led to the development of Hajij village, as compared to the adjacent villages, and the local people emphasized the requirement of rehabilitating the rural valuable textures.

Moreover, the findings showed that the rehabilitation of valuable textures reduced immigration rate. Another important note was that the rehabilitation project has attracted tourists and the villagers' welfare has been improved as a result of rehabilitation of valuable texture. Also, the rehabilitation project was in agreement with social and cultural aspects and the local people's customs (Table 10).

Table 10. Social and cultural aspects of rehabilitation of rural valuable textures

(Source: Research finding, 2020)

Item	Very low	Low	Medium	High	Very high	Mean	Attitude
Has the rehabilitation of the village caused the destruction of the environment?	22.5	12.4	20.2	33.7	11.2	3.56	High
In your opinion, has the rehabilitation of the village had negative effects on social and cultural factors?	25.8	34.8	20.2	6.7	12.4	2.02	Low
Has the rehabilitation and reconstruction of the village led to improved economy in the village by attracting tourist?	6.7	18	35.5	33.7	10.1	3.22	High
Have the implementation methods of the rehabilitation projects in Hajij village been appropriate to the social and cultural conditions of the village?	9	13.5	23.6	39.3	14.6	3.37	High
Did the dilapidated valuable texture in Hajij village require the rehabilitation project?	10.1	19.1	21.3	26	13.5	3.24	High
How do you evaluate the effect of the rehabilitation projects on attracting tourists to the village?	9	16.9	20.2	18	36	3.55	High
How successful was the development and rehabilitation project of the rural housing in preventing the local people from immigrating to the cities?	7.9	11.2	36	27	18	3.36	High

Is there any development in Hajij village after the rehabilitation project of valuable texture, as compared to the adjacent villages?	9	13.5	27	36	14.6	3.34	High
Was the rehabilitation project of Hajij village in agreement with the environment?	6.7	38.2	24.7	14.6	15.7	2.94	High
How positive were the rehabilitation projects of valuable texture in Hajij village in preventing the young people from immigrating to the adjacent cities?	33.7	37.1	19.1	6.7	3.4	3.09	High
Has the quality and convenience of the rural housing in Hajij been improved after the rehabilitation project?	13.5	21.3	12.4	39.3	13.5	3.18	High
Has there been any dissatisfaction with the negligence in implementing the construction activities in the village?	30.3	22.5	28.1	6.7	12.4	2.19	Low
Was the capacity and acceptance of the village environment enough appropriate for the rehabilitation project?	6.7	24.7	40.4	13.5	14.6	3.04	High
Have you thought about immigrating to the city before the implementing the rehabilitation project in Hajij village, due to dilapidated textures in the village?	9	15.7	22.5	24.7	10.1	3.29	High
Was there any contradiction between the reconstruction project in Hajij village and the native people's local customs?	27	21.3	16.9	21.3	13.5	2.03	Low
What is your evaluation of tourists' interest in implementing the rehabilitation project of valuable textures in Hajij village?	6.7	23.6	19.1	37.1	13.5	3.27	High

2. People's satisfaction of the rehabilitation project of rural valuable textures

People were satisfied with the rehabilitation project of rural valuable texture. They also believed that a positive change has been created in the village and the rehabilitation of rural valuable textures has had good quality. The people reported a significant difference in their life after implementing the rehabilitation of rural valuable texture, as well as considerable job opportunities. The rehabilitation project led to reconstruction of the dilapidated textures and creation of beautiful areas, and in general, the whole structure of the village has become more beautiful. The results showed that the people speak about the features of the rehabilitation project in their local conversations (Table 11).

Table 11. People's satisfaction of the rehabilitation project
(Source: Research finding, 2020)

Item	Very low	Low	Medium	High	Very high	Mean	Attitude
How positive were the changes in valuable texture after rehabilitation?	6.7	19.1	47.2	18	9	3.03	High
How satisfied are you with the rehabilitation of the dilapidated texture in the village?	9	7.9	34.8	39.3	9	3.31	High
Is there any positive change in the physical body of the village after the rehabilitation project?	7.9	11.2	14.6	33.7	32.6	3.72	High
Did the village's housing need more rehabilitation?	28.1	19.1	21.3	28.1	3.4	2.60	High
In your opinion, how is the quality of rehabilitation of valuable textures?	12.4	18	29.2	27	13.5	3.11	High
Have the modern beauty been involved in reconstructing the physical projects of the dilapidated textures?	7.9	14.6	20.2	46.1	11.2	3.38	High

Has the changes resulted from the reconstruction of the dilapidated valuable texture caused negative effects on the environmental cycle?	6.7	38.2	24.7	14.6	15.7	3.38	High
Has the reconstruction of valuable textures in Hajij village caused creation of employment?	6.7	13.5	29.2	36	14.6	3.38	High
Is there any motivation for implementing the rehabilitation projects in the adjacent villages after implementing such projects in Hajij village?	13.5	22.5	18	22.5	23.6	3.30	High
Do you think the implemented project could be implemented in a more appropriate manner?	4.5	33.7	22.5	21.3	18	3.15	High
Have you thought about immigrating to the city after the implementation of rehabilitation project of dilapidated textures in Hajij village?	12.4	36	25.8	13.5	12.4	2.78	High
How is the local people's satisfaction of the rehabilitation projects of the village's valuable textures evaluated in the local conversations among the villagers?	6.7	14.6	27	37.1	14.6	3.38	High
Have the development authorities of Hajij village taken any practice to resolve the problems of the rehabilitation project of valuable textures?	7.9	20.2	39.3	16.9	15.7	3.12	High

3. The performance of local and government authorities
This part shows the local people's satisfaction of the authorities' performance in rehabilitation of rural valuable textures. They also believed that they were well cooperated by the authorities to receive loans to rehabilitate the rural valuable textures. This led to more cooperation between the local people and the authorities. They also cooperated the authorities in reporting the evaluations. The local people were also satisfied with the authorities' cooperation to resolve their problems during the rehabilitation of valuable textures (Table 12).

Table 12. The performance of local and government authorities
(Source: Research finding, 2020)

Item	Very low	Low	Medium	High	Very high	Mean	Attitude
Have you cooperated the authorities in the rehabilitation project?	7.9	16.9	18	21.3	36	3.61	High
How do you evaluate the interactions between the government authorities and the local people in implementing the rehabilitation project?	17.9	6.9	18	31.3	26	2.92	High
Have the local people participated in presenting their ideas and implementing the rehabilitation projects of the dilapidated valuable textures?	4.5	19.1	22.5	22.5	31.5	3.57	High
Have you referred to the governmental organizations for implementation of rehabilitation project?	24.7	23.6	27	16.9	7.9	2.60	High
Have you been lent by the government organizations in charge for rehabilitation of dilapidated textures to rehabilitate and reconstruct your housing?	11.2	18	21.3	33.7	15.7	3.25	High
Have the organizations and executive authorities of the rehabilitation project of valuable texture in Hajij village returned to the village after implementing the project to evaluate and assess the effects of the project on the village?	30.3	21.3	16.9	15.7	15.7	2.65	High
Have the negative effects of the rehabilitation project of valuable textures been assessed by the authorities after implementing the project?	11.2	16.9	39.3	21.3	11.2	2.79	High
Have the negative effects of the rehabilitation project been reported to the relevant authorities by the local people after the implementation of the project?	10.1	38.2	22.5	21.3	7.9	3.04	High
Have the development authorities of Hajij village taken any practice to resolve the problems of the rehabilitation project of valuable textures?	10.1	36	20.2	19.1	14.6	2.92	High

4. The physical performance of the rehabilitation project

Local materials were used in the rehabilitation of valuable textures, and all the respondents were satisfied with the rehabilitation and reconstruction of this project. The local people believed that the rehabilitation of rural valuable textures led to the preservation of traditional structure of their village and introduction of their traditional culture. The interaction between the environment and rural architecture is another issue focused by the rehabilitation of rural valuable texture. The rehabilitation project has improved entrepreneurship in the village. The use of local materials has also provided the ground for a good interaction between the village's physical structure and the environment. It also increased the people's desire to stay in the village to live (Table 13).

Table 13. The physical performance of the rehabilitation project
(Source: Research finding, 2020)

Item	Very low	Low	Medium	High	Very high	Mean	Attitude
Has the organization of the dilapidated textures been considered regularly?	21.3	22.5	38.2	10.1	7.9	2.61	High
To what extent has the rehabilitation of the village caused the change and destruction of the historical places?	15.7	38.2	21.3	19.1	5.6	2.61	High
Have the local materials been used in the rehabilitation project of Hajij village?	10.1	19.1	18	36	16.9	3.30	High
Was there any positive effect on protecting village's dilapidated texture, resulted from the rehabilitation project?	13.5	15.7	20.2	18	32.6	3.40	High
To what extent do you think the rehabilitation project of Hajij village was influenced by urban models?	9	16.9	20.2	36	18	3.37	High
How different are the houses in Hajij village from their body before implementing the rehabilitation project?	28.1	24.7	20.2	14.6	12.4	2.58	High
How are the rehabilitation project of Hajij village in harmony with the geographical factors of that area?	10.1	32.6	27	18	21.4	2.90	High
To what extent do you think the rehabilitation of dilapidated texture in Hajij village and urban architecture were similar?	6.7	18	24.7	22.5	28.1	3.47	High
Has the implementing the rehabilitation project in Hajij village motivated you to stay in the village?	9	18	22.5	15.7	34.8	3.49	High
Have you decided to create entrepreneurship for you and others after the rehabilitation implementation if Hajij village?	3.4	19.1	49.4	21.3	6.7	3.09	High
How positive do you think is modelling of urban models in implementing the rehabilitation project of valuable textures in Hajij village?	13.5	25.8	34.8	15.7	10.1	2.83	High
Was the rehabilitation project in Hajij village effective in the strength and durability of the village's buildings?	13.4	14.6	24.7	25.8	31.5	3.67	High

As Table 14 shows, the rehabilitation project of valuable texture led the government to be involved in improving services such as telephone, healthy water, and electricity. Also, it affected the adjacent villages; the adjacent villages have used the rehabilitation project of valuable textures of Hajij village. The tourists visit the adjacent villages and affect the tourism process of these villages. This led the government to pay more attention to development of social, educational, and health structures.

Table 14. The quality of services in the village
(Source: Research finding, 2020)

Item	Very low	Low	Medium	High	Very high	Mean	Attitude
To what extent do you think the housing of Hajij village were directly influenced by the rehabilitation project?	11.2	13.5	36	23.6	15.7	3.40	High
Has the communication between Hajij village and other adjacent villages been improved after implementing the rehabilitation project of the dilapidated texture?	6.7	23.6	33.7	22.5	13.5	3.12	High
To what extent did the rehabilitation project of dilapidated valuable textures affect the communication infrastructures (telephone, electricity, healthy water, roads)?	6.7	11.2	22.5	21.3	38.2	3.73	High
Has the rehabilitation project of Hajij village improved its economic, social, and cultural relations with the adjacent villages?	6.7	27	38.2	16.9	11.2	2.99	High
Has the rehabilitation project of Hajij village been effective in attracting tourists?	5.6	11.9	16.9	48.3	12.4	3.45	High
Has the rehabilitation of valuable textures in Hajij village affected the women's employment and entrepreneurship?	9	11.2	47.2	19.1	13.5	3.17	High
Has the rehabilitation project in Hajij village had any positive effect on health and educational service activities?	10.1	15.7	27	36	11.2	3.22	High

Spearman correlation coefficient was used in this part. The findings showed a significant relationship at the significance level of 0.05 between the rehabilitation of valuable texture and the research variables. Table 15 shows that the variables of attracting tourists, providing local services to tourists, organizations' performance and the effect of advertisement were significantly associated with the rehabilitation of valuable texture. In other words, the rehabilitation of valuable texture led to increased attraction of tourists, increased local services to tourists, which resulted, in turn, in increased income and employment in the village; the performance of organizations and governmental and non-governmental institutions have been improved, due to the local people's cooperation, and the improvement of valuable texture has caused the village of Hajij to become more and more popular and plays an advertising role to attract tourists.

Table 15. Spearman correlation between rehabilitation of valuable texture and the research variables
(Source: Research finding, 2020)

Dependent variable	Correlation coefficient	Significance
Attracting tourists	0.21	0.039*
Providing local services to tourists	0.22	0.036*
Affecting the performance of governmental and non-governmental organizations	0.24	0.019*
The advertising role of rehabilitation of dilapidated texture for tourism	0.21	0.043*

In the following, the effective factors on the rehabilitation of rural valuable texture are presented. The coefficient of determination was 0.06 and the significance level of the test was 0.04. The variable of attracting tourism, among others, can be considered as the most effective one on the rehabilitation of rural valuable textures. Other variables such as providing local services to the tourists, effect of the performance of governmental and non-governmental organizations and institutions, the advertising role of rehabilitation of dilapidated texture for tourism are categorized in the subsequent order of importance (Table 16).

Table 16. Multivariate regression
(Source: Research finding, 2020)

Dependent variable	B value	Beta value
Constant value	1.12	
Providing local services to tourists	0.48	0.17
Effect of the governmental and non-governmental organizations' performance	0.32	0.03
The advertising role if rehabilitation of dilapidated texture for tourism	0.31	0.03

$$Y= 1.12+0.48x_1+0.27x_2+0.32x_3+0.31x_4$$

5. Discussion and Conclusion

This study investigated the effect of valuable texture on rural tourism. It showed that the rehabilitation of rural valuable texture not only affects the villagers' life, bit also provides appropriate conditions to attract tourists and develop the rural tourism. This finding is consistent with the result found by Mahdavi et al (2017). They also believed that improving the quality of rehabilitation can contribute to the development of rural tourism. The relationship between rehabilitation and valuable texture is dynamic; the more reconstructed the valuable textures are, the more developed the tourism will be. Khodadadi & Mohammadnejad (2013) confirmed this dynamic relationship and asserted that the rehabilitation process and tourism are dynamic and must not been considered as a project. In other words, rehabilitation is an ongoing process that must not be stopped. It leads to the dynamism of tourism. Moreover, this study indicated that the rehabilitation of valuable texture can improve the role of rural tourism in economy, society, and culture. That is, rural tourism can lead to the improvement of infrastructures, government and non-government investment in villages and, consequently, development of villages. In this regard, Alimorad Afshari (2012) and Ghahramani (2012) argued that the revival and reconstruction of rural housing improves the role of rural tourism, resulting in a developed village. These findings reveal the importance of rehabilitation and development of tourism in the process of rural development. This study, in line with the results of Jame Kasra (2010), showed that the rehabilitation of valuable texture can create beautiful models that are in harmony and agreement with the traditional texture and local values by considering the environmental and natural factors. This makes the village a good place to live and contributes to the development of tourism in villages. The results of this study were in line with those found by Ghasemi Ardehaei and Rostamalizade (2012) and Yaghubi et al (2013). They reported that the governmental and

non-governmental organizations and lending can make the implementation of rehabilitation projects more effective, and consequently, facilitate the tourism development. Sojasi Gheydari (2016) and Sartipipour (2005) argued that the rehabilitation of rural valuable texture has economic, social, and cultural effects. The present study also identified these effects and investigated the role of underlying factors affecting rehabilitation of rural valuable texture and tourism development. Finally, this study found results consistent with the results by Young et al (2011); they believed that development of tourism affects the village's body and changes it towards the interests of tourists. In other words, rehabilitation of rural valuable texture provides the conditions for tourists to enjoy, making them satisfied and more attracted to the village.

In the following, suggestions are presented:

1. The present study showed that despite positive effects of rehabilitation of valuable texture and tourism, this project damages the environment. One part of this damage is the result of activities of tourists who come to see the village. In this context, using education and tour guides who explain the required information to tourists as well as using warning signs to prevent pollution in the village can be helpful.

2. The problem raised in the rehabilitation of valuable texture is the cross-sectional nature of attention to the rehabilitation project; that is, this project is considered completed after the implementation of the rehabilitation project of valuable texture, while periodic plans and scheduled evaluations can be developed to develop the rehabilitation project more at specific times through further projects.

3. In Kermanshah province, there are many villages with traditional and local texture and high importance in terms of tourism. Therefore, the rehabilitation of valuable texture can be implemented in these villages. Particularly, most houses and valuable places

in these villages may be destroyed over time and cannot be reconstructed.

Finally, there are suggestions for further studies in the following:

1. Investigating the agreement and harmony of rural guide plans and the historical and cultural aspects of the villages with valuable texture;

2. Investigating the challenges of rehabilitating earthquake affected rural areas in villages with rural valuable texture.

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Original Article

بررسی وضعیت بهسازی بافت باارزش روستایی و تاثیر آن بر توسعه گردشگری
(مطالعه موردی: روستای هجیج استان کرمانشاه)

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۲. روش تحقیق

روش تحقیق کاربردی، کمی، پیمایشی و توصیفی است. ابزار جمع آوری اطلاعات، پرسشنامه است. جامعه آماری شامل دو گروه گردشگران و مردم بومی هستند که گردشگران ۳۰۰ نفر و مردم بومی ۹۵ نفر است که حجم آن با استفاده از فرمول کوکران بدست آمد. روستای مورد مطالعه روستای هدف گردشگری هجیج است. علت انتخاب این روستا این است که در استان کرمانشاه تنها روستایی که طرح بهسازی بافت باارزش تصویب و اجرایی شده است، روستای هجیج می باشد. روش توزیع پرسشنامه در بین گردشگران با استفاده از نمونه گیری اتفاقی و در روستا و بین مردم بومی با کمک نمونه‌گیری سیستماتیک بوده است. روایی پرسشنامه با استفاده از نظر متخصصان جغرافیا و علوم اجتماعی و همچنین ضریب K.M.O و بارتلت(برابر ۰/۷) و مقدار بارتلت (۰/۰)) تایید شد و پایایی پرسشنامه با استفاده از ضریب آلفای کرونباخ(برابر با ۰/۷۸) مناسب تشخیص داده شد.

۳.یافته های تحقیق

نتایج تحقیق نشان می دهند که ۵ مولفه بهسازی بافت باارزش روستایی بر گردشگران اثر می گذارند که شامل امکانات و زیر ساخت گردشگری، جذابیت بافت باارزش برای گردشگری، جنبه های اجتماعی و فرهنگی بهسازی بافت باارزش، مدیریت دولتی و محلی روستا، حفظ جنبه های سنتی بافت باارزش است.

چکیده مبسوط

۱. مقدمه

بافت‌های روستایی دارای اطلاعات مفیدی برای ارزیابی میزان تاثیرپذیری فرایند شکل‌گیری و توسعه طبیعی کالبدروستا می‌باشند و تحت تاثیر عوامل مختلف محیطی، اقلیمی، اقتصادی و اجتماعی فرهنگی و مذهبی هستند و در بسیاری از روستاهای کشور به عنوان اثری باارزش محسوب می شوند. امروزه بافت‌های مسکونی روستاها، عمدتاً در انطباق با خصوصیات محلی همان روستاها به وجود آمده اند که شامل ۱- استفاده از مصالح ساختمانی مناسب در اقلیم مختلف سرد و معتدل و گرم برای مقابله و سازگاری با مشکلات آب و هوایی منطقه سکونتگاهی۲- پیروی ازمنابع آب (چشمه، قنات، آب انبار) می شوند. این مسائل در گذشته وجود داشته و هم اکنون نیز کمابیش تاثیر گذار است. لذا توجه و رسیدگی به این بافت ها و بازسازی آن‌ها می تواند از نابودی بخشی از فرهنگ و هویت بومی جلوگیری لازم را به عمل آورد. روستای هجیج جزو روستاهای هدف گردشگری استان کرمانشاه است. این روستا از روستاهای پلکانی ایران است. باتوجه به جایگاه گردشگری این روستا در استان کرمانشاه و ویژگیهای سنتی این روستا به ویژه دربعدکالبدی آن، بررسی طرح بهسازی بافت باارزش روستایی و تاثیرات آن بر گردشگری روستایی اهمیت بسیار زیادی دارد. با این اوصاف مساله اصلی تحقیق این می باشد که اجرای طرح بهسازی‌بافت‌باارزش در روستایی هجیج تا چه میزان درابعاد اجتماعی، اقتصادی، کالبدی و گردشگری روستای فوق تاثیرگذار بوده است.

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نتایج حاصل از از رگرسیون نشان می دهند که جذب گردشگر، ارائه خدمات بومی به گردشـــگران، تاثیر بر عملکرد ســـازمان ها و ارگان های دولتی و غیر دولتی، جنبه تبلیغی بهسازی بافت فرسوده برای گردشـــگری مهمترین تاثیر ناشـــی از بهسـازی مسـکن روسـتایی را پذیرفته لند. یافته ها نشـــان می دهند که بهسـازی بافت باارزش روستایی دارای ویژگی های مثبتی همچون بهسازی ساختمان های قدیمی، بهبود زندگی مردم، توسـعه جنبه های فرهنگی و اجتماعی مردم روسـتایی و ارتقای توسـعه روسـتایی روسـتای هجیج نسـبت به روسـتاهای اطراف شـده اسـت. با این همه مشـکلاتی همچون شـهر شـدن سـاختار روسـتا و تاثیر منفی بر محیط زیسـت روسـتا مشـاهده می شـود. همچنین بهسـازی بافت باارزش نتوانسـته بر روند مهاجرت روستا به شهر و اشتغال زایی در روستا تاثیر مثبتی بگذارد. در اجرای پروژه بهسـازی بافت باارزش مشـارکت مناسـبی بین مسـئولان و مردم محلی صـورت گرفته اسـت، همچنین مردم محلی اعتقاد داشـتند که مسـئولان به طور مرتبط به بررسـی وضعیت روسـتا می پرداختند. زیر سـاخت های روسـتایی گسـترش یافته و گردشـگران از امکانات ارائه شـده رضایت داشـتند. همچنین سـاختار روسـتا به واسـطه اسـتفاده از معماری سـنتی و مصـالح بومی بهسـازی مناسـبی پیدا کرده اسـت. میزان جذب گردشـگر بیشـتر شـده و بازارهای سـنتی روسـتایی و صنایع دستی و ایجاد رویدادها و جشنواره های گردشگری از جمله ویژگی های طرح بهسازی بافت باارزش روستایی است.

۴. بحث و نتیجه گیری

نتایج نشـان داد که بهسـازی بافت باارزش روسـتایی جدا از تاثیرات مثبتی که برای زندگی روسـتاییان به همراه دارد، شـرایط مناسـبی برای جذب گردشگر و توسعه گردشگری روستایی فراهم می کند. با

بهبود کیفیت بهسازی می توان به توسعه گردشگری روستایی کمک نمود. این رابطه بین بهسـازی و بافت باارزش نوعی رابطه پویا اسـت که با تقویت هر چه بیشـتر بافت های باارزش انتظار توسـعه بیشـتر گردشگری را می توان داشت. فرایند بهسازی و گردشگری پویا است و نباید به شـکل پروژه ای بدان نگریسـت. احیا و نوسـازی مسـکن روسـتایی سـبب تقویت نقش گردشگری روسـتایی می گردد و این امر منجر به توسـعه روسـتایی می گردد. بهسـازی بافت باارزش با در نظر گرفتن ویژگی هـای محیطی و طبیعی می تواند الگوهـای زیبا و منطبق با بافت سـنتی و ارزش های بومی منطقه ایجاد کند که ضمن ایجاد مکانی مناسـب برای زندگی به توسـعه گردشـگری کمک کند. گردشـگران بیشـتر مکان های سـنتی و قدیمی را برای گردشـگری دوست دارند و ترجیح می دهند به روستاهایی بروند که بافت قدیمی و بومی دارند. همکاری سـازمان های دولتی و غیر دولتی و اعطای وام و تسـهیلات می تواند در اجرای برنامه های بهسازی موفق باشد و در نتیجه توسـعه گردشگری را میسر سازد. در نهایت توسـعه گردشگری برکالبد روسـتا تاثیر گذارده و آن را درجهت منافع گردشـگر تغییر می دهد. به عبارتی بهسـازی بافت باارزش روسـتایی شـرایطی را مهیا می کند که گردشگر پسند باشند و لذا گردشگران از حضور در این فضاها خرسند خواهند شد و زمینه جذب بیشتر آنان به روستا فراهم می آید.
کلیدواژه‌ها: بافت باارزش روستایی، توسعه گردشگری روستایی، روستای هجیج، محیط زیست.

Original Article

Ghetto Tourism: An Opportunity for Promoting Rural Tourism (Case Study: Isfahan Province)

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Abstract

Purpose- The present study focuses on introducing ghetto tourism; the main objective of this study is to introduce some villages in Isfahan Province as ghetto tourism destinations with emphasis on religious minorities. Since the emergence of niche tourism needs the study of its place, the present study is designed to identify the strengths, weaknesses, opportunities and threats of Isfahan Province for the prosperity of ghetto tourism.

Design/methodology/approach-To this end, SWOT and QSPM methods were used in this study. It is noteworthy that the data were collected through snowball sampling technique. The results of this study illustrate that Isfahan Province is strategically located in the aggressive area due to the internal and external factors affecting ghetto tourism, and strategies such as market development, concentric diversification, market penetration and product development can be used to boost rural tourism in Isfahan Province.

Finding- According to QSPM results, it can be concluded that holding more conferences regarding the cultural bridge of Iran-Armenia-Georgia among the market development strategies, organizing the festival of culture of minorities among the concentric diversification strategies, and holding a tour of visiting the ghetto villages of Isfahan among the market penetration strategies have the highest priority for ghetto tourism development in Isfahan. And the proposed strategies do not differ much in terms of priority and attractiveness for product development.

Keywords: Tourism, Ghetto tourism, Rural tourism, Isfahan Province.

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1. Introduction

The similarity in today's competitive world of tourism is the market enemy, and the special interest tourism (SIT) is a strategy to escape from in this case. In addition, SIT is an opportunity to provide the highest quality services to the tourists. Behind the SIT, a knowledge process is present that enables the producers, researchers, promoters, special audience and maintains the communication among them in the competitive market. SIT increases the competition and business opportunities, and these two components – location and audiences - are very important in this type of marketing. The special interest markets pay attention to the audience' special needs, and it is believed that attentions must not only be paid to the general needs of the audience, but also meeting their special needs by providing special products will bring a higher quality to the competitive market (Robinson & Novelli, 2005). The special interest marketing is a strategy that directs the form of tourism in a destination; for example, if according to research conducted in a tourism destination, the place is suitable to develop the cultural tourism, then activities such as art, music, cultural festivals, etc. are the highest priorities of the tourism activities in that destination. It is noteworthy that based on the World Tourism Organization (UNWTO) and the World Travel and Tourism Council (WTTC), the special interest markets are much more useful than other traditional forms of tourism for the host society, because the special interest markets attract motivated tourists willing to spend more money on the tourism destination. Such tourists are known as elite tourists (Hall & Weiler, 1992). Nowadays, similarity has become the enemy of the rural tourism in Iran and the rural tourism is only an emphasis on the agricultural tourism, ecotourism and the establishment of ecological accommodation.

Meanwhile, one of the biggest challenges in the tourism sector is lack of proper use of the huge volume of historical, cultural and natural diversity and attractive monuments of the country which is mentioned in the Iran's 20-year vision plan of cultural heritage and tourism. In addition, the qualitative goals of this plan are set to diversify the tourism market and use all capacities with the priority of attracting tourists.

This study strives by using SWOT (strengths, weaknesses, opportunities, and threats) method and introduces a number of historical villages in Isfahan where they have high potentials for promoting ghetto tourism. This research also aims to attract the attention of tourists, audience, tour guides and local communities to the history and subcultures of these target villages as a tourist attraction along with their wilderness and nature.

2. Research Theoretical Literature

2.1. Definition and History of Ghetto Tourism

The word *ghetto* is derived from *Borghetto*, a Jewish neighborhood in Venice, Italy during the Middle Ages (Calimani, 1987). Based on the definition of Travel Industry Dictionary (2016), the ghetto tourism is a form of tourism which invites the tourists to visit areas of the city where a different culture and lifestyle can be seen, such as urban fringe, the life style of poor and low-income families, people and tribes (ethnicities) with different races or religious minorities. Therefore, it can be stated that the difference between the ethnic tourism and ghetto tourism is that the latter emphasizes the ethnicities with different races. This type of urban tourism emerged in the United States for the first time. The United States is an urban society that has long been intertwined with different races and ethnicities. Little Italy is one of the most popular ghetto tourism destinations in the United States (Conforti, 1996). It is one of the most well-known urban neighborhoods in the New York, USA, where about five and a half million Italians immigrated and settled between 1820 and 2004. Since they all had the same culture, then shops have been built there that sell Italian goods and products and the Italian restaurants offer Italian cuisine as if there is a little Italy in the middle of an American modern city and megalopolis. This lifestyle has bittersweet experiences for the residents. Such urban neighborhoods show missed images of people who did not live in their motherland but preserved its cultural components. This group is known as the ghetto or minority of a city. Jews live in Little Italy, which itself causes this neighborhood becomes a place to show the lifestyle of this group of religious minorities, and it is also known as the American Jewish Quarter (Conforti, 1996).

The city of Warsaw in Poland is also one of the pioneers in ghetto tourism, and the ghetto's tourism routes have been identified in this city. Ashworth (2002) in the article entitled " Holocaust tourism: the experience of Kraków-Kazimierz" referred to

the Holocaust as an abnormal legacy in Krakow. Krakow is one of the largest and oldest cities in Poland, which was the capital of Poland until 1609 AD. The town of Kazimierz, near Krakow, is one of the largest Jewish settlements which had the highest number of victims in the Holocaust. The Auschwitz concentration camp has been the largest and most equipped concentration camp of Nazi Germany, where more than 90% of its victims were exiled Jews who were killed following the implementation of the final solution to the Jewish plan. This area is a destination for promoting the atrocity tourism, horror tourism and ghetto tourism, which is offered to the tourists in a travel package accompanied by visiting the synagogues, neighborhoods and eating at Jewish restaurants in the northeast of Kazimierz (Ashworth, 2002).

Furthermore, New York is a city with a lot of ethnic diversity, and it is a destination for ghetto tourism. The income of ghetto tourism in the New York City is $ 30,000 per a year, and especially the Harlem area attracts an average of 800,000 tourists a year (Fainstein & Power, 2007). Tourism is one of the sectors of the economy, which its function in urban space and sometimes in cultures makes some changes; tourism is a slogan for reviving the inner communities of cities. Hoffman (1999) evaluated the global trends and local conditions for tourism development in Harlem. Harlem is located in the northern part of New York City, Manhattan. Harlem is known as the America of blacks, and in this area tourists can experience jazz music and traditional African races' entertainments. Harlem is also known as a center for living, business and cultural activities for people of American-African descent. Harlem residents emigrated there from 1920 to 1930; this migration seemingly has created a renaissance in the region known as the Harlem's Renaissance, which was accompanied by the roller coaster of emotions as well as unprecedented artistic works in the black-and-white American society, and Harlem became the home of black culture and art in this way. In 1950, Harlem's black population reached to its peaks, because after World War II, the crime rates and poverty increased significantly, and people were forced to emigrate. In 1998, many tourists visited Harlem to see the different cultures; most of them were German, Japanese and Latin American tourists. At that time, the number of visitors from this neighborhood reached 500,000, which was a significant number (Hoffman, 1999).

2.2. Literature Review

Hoffman (1999) concluded in his research that Harlem has great potential to develop the ghetto tourism, and from the viewpoint of the tourism industry, the ghetto tourism economy is very suitable for this region; Haffman considered the ghetto tourism as a strategy to develop this region of the city. The ghetto tourism in the Harlem neighborhood has promoted small and medium-sized businesses (SMBs) and network activity, and ghetto tourism caused tourism resources and attractions to be introduced and the historical monuments and cultural heritage to be preserved (Hoffman, 2003).

São Paulo in Brazil is another ghetto tourism destination; in fact, Brazil is the second largest Japanese home after Japan. In 1908, a large number of Japanese people immigrated to Brazil. In 1907, Brazil and Japan signed a treaty by which Japanese were allowed to immigrate to Brazil, and many Japanese people came to Brazil and became owners of coffee farms, which was coinciding with the decline in Italians immigration to Brazil and the shortage of new workforce on coffee farms. This migration reached to its highest during the World War I. At present, the Japanese who live in Brazil have Japanese school and even preserve their cultural components (for example, the National Cherry Blossom Festival in Japan Square in Parana, Brazil) and have their Buddhist religions, Shinto (ancient Japanese religion). Some have converted to Christianity after migrating to Brazil. Therefore, this region has a high potential for promoting ghetto tourism. It is noteworthy that this ghetto tourism is not isolated and the two Japanese and Brazilian ethnic groups have a lot of relationship and compatibility (Moorehead, 2016). Ghetto tourism is referred to as a more comprehensive form of slum tourism; some researchers believe that ghetto tourism also includes visiting deprived urban places (Nessy, 2012). In recent years, some tours have been organized in Porto, Portugal, which encourage the tourists to visit the old and ancient Porto and slum neighborhoods; these tours are known as the worst tours (Torabi Farsani & Shafiei, 2018), which in this study the author does not emphasize this concept.

Gregory and Valentine (2009) introduced Pakistan as a destination which has a high potential to promote the ghetto tourism, especially religious minorities. Musharraf has called on the Ministry of

Minority Affairs in December 2004 to organize some activities in the field of sports, culture, tourism, and youth affairs of minorities. Regarding this, some religious activities were encouraged and many Buddhists from all over the world traveled to Pakistan to visit Buddhist shrines as well as archeological sites in the country. Additionally, this ministry has officially put the protection of these sites on his plan to develop the tourism. Pakistanis are Muslims; about 4%-5% of the country's populations are religious minorities including Christians, Hindus, Zikrs, Ahmadiyya, Sikhs, Bahá'í Faith, Buddhists, Zoroastrians, Al Mahdi Foundation, and Jews (Gregory & Valentine, 2009).

Besides, Yang and wall (2009) studied the views and perceptions of ethnic minorities in further development of tourism and the effects of tourism on those societies. A variety of research methods have been used in this study, including surveys, interviews, and observations. Daiyuan and Mengjinglai are two villages in China in which the ethnic monitories lived and the research was conducted there. According to the research results, these minorities welcomed the development of tourism in their villages, and they believed that the cultural, economic, social and environmental development will be followed by the tourism. At the same time, the local communities pointed out some negative effects. For example, developing tourism by foreign companies will not provide benefit for locals. However, if the minorities are the locals involved in the tourism development programs, these negative effects will be decreased (Yang & wall, 2009).

Furthermore, Dumbrovská (2017) introduced Prague as one of the new destinations for ghetto tourism. In recent years, a map of the ghetto tourism's route has been provided with an emphasis on the Jews living in Prague.

In addition, Sion (2017) has criticized the ghetto tourism in Venice, Italy; he argued that a temporary exhibition was held at the Doge's Palace to promote the ghetto tourism in 2016. Tourism products and services offered to the tourists in the Jewish region were as follows: walking in the Jewish quarter, visiting three synagogues, introducing the history of building the synagogues and architecture, decoration, textiles and special objects, introducing Jewish history and the Holocaust in Hebrew. Sion (2017) believes that these ghetto tourism's activities and the emphasis on the Holocaust look

as if the tourists are walking on the gravestone and remember the Jews; and unfortunately, many private companies which are investing in this type of tourism have more focus on this issue, because this is one of the tourists' requests. Sion proposed in his research that the ghetto tourism should emphasize the cultural components and activities such as building the kosher restaurants, turning the dilapidated and unusable synagogues into museums or cultural centers, visiting the holy sepulchers and religious ceremonies, because visiting the Auschwitz concentration camp and remembering the Holocaust is a change for ghetto tourism to dark tourism (Sion, 2017).

It is noteworthy that there is no solid literature review regarding ghetto tourism development in Iran; however, many urban studies have been conducted to improve and renovate the neighborhoods in which religious minorities live or have been there. In addition, they introduced tourism as a strategy to revive the worn-out urban tissue.

Akhavan (1998), noted that creating a cultural-tourist route in the Jouybareh district, Isfahan can be a solution for the social-economic rehabilitation of the future of this region. He also suggested that it is possible to help renovate and revive the worn-out urban tissue of this neighborhood by providing a tourism complex in the center of this region and a cultural-tourist route in Saru Taq and Darozziafe. In addition, Momeni et al. (2010) in a paper entitled " An analysis of the plans for the restoration and renovation of worn-out structures is a case study of the Jouybareh neighborhood of Isfahan" have emphasized the renovation and restoration plans in Jouybareh neighborhood and stated its strengths and weaknesses and have provided solutions for the optimal use of these spaces while preserving the identity of their tissue. The qualitative descriptive research method was used in this research and the data were collected through the interview, observation, questionnaire and literature review. The results of this study illustrated that sustainable renovation is not possible without knowing and paying attention to the social, cultural and economic structure of the places, and it will not be possible to achieve the desired improvement without the real involvement of the owners of these tissue.

Omidvari and Omidvari (2013) have also introduced the religious places and Zoroastrian villages in Yazd to know the villages' historical,

religious and cultural backgrounds while determining the historical places of these Zoroastrian sites in tourism development. In their research, the following villages introduced as the Zoroastrian villages, which have a high potential for religious tourism: Zarju (Pars Banoo shrine), Cham, Mobarakeh, Turan Posht, Mazraeh-ye Kalantar, Zeynabad.

According to Shirzadeh and Badaghi (2016), Leilan Village, the center of Armenian villages in Khomein, Markazi Province is also another Iranian village which has the potential for the ghetto tourism.

Qarakhanian (2017) introduced the ghetto tourism by emphasizing the minority of the Armenian people in Isfahan and examined the empowerment of Armenian women in the field of tourism and assessed their willingness to participate in the tourism section. This research is quantitative and qualitative, and the results of this study indicated that Armenian women have a strong tendency towards tourism activities with the exception of holding music training classes and concerts, and they will welcome starting a home-based business and medium-sized businesses in the field of ghetto tourism.

Torabi Farsani (2019) also examined the awareness level of national tourists about the ghetto tourism and investigated their tendency towards promoting ghetto tourism in Isfahan. It was a quantitative research and data collection tool was a questionnaire (Likert Scale); the data were analyzed using one sample t-test in the SPSS software and the results illustrated that tourists are not familiar with the concept of ghetto tourism, while they are interested in the development of ghetto tourism in Isfahan and they will welcome it. Moreover, the results of Friedman test indicated that the followings are some attractions and activities of ghetto tourism that have priorities from the viewpoint of national tourists: hearing the language of religious minorities in Isfahan; being familiar with the history of religious minorities in Isfahan and their migration date and reason; knowing the celebrities of religious minorities who played an important role in the development of Isfahan and being familiar with the different cultures and religions as well as the architectural style of historical houses and holy places of religious minorities.

According to the literature review, except a few limited studies (Omidvari & Omidvari, 2013;

Shirzadeh & Badaghi, 2016; Yang & wall, 2009), which have examined the ghetto tourism in the villages, other studies focused on the cities. In addition, none of the existing research has focused on examining the potentials of the villages in Isfahan for ghetto tourism boost. This is while the purpose of the current research is to investigate the strengths, weaknesses, opportunities, and threats of Isfahan in promoting ghetto tourism. It is worth mentioning that this research has studied the two Armenian and Georgian minorities.

2.3. Introducing the villages having Armenian and Georgian heritage in Isfahan

At the beginning of the sixteenth century, the Ottoman Empire sought to seize and occupy the countries under the rule of the Safavids (Caucasus, Georgia, Armenia, and all the cities and regions located there). The defeat of Shah Ismail Safavid's army of Ottoman Turks caused many Armenian villages to be completely destroyed and even Tabriz was ruled by the Ottoman Empire. The war between these two empires continued until 1555 AD when the Peace of Amasya treaty was signed between them, and Armenia was divided between Iran and the Ottomans and the important western provinces were under the rule of the Ottoman and the eastern regions were under the rule of Iranians. This treaty made the war to be away from Iran and the Ottomans for almost 20 years, and at the same time, the Safavid capital was moved to Qazvin. The Ottomans violated the treaty and in 1578 AD invaded Armenia which was under the Safavid rule. At that time, Sultan Mohammad Khodābandeh was the Safavid king; his son, Hamza Mirza, who was the commander of the army, was defeated by the Ottomans and the northern parts of Armenia and the eastern parts of Georgia were occupied by the Ottomans. In 1585 AD, Tabriz was occupied by the Ottomans and it was in their possession for twenty years until Shah Abbas I accessed to the power in Iran in 1588 AD. When Armenia was under Ottoman rule, destruction, famine, and turmoil and a bad socioeconomic situation prevailed; this was the first reason for the migration of Armenians. Many of them left Armenia, and those who remained there revolted against the Ottoman government (Manukian, 2007).

In 1603 AD, Shah Abbas occupied Tabriz and moved to Armenia. After a few months of siege, he occupied Yerevan; Iranian corps with a large number of Armenians in Yerevan moved to Iran.

Because Iranians did not want the Ottoman army pursuits them, Shah Abbas ordered to destroy and burn in fire all houses, buildings and farms; he also forced the residents to leave their homes and migrate (Daruhanian, 2000; Manukian, 2007). This migration was very difficult for Armenians and many people lost their lives on the way to the Aras River (Daruhanian, 2000). In the history book of Iranian Julfa, it is mentioned that this forced migration had benefits for the Safavid government: firstly, the provinces and villages were deserted and uninhabited and when the Ottomans got there, Safavid government easily overcame them. Ssecondly, taxpaying population of Safavid government increased and most importantly, the Armenian inhabitants had a special ingenuity in trade with whom the Safavid government could boost trade in his empire (Manukian, 2007). In this regard, some Armenians were dwelled in Mazandaran which had suitable climatic conditions for silk production; this region became soon the center of Iran's silk production (Manukian, 2007). In this era, samples of brocade, silk, velvet, Termeh and Diba textiles were exported to other countries (Taslimi et al., 2012). By the order of the king, the majority of the Armenians entered Isfahan and settled in the villages of Lenjan, Alanjan, Gandoman, Choghakhor, Borborut, etc. (Daruhanian, 2000).

According to the history of immigrations to Isfahan, this province has villages where ethnic minorities live or have settled there in the past; thus, it can be the ghetto tourism destinations if the local people welcome it and the local empowerment programs are organized. These villages include villages founded by Armenians and Georgians such as Zarneh in Buin va Miandasht County (the only village in Isfahan where all the residents are Armenians) and Khuygan-e Olya Village where only a few Armenian families live and has three churches (see Figure 2). It should be mentioned that Khuygan-e Olya is the birthplace of the famous artist and writer, Lévon Minassian. He taught there for 10 years, and at the same time he was the manager of high schools in the Armenian villages of Fereydan for several years as well as being active on the board of schools and prayer halls and other associations of Khuygan (Torabi Farsani, 2018). Villages such as Aznavleh, Singerd, Gharghan, Nemagerd and Kord-e Olya (with an underground city and a stone vessel in which Armenian infants

were previously baptized) which have been inhabited by Armenians in the past are other villages in Isfahan inherited from the Armenian heritage. Moreover, Georgian villages of Aghcheh in Buin va Miandasht, Sibak, Choqyurt and Nehzatabadin Fereydunshahr County can be also other ghetto tourism destinations in Isfahan. Promoting ghetto tourism in these villages will not only diversify the rural tourism market but also it will provide entrepreneurship for rural minorities.

3. Research Methodology

Isfahan is a province in Iran, where the religious minorities (Jewish, Christians, Zoroastrians) have been living there with Muslims for many years, and these religious minorities have somehow preserved their culture (language, holly places, rites, etc.) and this itself is a potential that makes Isfahan suitable for the development of the ghetto tourism.

We have studied villages in Isfahan in this research, where the Armenian or Georgian minorities' heritages are located in. Obviously SWOT-QSPM analysis is necessary before entering any special interest tourism market, and discovering strengths, weaknesses, opportunities, and threats will enable the decision makers to respond more adequately to the future market developments. Therefore, the present study is an applied- developmental research type in terms of purpose. The main objective of this research is to identify a suitable strategy for the ghetto tourism development in villages of Isfahan with Armenian and Georgian heritage. Additionally, the current research pursues the following sub-objectives:

- Investigating the strengths of the ghetto tourism development in the villages of Isfahan with Armenian and Georgian heritage.
- Investigating the weaknesses of the ghetto tourism development in the villages of Isfahan with Armenian and Georgian heritage.
- Investigating the opportunities for the ghetto tourism development in the villages of Isfahan with Armenian and Georgian heritage.
- Investigating the threats for the ghetto tourism development in the villages of Isfahan with Armenian and Georgian heritage.
- Prioritizing the proposed strategies for the ghetto tourism development in the villages of Isfahan with Armenian and Georgian heritage.

In the first step, in order to achieve the above mentioned objectives all the villages were studied and the field observations were conducted, then the

strengths, weaknesses, opportunities and threats were identified in an interview with the relevant governors of the villages. In the second step, according to the results of the survey and interviews, internal factors matrix questionnaire (including strengths and weaknesses) as well as the external factors matrix questionnaire (including opportunities and threats) were designed and provided for the tourism and the villages experts and specialists for scoring. Then, based on the strategic location of the villages in the SWOT matrix, the strategies which should be implemented by the organization were identified. Next, the attractiveness score of any strategy was specified according to the effect of internal and external factors on each of a set of strategies based on the opinions of experts who had previously visited the villages (experts in rural geography, rural management and development engineering,

tourism, economics and tour guides). Finally, the product of the importance coefficient in the attractiveness scores was calculated and the sum of the scores was determined.

4. Research Findings

After identifying the internal and external factors and categorizing them into strengths, weaknesses, opportunities and threats, two matrices of internal factors (strengths and weaknesses (IFE)) and external factors (opportunities and threats (EFE)) were prepared for scoring and distributed to 50 specialists and experts who were selected based on targeted sampling method. The results of the analysis of descriptive statistics indicated that most of the respondents to the questionnaires were between 40 to 60 years old and have traveled to Buin va Miandasht and Fereydunshahr at least once and visited theses villages.

Table 1. Demographic characteristics of experts
(Source: Authors, 2020)

	Specialty	Frequency %	Age (years)
12	University professors and Ph.D. students in the field of Rural Geography	28.4	20-40
8	University professors and Ph.D. students in the field of Rural Management and Development Engineering		
15	University professors and Master's degree and Ph.D. students in the field of Tourism	53.5	40-60
5	University professors and Ph.D. students in the field of Economics		
10	Tour guides	18.1	>60

For preparing the internal factor evaluation matrix, we first listed the strengths and then the weaknesses, next a weight factor between 0 (unimportant) to 1 (very important) was assigned to each factor based on the scores of the experts, in a way that the sum of the assigned weight coefficients became equal to one. Moreover, the experts were asked to assign a score of 1 to 4 to these factors in which score 1 indicates a fundamental weakness, score 2 shows low weakness, score 3 suggests the strength and score 4 states a very high strength of the factor. Finally, to determine the final score of each factor, the weight coefficient of each factor was multiplied by its score, and the total final scores of each factor were calculated. The average final score of less than 2.5 was interpreted as weakness in ghetto tourism in terms of internal factors; and the average score of more than 2.5 was the sign of strength in ghetto tourism. Considering the

average score of the internal matrix in the current research, which is equal to 3.14433, the strength of ghetto tourism in the villages of Isfahan can be concluded (see Table 2).

For the external factor evaluation matrix (EFE), the above-mentioned method was repeated and the final average of the external factor matrix was calculated to be equal to 3, which is more than 2.5 and shows that ghetto tourism in the villages of Isfahan has many opportunities (see Table 3). According to the results shown in Figure.1, it can be suggested that the suitable strategy for the ghetto tourism development in the villages of Isfahan be an aggressive strategy. Strategic actions such as product development in ghetto tourism, market penetration in rural tourism, ghetto tourism development, forward and backward integration, horizontal integration and concentric diversification are also recommended.

Table 2. Internal factors matrix for ghetto tourism development in the villages of Isfahan with emphasis on Armenian and Georgian minorities

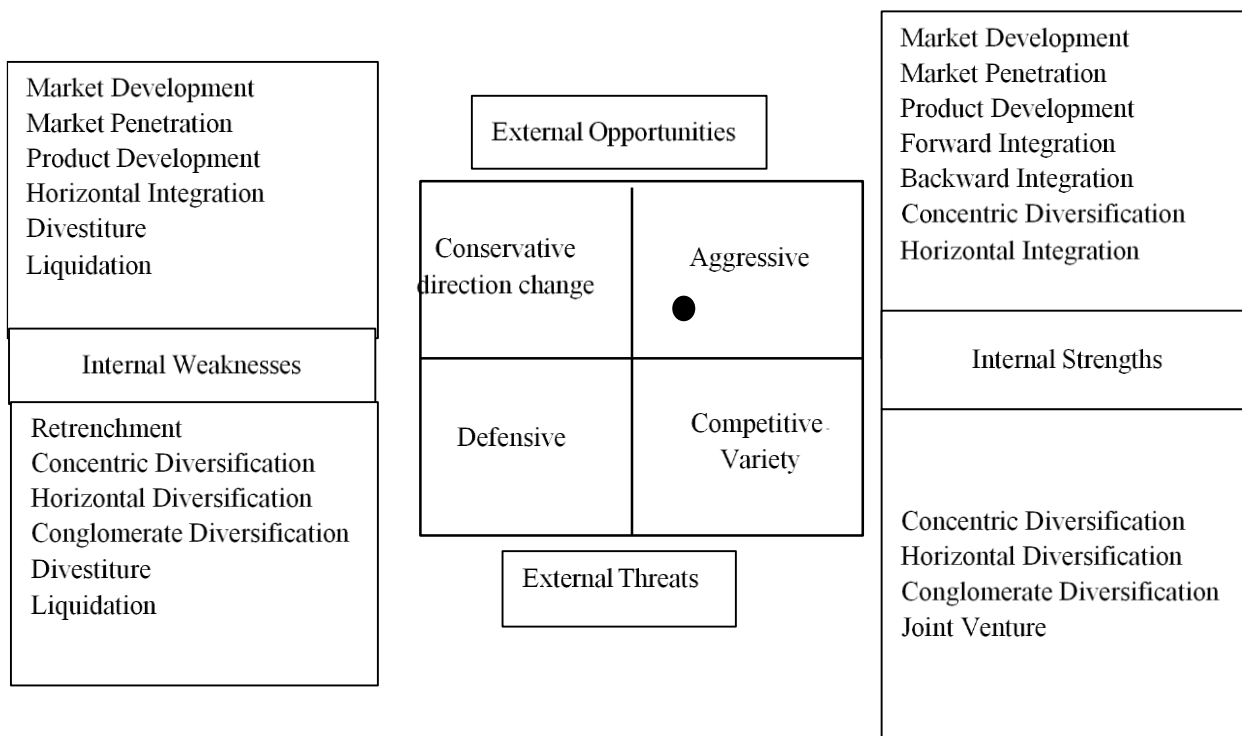(Source: Research finding, 2020)

	Internal Factors	Weight (0 to 1)	Rank (1 to 4)	Rank * Weight
	Strengths			
S₁	Having Zarneh in Buin va Miandasht Rural District as the only village in Isfahan Province where all its residents are (Armenian) monitories.	0.05155	4	0.20619
S₂	Having historical cemeteries of Armenian minorities in: Zarneh (Figure2), Aznavleh and Hezarjarib (Buin va Miandasht Rural District), Singerd (Figure2) (Fereidan), Kurd-e-Olyā (Tiran va Karvan)	0.05155	4	0.20619
S₃	The underground city in Kurd-e-Olyā which was the habitat of monitories in the past with a stone basin in which Armenian infants were previously baptized.	0.04124	4	0.16495
S₄	According to the governor of the village, cultivation of Paranj in Adegan and the taste of the food made by it (Figure2) is an intangible heritage remained from the Armenians (who lived there in the past) and it has been one of the favorite meals of the Iranian Food (at the annual cultural festival held at Chehelston Garden)	0.05155	4	0.20619
S₅	Having three churches with rural architecture in Khoyegan Oleia village (Fereydunshahr) (Figure2)	0.05155	4	0.20619
S₆	Having Armenian historical churches in Zarneh, Khoyegan Oleia and Singerd villages	0.05155	4	0.20619
S₇	, Khoyegan Oleia Village as the birthplace of Leon Minasian, the famous artist and writer	0.05155	4	0.20619
S₈	Holding the Vardavar festival in the Armenian village of Zarneh, in which people drench each other with water.	0.05155	4	0.20619
S₉	The existence of Georgian villages in Fereydunshahr and Buin va Miandasht such as the villages of Agche, Sibak, Nehzat Abad and Chogyurt	0.05155	4	0.20619
S₁₀	The language and handwriting of the minorities are still alive (such as greeting with Georgian language and handwriting in the entrance of Sibak village) (Figure 2)	0.05155	4	0.20619
S₁₁	Children's stories are still alive (such as storytelling with Georgian Googooneh dolls)	0.05155	4	0.20619
S₁₂	Prominent Georgian people in the history (such as Allah Verdi Khan Undiladze and his son Imam Gholi Khan). Allah Verdi Khan was the founder of Allah Verdi Khan Bridge or Si O Se Pol Bridge in Isfahan and Imam Gholi Khan was the commander of the war with the Portuguese who recaptured the southern regions of Iran from them.	0.04124	4	0.20619
S₁₃	Persis Chehel_Sotoun Tourist Residence in Khoyegan Oleia (with Armenian management)	0.05155	4	0.20619
	Weaknesses			
W₁	Lack of facilities and tourism infrastructures in the villages	0.05155	1	0.05155
W₂	Lack of human resources and migration of young people abroad	0.05155	1	0.05155
W₃	Lack of advertising and marketing to introduce villages with Armenian and Georgian heritage	0.05155	1	0.05155
W₄	Lack of ecotourism accommodation facilities with minorities management (except for Khoyegan Oleia)	0.04124	2	0.08247
W₅	Lack of Armenian and Georgian Rural Heritage Museums in the ghetto tourism destination villages	0.04124	2	0.08247
W₆	The long distance between the destination villages and the capital city of the province (Isfahan)	0.03093	2	0.06186
W₇	Lack of restaurants in the destination villages to serve local food (especially Paranj)	0.05155	2	0.010309
W₈	Residents do not wear traditional clothes	0.03093	2	0.06186
	Final score		3.14433	

Table 3. External factors matrix for ghetto tourism development in the villages of Isfahan with emphasis on Armenian and Georgian minorities
(Source: Research finding, 2020)

External Factors		Weight (0 to 1)	Rank (1 to 4)	Rank * Weight
Opportunities				
O_1	National devaluation which increases foreign tourists' purchasing power	0.10204	4	0.40816
O_2	Increasing costs of foreign travels which leads domestic tourists to have more tendency for one-day domestic tours	0.10204	4	0.40816
O_3	The limited number of competitors in the field of the rural minority tourism (ghetto tourism) and the focus of the competitors on ecotourism	0.08163	3	0.24490
O_4	Visa policies and agreements between Iran and Armenia, and Georgia for the exchange of passengers without visa requirements	0.10204	4	0.40816
O_5	self-employment loans are provided for starting local and domestic businesses in the field of rural tourism	0.10204	4	0.40816
O_6	Possibility of combining natural and environmental attractions with ghetto tourism' attractions	0.08163	3	0.24490
O_7	Increasing interests of the young generation for special tourism markets such as the ghetto tourism	0.08163	4	0.32653
Threats				
T_1	Reduction in per capita income and people's purchasing power	0.10204	2	0.20408
T_2	Increased tensions between the Iranian and Georgian governments	0.06122	1	0.06122
T_3	Visiting the attractions of religious minorities is not open to the public and if the students' groups want to visit them, it is necessary to coordinate and correspond with The **Department** of **Culture** and **Islamic Guidance** of the **province** of **Isfahan** as well as the Armenian Prelate of Isfahan, which makes the visits difficult for tour guides.	0.10204	2	0.20408
T_4	Lack of investment and government support for the ghetto tourism development in the destination villages	0.08163	1	0.08163
Final Score		**3**		

Market Development
Market Penetration
Product Development
Horizontal Integration
Divestiture
Liquidation

Internal Weaknesses

Retrenchment
Concentric Diversification
Horizontal Diversification
Conglomerate Diversification
Divestiture
Liquidation

External Opportunities

Conservative direction change

Aggressive
●

Defensive

Competitive-Variety

External Threats

Market Development
Market Penetration
Product Development
Forward Integration
Backward Integration
Concentric Diversification
Horizontal Integration

Internal Strengths

Concentric Diversification
Horizontal Diversification
Conglomerate Diversification
Joint Venture

Figure 1. The model for evaluation and selection of ghetto tourism development strategy in the villages of Isfahan
(Source: Research finding, 2020)

Figure2 (a). Paranj one of the intangible Armenian cultural heritage in Adegan village
(Source: Authors, 2020)

Figure2 (b). Landscape of Armenian Cemetery in Singerd Village
(Source: Authors, 2020)

Figure2 (c). Sibak Georgian Village, Isfahan Province
(Source: Authors, 2020)

Figure2 (d). Figure 2-d. Zarneh village as the only village where all the residents are Armenians, Isfahan province
(Source: Authors, 2020)
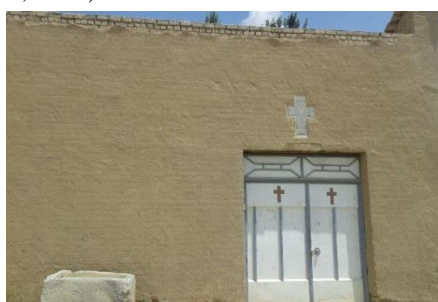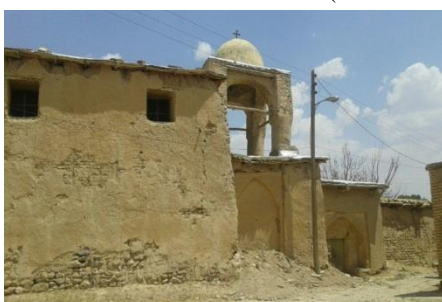
Figure2 (e). Khoyegan Oleia as the only village with three churches, Isfahan province
(Source: Authors, 2020)

4.1. Prioritization of the strategies for ghetto tourism development in the villages of Isfahan based on QSPM method

According to the analysis of internal and external factors affecting rural minority tourism (ghetto tourism) for Isfahan's villages and regarding the aggressive strategic position, at this stage, the set of proposed strategic actions for rural minority tourism (ghetto tourism) development in the province are categorized under *Market Development*, *Concentric Diversification*, *Market Penetration*, and *Product Development* strategies, and then they are prioritized using the Quantitative Strategic Planning Matrix (QSPM) method. It

should be mentioned that each strategy is compared with other proposed strategies in the same category for prioritizing the strategies. In other words, any strategy with the highest score among the strategies proposed for *market development* will have the highest priority in this regard and so, the strategies that have the highest priority in the field of *concentric diversification*, *market penetration*, and *product development* will be specified.

The set of proposed strategic actions in each category are introduced in Table 4, and the importance of coefficients, attractiveness scores and the prioritization results of these strategies calculated based on the total attractiveness score are represented in Table 5:

Table 4. Proposed strategies for rural minority tourism (ghetto tourism) development in Isfahan
(Source: Research finding, 2020)

Strategic Group	Strategic Actions
Market Development Strategies	1. Holding as many "Iran-Armenia-Georgia cultural bridge conferences" as possible for educational tourists exchanges and introducing ghetto tourism attractions and the common histories of the countries
	2. Cooperation in holding exhibitions and producing and displaying movies focused on lives of Armenians and Georgians in the villages of Isfahan for encouraging tourists' exchange
Concentric Diversification Strategies	3. Using film tourism, nostalgia and genealogy along with the ghetto tourism to attract Georgian and Armenian tourists to the villages of Isfahan
	4. Holding tours for introducing the rural minority celebrities of Isfahan
	5. Holding culture minority festivals (food, music, handicrafts, etc.) in the destination villages
Market Penetration Strategies	6. Holding tours for visiting villages of Isfahan with minority residents
	7. Holding training courses for introducing ghetto tourism destinations of Isfahan to the tour operators
Product Development Strategies	8. Preparation of a tourism map for ghetto tourism destination villages of Isfahan
	9. Holding empowerment workshops for local communities to develop and promote tourism in rural areas

Table 5. Prioritization of the proposed strategies to develop the rural minority tourism (ghetto tourism) in Isfahan using QSPM matrix
(Source: Research finding, 2020)

Internal and external factors	Importance coefficient	Product Development Strategies				Market Penetration Strategies				Concentric Diversification Strategies						Market Development Strategies			
		Holding empowerment workshops for local communities		Preparation of a tourism map for ghetto tourism destination villages of Isfahan		Holding training courses for introducing ghetto tourism destinations of Isfahan to the tour operators		Holding tours for visiting villages of Isfahan with minority residents		Holding culture minority festivals (food, music, handicrafts, etc.) in the destination villages		Holding tours for introducing the rural minority celebrities of Isfahan		Using film tourism, nostalgia and genealogy along with the ghetto tourism to attract Georgian and Armenian tourists to the villages		Cooperation in holding exhibitions and producing and displaying movies focused on lives of Armenians and Georgians in the villages		Holding as many "Iran-Armenia-Georgia cultural bridge conferences" as possible for educational tourists exchanges and
		AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS
S_1	0.052	3	0.155	4	0.206	4	0.206	4	0.206	4	0.206	4	0.206	3	0.155	4	0.206	4	0.206
S_2	0.052	0	0	4	0.206	4	0.206	4	0.206	0	0.000	4	0.206	4	0.206	2	0.103	3	0.155
S_3	0.041	0	0	4	0.165	4	0.165	4	0.165	1	0.041	4	0.165	4	0.165	4	0.165	3	0.124

Internal and external factors	Importance coefficient	Product Development Strategies				Market Penetration Strategies				Concentric Diversification Strategies						Market Development Strategies			
		Holding empowerment workshops for local communities		Preparation of a tourism map for ghetto tourism destination villages of Isfahan		Holding training courses for introducing ghetto tourism destinations of Isfahan to the tour operators		Holding tours for visiting villages of Isfahan with minority residents		Holding culture minority festivals (food, music, handicrafts, etc.) in the destination villages		Holding tours for introducing the rural minority celebrities of Isfahan		Using film tourism, nostalgia and genealogy along with the ghetto tourism to attract Georgian and Armenian...		Cooperation in holding exhibitions and producing and displaying movies focused on lives of...		Holding as many " Iran-Armenia-Georgia cultural bridge conferences" as possible for...	
		AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS
S_4	0.052	4	0.206	3	0.155	4	0.206	4	0.206	4	0.206	0	0.000	1	0.052	2	0.103	4	0.206
S_5	0.052	1	0.155	4	0.206	4	0.206	4	0.206	2	0.103	2	0.103	2	0.103	4	0.206	4	0.206
S_6	0.052	1	0.155	4	0.206	4	0.206	4	0.206	2	0.103	2	0.103	2	0.103	3	0.155	3	0.155
S_7	0.052	3	0.155	4	0.206	4	0.206	4	0.206	3	0.155	4	0.206	4	0.206	4	0.206	4	0.206
S_8	0.052	4	0.206	4	0.206	4	0.206	4	0.206	4	0.206	4	0.206	4	0.206	4	0.206	4	0.206
S_9	0.052	3	0.155	4	0.206	4	0.206	4	0.206	4	0.206	2	0.103	4	0.206	3	0.155	4	0.206
S_{10}	0.052	3	0.155	1	0.052	4	0.206	3	0.155	4	0.206	3	0.155	4	0.206	2	0.103	3	0.155
S_{11}	0.052	4	0.206	0	0.000	4	0.206	3	0.155	4	0.206	2	0.103	4	0.206	3	0.155	3	0.155
S_{12}	0.041	4	0.165	0	0.000	4	0.165	4	0.165	4	0.165	4	0.165	4	0.165	3	0.124	3	0.124
S_{13}	0.052	2	0.103	4	0.206	1	0.052	4	0.206	2	0.103	0	0.000	0	0.000	0	0.000	4	0.206
W_1	0.052	2	0.103	4	0.206	0	0.000	4	0.206	2	0.103	0	0.000	2	0.103	1	0.052	1	0.052

Internal and external factors	Importance coefficient	Product Development Strategies				Market Penetration Strategies				Concentric Diversification Strategies						Market Development Strategies			
		Holding empowerment workshops for local communities		Preparation of a tourism map for ghetto tourism destination villages of Isfahan		Holding training courses for introducing ghetto tourism destinations of Isfahan to the tour operators		Holding tours for visiting villages of Isfahan with minority residents		Holding culture minority festivals (food, music, handicrafts, etc.) in the destination villages		Holding tours for introducing the rural minority celebrities of Isfahan		Using film tourism, nostalgia and genealogy along with the ghetto tourism to attract Georgian and Armenian tourists to the villages		Cooperation in holding exhibitions and producing and displaying movies focused on lives of Armenians and Georgians in the villages		Holding as many "Iran-Armenia-Georgia cultural bridge conferences" as possible for educational tourists, professors and	
		AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS
W$_2$	0.052	4	0.206	0	0.000	0	0.000	3	0.155	0	0.000	0	0.000	0	0.000	0	0.000	0	0
W$_3$	0.052	3	0.155	3	0.155	2	0.103	4	0.206	3	0.155	2	0.103	2	0.206	4	0.206	4	0.206
W$_4$	0.041	2	0.082	4	0.165	0	0.000	4	0.165	2	0.082	0	0.000	4	0.082	0	0.000	1	0.041
W$_5$	0.041	2	0.082	4	0.165	4	0.165	3	0.124	3	0.124	4	0.165	0	0.124	3	0.124	3	0.124
W$_6$	0.031	3	0.093	0	0.000	0	0.000	4	0.124	2	0.062	0	0.000	3	0.000	0	0.000	1	0.031
W$_7$	0.052	2	0.103	3	0.155	0	0.000	3	0.155	2	0.103	0	0.000	2	0.000	0	0.000	1	0.052
W$_8$	0.031	2	0.062	0	0.000	0	0.000	3	0.093	4	0.124	0	0.000	2	0.093	2	0.062	0	0
O$_1$	0.102	0	0	0	0.000	1	0.102	4	0.408	4	0.408	4	0.408	2	0.204	0	0.000	3	0.306
O$_2$	0.102	0	0	0	0.000	2	0.204	4	0.408	4	0.408	4	0.408	0	0.000	0	0.000	0	0
O$_3$	0.082	3	0.245	3	0.245	2	0.163	4	0.327	4	0.327	4	0.327	2	0.163	3	0.245	4	0.327
O$_4$	0.102	0	0	0	0.000	0	0.000	3	0.306	4	0.408	4	0.408	4	0.408	0	0.000	4	0.408

Internal and external factors	Importance coefficient	Product Development Strategies				Market Penetration Strategies				Concentric Diversification Strategies						Market Development Strategies			
		Holding empowerment workshops for local communities		Preparation of a tourism map for ghetto tourism destination villages of Isfahan		Holding training courses for introducing ghetto tourism destinations of Isfahan to the tour operators		Holding tours for visiting villages of Isfahan with minority residents		Holding culture minority festivals (food, music, handicrafts, etc.) in the destination villages		Holding tours for introducing the rural minority celebrities of Isfahan		Using film tourism, nostalgia and genealogy along with the ghetto tourism to attract Georgian and Armenian tourists to the villages		Cooperation in holding exhibitions and producing and displaying movies focused on lives of Armenians and Georgians in the villages		Holding as many " Iran-Armenia-Georgia cultural bridge conferences" as possible for educational tourists, exchanges and …
		AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS
O_5	0.102	4	0.408	0	0.000	0	0.000	3	0.306	3	0.306	2	0.204	0	0.000	0	0.000	0	0
O_6	0.082	4	0.327	3	0.245	3	0.245	3	0.245	4	0.327	4	0.327	3	0.245	1	0.082	0	0
O_7	0.082	3	0.245	4	0.327	3	0.245	4	0.327	4	0.327	4	0.327	2	0.163	1	0.082	3	0.245
T_1	0.102	0	0	0	0.000	1	0.102	4	0.408	4	0.408	4	0.408	0	0.000	0	0.000	3	0.306
T_2	0.061	0	0	0	0.000	0	0.000	2	0.122	3	0.184	3	0.184	2	0.122	2	0.122	3	0.184
T_3	0.102	4	0.408	4	0.408	2	0.204	4	0.408	4	0.408	4	0.408	4	0.408	4	0.408	4	0.408
T_4	0.082	4	0.327	4	0.327	1	0.082	4	0.327	4	0.327	4	0.327	4	0.327	4	0.327	4	0.327
Total	1	-	4.454	-	4.417	-	4.058	-	7.314	-	6.497	-	5.725	-	4.629	-	3.595	-	5.325

This indicates that tourists will welcome the ghetto tourism development and the results of this study confirmed the previous findings (e.g. Hoffman, 1999) and that tourists highly welcome the ghetto tourism development (visiting attractions and participating in its activities) in Isfahan. While tourists look for gaining new experiences and visiting lesser known attractions, all of the attractions and activities of ghetto tourism do not have the same priority for them; in fact, hearing the language of religious minorities in Isfahan, getting familiar with the history of religious minorities in Isfahan and their date and cause of their migration, getting familiar with celebrities of religious

minorities who contributed to the development of the city of Isfahan, getting familiar with different cultures and religions as well as getting familiar with the architectural style of historical houses and holy places of religious minorities are more preferred by the tourists. Considering special interest markets as newly emerged markets in the world and particularly in Iran, it is not surprising that domestic tourists as the first customers of them do not have much information and familiarity with ghetto tourism, and this shows the importance and the necessity of introducing, marketing, organizing, planning and providing information about the special interest tourism markets of the city. The World Tourism Organization (WTO) and the World Travel and Tourism Council (WTTC) consider the special interest markets to be much more useful for the host communities than other traditional branches of tourism. Moreover, developing domestic tourism and gaining an appropriate market share in the global tourism market by diversifying Iranian tourism market and using all the capacities, especially by means of attracting tourists are the major policies of cultural heritage and tourism sector. In addition, the introduction of special tourism markets in Isfahan not only invites special customers with special interests to the city but also brings diversity to the tourism market. Ghetto tourism development will use the capacity of religious minorities in the city, and the prosperity of this special tourism market in Isfahan will also decrease the discrimination against ethnic and religious minorities who are categorized into minority groups due to their differences with the majority. This will create a constructive interaction between them and the authorities and will also play a significant role in the fight against Islamophobia. These days, the world is surrounded by negative anti-Iranian and anti-Shia advertisements in the mass media and this propaganda has created a scary and a negative image of Iran in the world and led the majority of the people not to choose Iran as a tourist destination. The ghetto tourism development can be a way for showing the world that the religious minorities have been living peacefully with Muslims for more than a hundred years in a city known as the Capital of Culture and Civilization of the Islamic World.

Finally, as the results of the (SWOT) analysis in the present study show, the rural minority tourism (ghetto tourism) in Isfahan is in an aggressive position due to the numerous strengths and opportunities ahead and a set of strategies including market development, product development, market penetration and concentric diversification can be utilized to develop and boost the ghetto tourism.

In addition, the results of evaluating the attractiveness and priority of the proposed strategies using QSPM method are summarized in Table 5. As can be seen, they suggest that the following strategies have the highest priority:

- Of market development strategies, holding as many Iran-Armenia-Georgia cultural bridge conferences as possible for educational tourists exchanges and introducing ghetto tourism attractions and the common histories of the countries;
- Of concentric diversification strategies, holding culture minority festivals (food, music, handicrafts, etc.) in the destination villages;
- Of market penetration strategies, holding tours for visiting the villages of Isfahan with minority residents.

Also, there is not much difference between product development strategies in terms of attractiveness score. That is, with very little difference, holding empowerment workshops in local communities is more attractive and has higher priority. It is worth mentioning that this study is the first step for developing ghetto tourism in Isfahan, and the implementation of such a special market in the city needs more studies in different fields, such as examining the tendency of the domestic and foreign tourists for ghetto tourism, examining the willingness of the host community and agency owners to provide special travel packages. Finally, it is recommended that more research be conducted in the future addressing this issue in order to provide a suitable platform for the prosperity of this market in Isfahan.

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Original Article

گردشگری اقلیت نشینی (گتو) فرصتی برای رونق گردشگری روستایی (مطالعه موردی: استان اصفهان)

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چکیده مبسوط

۱. مقدمه

گردشگری روستایی تنها بر گردشگری کشاورزی، طبیعت‌گردی و ایجاد اقامتگاه‌های بوم‌گردی متمرکزشده است. این در حالی است که یکی از بزرگ‌ترین چالش‌های بخش گردشگری که در سند چشم‌انداز ۲۰ ساله میراث فرهنگی و گردشگری قیدشده بهره‌برداری نکردن مناسب از حجم عظیم آثار تاریخی، فرهنگی و طبیعی متنوع و جذاب کشور است. به‌علاوه تنوع‌بخشی به بازار گردشگری و استفاده از همه ظرفیت‌ها با اولویت جذب گردشگر از اهداف کیفی این سند است. پژوهش حاضر بر معرفی گتو توریسم (گردشگری اقلیت نشین) متمرکزشده است. هدف این پژوهش معرفی تعدادی از روستاهای استان اصفهان به‌عنوان یک مقصد گردشگری است که پتانسیل بالایی برای گردشگری اقلیت نشین با تأکید بر اقلیت‌های دینی دارد. پژوهش حاضر به شناسایی نقاط قوت، ضعف، فرصت‌ها و تهدیدهای استان اصفهان برای رونق گردشگری اقلیت نشین پرداخته است

۲. مبانی نظری تحقیق

امروزه تعدادی از روستاها نیز به دلیل داشتن پتانسیل‌های اقلیت‌های دینی و فرهنگ متفاوت حاکم بر آن‌ها به‌عنوان مقاصدی برای رونق گردشگری گتو معرفی‌شده‌اند. یانگ و وال به بررسی دیدگاه و ادراکات اقلیت‌های قومی در توسعه بیشتر گردشگری و اثرات گردشگری بر آن جوامع پرداختند.

منطقه موردمطالعه در پژوهش مذکور دو روستا به نام‌های دایی‌یان و منجینگ‌لای در کشور چین بود که محل سکونت اقلیت‌های قومی می‌باشد. نتایج پژوهش نشان می‌دهد که این اقلیت‌ها از توسعه گردشگری در روستاهای خود استقبال می‌کنند و معتقدند که گردشگری توسعه فرهنگی، اقتصادی، اجتماعی و زیست‌محیطی را برای آن‌ها به همراه دارد. درعین‌حال روستاییان به یکسری اثرات منفی هم اشاره‌کرده‌اند که عبارت است از: توسعه گردشگری در میان اقلیت‌ها توسط شرکت‌های بیرونی که در این صورت سود حاصل به جوامع بومی نمی‌رسد. این در حالی است که در صورت درگیر کردن اقلیت‌ها در برنامه‌های توسعه گردشگری این اثرات کاهش خواهند یافت.

۳. روش تحقیق

با توجه به تاریخ مهاجرت‌ها به استان اصفهان این استان دارای روستاهایی می‌باشد که اقلیت‌های قومی در آن اقامت دارند و یا درگذشته اقامت داشته‌اند و می‌توانند در صورت استقبال مردم محلی و ساماندهی برنامه‌های توانمندسازی جوامع محلی مقاصد گردشگری اقلیت نشین باشند. از آن جمله می‌توان به روستاهای بنیان‌گذاری شده توسط ارامنه و گرجیان مانند روستای زرنه در شهرستان بوئین و میاندشت (تنها روستا در استان اصفهان که همه ساکنان آن ارامنه هستند) و همچنین روستای خویگان علیا که تنها چند خانوار ارمنی در آن زندگی می‌کنند و تنها روستای ایران است که دارای سه کلیسا می‌باشد اشاره کرد.

*. نویسندۀ مسئول:

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لحاظ اســتراتژیک در ناحیه تهاجمی واقع‌شــده و می‌توان، از مجموعه اســتراتژی‌های توســعه بازار، تنوع همگون، رســوخ در بازار و توســعه محصول به‌منظور رونق گردشگری روستایی در استان اصفهان بهره گرفت. بر این اساس برگزاری هر چه بیشتر همایش‌های پل فرهنگی ایران- ارمنســـتان-گرجســـتان از بین مجموعه اســـتراتژی‌های پیشـــنهادی توســـعه بازار، برگزاری جشـــنواره فرهنگ اقلیت از بین مجموعه اســـتراتژی‌هـای تنوع همگون، برگزاری تور بـازدیـد از روســـتاهای اقلیت نشـــین در اصـــفهان از بین مجموع اســتراتژی‌های رســـوخ در بازار بالاترین اولویت و جذابیت رادارند و اســتراتژی‌های پیشنهادی در زمینه توسعه محصول تفاوت چندانی به لحاظ اولویت و جذابیت باهم ندارند.

کلیدواژه‌ها: گردشگری، گردشگری اقلیت نشین (گتو)، گردشگری روستایی، استان اصفهان

تشکر و قدردانی

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

لازم به ذکر اســـت که روســـتای خویگان علیا محل تولد هنرمند و نویسـنده معروف لئون میناسیان است. روسـتاهای ازناوله، سـینگرد، غرغن، نماگرد و کردعلیا (دارای شـــهر زیرزمینی و ســـنگ آبی که درگذشـــته نوزادان ارامنه را در آن غســـل تعمید می‌دادند) که درگذشته ارمنی‌نشین بوده است از دیگر روستاهای استان است که میراث ارامنه را در خود جای‌داده اسـت. به‌علاوه روسـتاهای گرجی نشین آغچه در شهرستان بویین و میان دشت؛ سیبک، چقیورت و نهضت‌آباد در فریدون‌شـهر نیز می‌تواند از دیگر مقاصد گردشـگری اقلیت نشین در استان اصفهان باشند. پژوهش حاضر بر آن است که با کمک تحلیل SWOT-QSPM و با کشـف نقاط ضـعف، قوت، فرصـت‌ها و تهدیدها، به شـناسـایی اسـتراتژی مناسـب برای رونق گردشگری اقلیت نشین در روستاهایی از استان اصفهان است که دارای میراث ارامنه و گرجیان هستند بپردازد.

۴. بحث و نتیجه‌گیری

نتایج پژوهش نشـان می‌دهد که اسـتان اصفهان با توجه به مجموعه عوامل داخلی و خارجی مؤثر بر گردشگری اقلیت نشین روستایی به

JRRP

Original Article

The Spatial Analysis of the Distribution of Agro-Processing Industries in Rural Areas of Guilan Province, Iran

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Abstract

Purpose- The growing attention to rural development issues has created a strong trend in related scientific communities, as over the last few years one can see the traces of this thinking in many relevant scientific trends. One of the most important relevant subjects was job creation using the resources available in rural areas in line with their industrialization and the emergence of agro-processing industries. Spatial distribution of rural industries, spatial justice and their fair distribution based on the distribution of rural settlements have been among the most important concerns in this field. Therefore, the present study aimed to investigate the distribution of agro-processing industries with a spatial approach in rural areas of Guilan Province.

Design/methodology/approach- This research is an applied one conducted in a descriptive-analytical method. The collected data were analyzed using the average nearest neighbor, multi-distance spatial cluster analysis, mean center and standard deviational ellipse. Results showed that industries in rural areas of Guilan Province have been located in clusters.

Finding- That is, their sites were selected with an eye to favorable conditions such as proximity to cities, population centers and markets, access to infrastructure, proximity to political and decision-making centers, access to major roads, access to more raw materials and cheaper agro-processing industries. Such industries are often located in the counties of Rasht, Rudsar, Astar, Talesh, Lahijan, Langrud and Sowmehsara. Therefore, the officials in charge should make plans to establish agro-processing industries in a more scattered and diverse manner in Guilan Province.

Keywords: Spatial analysis, Agro-processing industries, Rural development, Guilan Provinc.

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1. Introduction

Industrialization and agricultural revolution that accompanied it initiated a surge in urbanization that continues in many parts of the world, as thousands of rural workers migrate to the cities seeking employment (Hanks, 2011). Accordingly, as rural employment received growing attention and given the position of industries, rural industries have attracted special attention**.** Perhaps this can be traced back to the 1960s, as the concept of sustainable agriculture has increasingly been used to denote unstable but important disconnection from what is known as "the dominant model of industrial agriculture and rural development" (Kitchin & Thrift, 2009), and its results can be due to the connection between the concept of sustainable development and development of agro-processing industries. Rural industrialization is a strategy that provides appropriate tools for the diversification of the rural economy; therefore, it is an economic approach improving the living standards of villagers by creating employment and increasing income and its more balanced distribution, and it makes way for sustainable rural development (Balali et al., 2015 as cited in Lee, 2007).

If due attention is paid to establishing rural industries, an important step will be taken in rural employment. Nevertheless, the important point which is also the main problem discussed in the present study is how industries are distributed in rural areas. If the officials in charge do not pay due attention to the distribution of industries and suffice to functionalist per capita, the existing realities about rural development will be forgotten, and we cannot have much hope for the expansion of rural development. In case of weak distribution of industries and their build-up in certain areas, only a small number of the villages will enjoy their benefits. Therefore, identifying the current situation of rural industries in terms of how they are distributed can reveal the existing facts, and one can take a more purposeful step towards the development of rural industries.

Developing countries have complexities in various dimensions from understanding to implementing the patterns found in their countries. These countries are characterized as "labor abundant and capital scarce" (Venkatachalam & Sangeetha, 2020), and these inequalities in labor and capital at the domestic scale of these countries are also seen hierarchically from large cities to small towns and villages, as the villages are in a much worse situation. Therefore, to make policies and plans, "it is essential to identify the sources of investment growth in agro-processing industries" (Mohammadi et al., 2018).

Rural industrialization is an economic strategy, as higher welfare, supply of goods and essential services for poor rural families are somehow related to the industrialization of rural areas and the expansion of non-agricultural activities (Anabestani et al., 2019); in fact, "rural industrialization provides appropriate tools for rural diversification" (Akbari Sagalaksari & Pour Ramazan; 2018), which deserves special attention in rural studies. On the other hand, over the last decade, in addition to individual factors, the role of time and place is also taken into account in planning for new economic units (Zahedian Tajnaki et al., 2019). Therefore, one should give careful attention to effective indicators and how they are related to establishment of main rural industries, as

'their optimal location plays a decisive role in their establishment, profitability and sustainability (Toulabinejad & Hosseinjani, 2018).

The study of spatial distribution of population in the world, especially in developing countries, reveals the imbalance in the network of population settlement and exploitation of land resources (Nazarian, 2009), which is due to various factors. Given the different natural-ecological, historical, cultural and socio-economic characteristics of any region, various factors are involved in the accumulation of rural settlements (Saeedi, 1999). In fact, the evolution of the world from a rural one to an urban one is a subject with many related concepts and issues, and the existing inequalities have been formed not only in services and facilities but also in a basic principle called employment. This means that the villagers flood to the cities to find job opportunities rather than using urban services and facilities. The rural areas mainly rely on the productive capacity of their living space as an environment for living, activity and production of a group of people who are engaged in production and productivity and have less population and fewer facilities than urban areas (Motiee Langroudi, 2001). The patterns of spatial and rural settlements, due to the dependence of most of its production activities on natural factors and

conditions, are more affected by natural factors due to the overlap of production and value roles in these criteria as compared with urban settlements (Azimi, 2003); the strengthening or weakening of these features can lead to dynamism or, conversely, disorder and disturbance in the current functions of the physical-spatial system of the rural areas (Sartipipour, 2005).

In Iran, rural employment development, founded in Articles 28, 29, 43, 44 and 48 of the Constitution, has received special attention for several years. In the meantime, special attention has been paid to agro-processing industries, as it is emphasized in Article 27 of the Law of the Sixth Five-Year Economic, Cultural and Social Development Plan for 2016-2021, known as the Sixth Five-Year Development Plan, according to which the government is obliged to the general policies of the plan and Resistance Economy, the identification and utilization of existing capacities in rural areas and the promotion of social status of villagers and the position of rural areas in the national economy and creating the essential basis for the prosperity and fair development of rural areas in accordance with laws and regulations (the Sixth Five-Year Development Plan of the Islamic Republic of Iran 2016-2021).Its main objectives includes strengthening existing capacities and creating new production capacities with emphasis on completing the value chain and production chain with the participation of the non-governmental sector in the target rural areas. Accordingly, the agro-processing industries in Iran have become several times more important than before. The high rate of agricultural waste in Iran varying between 13 to 35 percent (Eghbali et al., 2018) clarifies the need to find a way to reduce this waste as much as possible; the development of agro-processing industries is a practical way to reduce the agricultural waste.

Guilan Province is known as an agriculture-dependent economy. The modern industrial age of this province began with the construction of the Rasht silk factory more than a century ago, and it has gradually developed by relying on natural advantages, especially agricultural ones in the fields of silk, tea, hemp, rice, olives and textiles. Contemporarily, many industries have been established, including pharmaceutical, steel, non-metallic, mineral, health, electronics, food and beverage industries, while the number of active industrial units now exceeds 2600 and the number of people directly employed in the industries and

mines reaches 87,000 (the website of the 'Industry, Mining and Trade Organization of Guilan Province, 2020). The current capacities of the province include dozens of production and processing units of tea, rice, olives, dairy products, beer, mineral water, canned food, etc. Besides, Guilan has long been well-known as a center for confectionery production, especially cakes and cookies, and the development of industries related to these products has now made Guilan Province the main hub for the production and export of cakes and cookies in the region (ibid). However, the existence of food processing industries in the province and its strengths and weaknesses is not the only matter of importance, but also how they are distributed in the province is particularly important. This study seeks to investigate the spatial distribution of agro-processing industries in Guilan Province.

Accordingly, this study seeks to answer the question of how agro-processing industries in Guilan Province are distributed?

2. Research Theoretical Literature

Rural development as a strategy to improve the socio-economic life of poor rural people (Rezvani, 2002) should be considered as a multi-part core of a broader development process (Papoli Yazdi & Rajabi Sanajerdi, 2003). Definitions provided for rural development have many common points (Ezkia, 2005), as the ideas, beliefs and institutions have affected the process of rural development at the global (international organizations and institutions), regional and national levels, aking developments in recent decades into account and realizing the need for change (Badri & Taherkhani, 2008). Rural development should have a comprehensive and integrated view of rural issues and consider sustainability in both planning and implementation. Therefore, making use of all capacities of a village, including agriculture, industries, services and tourism can accelerate the process of rural development. Agro-processing industries are among the potentials of rural areas, which can act as a driving force for the agricultural sector. The terms "rural industries" and "cottage industries" are also used interchangeably and sometimes simultaneously by planners and managers to mean traditional industries. They do not provide a clear definition for these conditions (Venkatachalam & Sangeetha, 2020). In fact, "the development of the agricultural sector is important,

but more emphasis should be placed on the development of the industrial sector, as only this sector can help solve many of the problems facing our economy" (Venkatachalam & Sangeetha, 2020), and promoting the integration of the industries in rural areas is a major step to adjust to the economic and social developments in a "new normal" (Zhu & Lin, 2018). Meanwhile, the theory of integrated industrial development has provided new opportunities for the reform and development of many industries and has shown a new direction for agricultural development (Wang, 2019). The integrated development of the primary, secondary, and tertiary industries in rural areas is an important approach to broaden the channels for farmers to increase income and build a modern agricultural industrial system (Zhu & Lin, 2018).

Therefore, the integrated development of the primary, secondary, and tertiary industries in rural areas

has gradually become a new direction to solve the agricultural problems and issues in rural areas, increase farmers' incomes and realize the secondary development of rural economy (Wang, 2019). Derbile et al. (2012) believe that the integration of rural industries results from the impact of high technologies on traditional industries; it is the process of merging two or more industries into a new industrial form. Puthal and Mohanty (as cited in Wang, 2019) believe that industrial integration should be based on a common technology.

Apart from their high employment potentials, rural industries with much less investment can play an effective role in addressing rural issues, such as inequality and poverty, income and facilities distribution, migration, etc. Rural industries and agro-processing industries need less investment compared to large industries, as their raw materials are found in rural areas and have a relatively reasonable production cost; therefore, they can act as a key factor in rural development.

Agro-processing industries refer to a subcategory of the manufacturing sector which process agricultural products (including those of horticulture, forestry, fishery, etc.); therefore, they are usable to consumers (Emeafor & Okpoko, 2018). According to Emeafor and Okpoko, agro-processing industries are classified into the food and non-food industries. The food processing and manufacturing industry may well change the raw

agricultural commodities in either ingredient for further processing or indeed as the final consumer products such as soybeans, bakers, meat packers, flour millers, wet corn mills, breakfast cereal companies. In the non-food sector, along with the processing and production of foodstuffs such as beverage, tobacco, fibre, yarn and thread mill as well as the tanneries are making huge impact in the agribusiness industries (Mussa & Zhi Zhang, 2016). The capacity of agro-processing industries to foster development includes ensuring food security, creation of jobs, generation of income, minimizing post-harvest losses, promoting price stability, increasing demand for local agricultural produce in addition to serving as catalyst for agro-tourism development (Emeafor & Okpoko, 2018). To improve the units that can be used in the agricultural process, it is suggested that more motivational, skill-based and entrepreneurial programs be developed to improve the managerial competence of the entrepreneurs. As they have a high level of innovation and risk-taking capabilities, entrepreneurs wish to make more profit through entrepreneurship. It is thus important to motivate them and train them with new skills and techniques by creating more branches of Small Industries Service Institute (SISI) in each regional office (Pardip Singh Shehrawat, 2007). With this policy, one can solve the problem of lack of fund which is as a long-standing problem affecting the development of small industries in developing countries; in fact, "it is a problem which is common in starting a business and then in growing and developing the activities" (Derbile et al., 2012). It is noteworthy that the development of agro-processing industries has also some disadvantages as well. Rapid agro-industrial expansion in both developed and developing countries are major contributors of environmental pollution worldwide. Increased industrial activities, particularly in developing countries led to pollution stress on surface water due to the discharging of large quantities of wastewater without adequate treatment techniques (Alayu & Yirgu, 2018). The very nature of community based agro-processing industries does not make this consideration central to location. However, "rural industrialists are able to find markets for their products within the framework of functional urban regions in which local interrelationships take place, which is describes as intra-regional contacts" (Derbile, Abubakari, & Dinye, 2012). Figure 1 shows the conceptual model of the study.
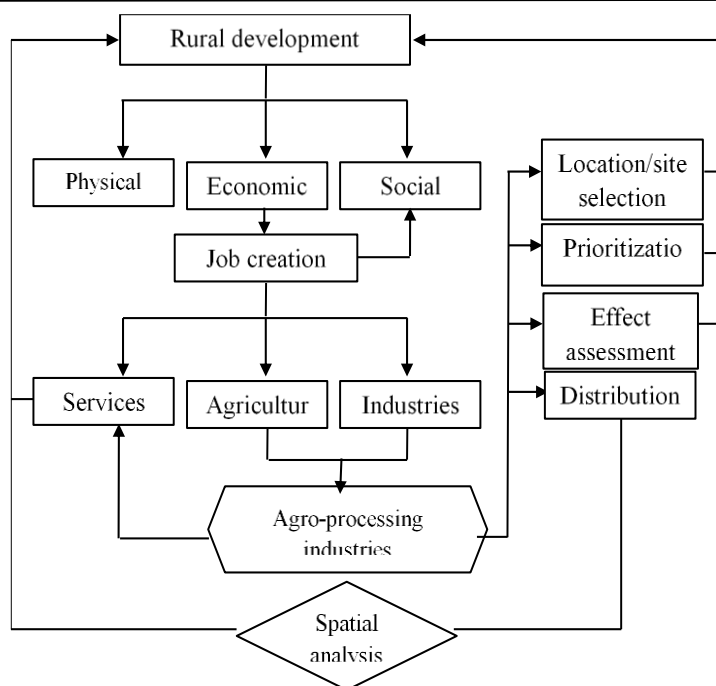
Figure 1. Conceptual model of the study
(Source: Authors, 2020)

In this regard, many studies have been conducted on agro-processing industries, some of which are discussed below:

Zangiabadi, Fathi, and Izadi (2011) concluded that the eastern counties of the province are deprived of agro-processing industries and should be in top priority to receive development facilities. The second level of development priority includes the western and southern counties of the province. Levels of meta-development have stretched linearly from northwest to southeast and have been the last priority for development (Zangiabadi et al., 2011).

Nouri et al. (2012) concluded that the greatest relative significance in site selection for date processing industries are respectively related to the indicators of access to raw materials, economic profitability, access to transportation network, energy resources, geographical conditions, land prices and workforce. Eventually, the best spatial priorities for date processing industries in the county were also introduced. Khajeh Shahkouei et al. (2013) concluded that the counties of Aliabad, Gorgan, and Ramyan have a high priority for the establishment of agro-processing industries. Abazari & Hosseini Yakani (2014) concluded that counties of Behshahr, Neka and Sari as compared wuth other counties of Mazandaran Province have more capabilities for construction of processing industries. Nowruzi & Fathi (2015) concluded that entrepreneurship in processing

industries can play a significant role in the rural economy and believe an aggressive strategy is the appropriate one for this purpose. Zaheri et al. (2015) concluded that industries related to the processing of surplus dairy products should receive the top priority in Azarshahr County as they are perishable, and then agro-processing industries related to horticultural products products produced in the region should also be given priority due to their important role in the optimal use of agricultural.

Amiri et al. (2017) concluded that the order of priority for development of agro-processing industries in the province, contrary to existing conditions, should be horticulture, fisheries, livestock and agriculture, respectively. Higher investment in horticultural, fishery and livestock processing industries can be effective in achieving a reduction in waste, a higher employment rate and more income for the villagers, respectively. In another paper, Pardeep & Shehrawat (2006) found that quality management, marketing management, packaging techniques, marketing techniques, technology grading, financial management, brand promotion, export promotion techniques, product advertising and personnel management are important parts of training preferred by entrepreneurs.

These studies show that the literature on rural agro-processing industries is largely related to site-selection, prioritization and impact assessment. That is, since the view of this study is geographical and the location is

dependent as a rule, it has mainly sought resources that have been more relevant. Otherwise, one can find many studies in other fields, especially economics and industry, which of course are far from the subject of this study. However, as can be seen in the literature, in terms of site-selection, more attempts have been made to identify a suitable place for agro-processing industries based on some theoretical foundations, such as sustainability and the like. On the other hand, in other studies, the product has been discussed rather than the appropriate location or distribution of the industries. This is also found in measuring the effects; in fact, the effects of rural industries in different aspects of rural life are measured. Therefore, the spatial analysis based on the distribution of agro-processing industries using spatial statistics and GIS has been less considered and only in site selection papers, one can see the dispersion of industries in the indicators. Therefore, in this study, we investigated the spatial distribution of agro-processing industries in rural areas of Guilan Province.

3. Research Methodology

This study is of descriptive-analytical type. The most important data required for research were the distribution of villages with agro-processing industries and the number of such industries in Guilan Province. The data were collected through documentary studies, including information received from the General Directorate of Agricultural Jihad in Guilan Province (updated in 2017), then they were analyzed after being fed into GIS, which included the number and variety of rural agro-processing industries. In total, there are 2895 villages in Guilan Province (Statistical Center of Iran, 2016) of which 1094 villages have agro-processing industries.

Given the purpose of the study, the analysis of spatial distribution of agro-processing industries in rural areas of Guilan Province, the average nearest neighbor distance, multi-distance spatial cluster analysis (Ripley's K function), mean canter and standard deviational ellipse were used.

The average nearest neighbor distance tool measures the distance between each feature centroid and its nearest neighbor's centroid location. It then averages all these nearest neighbor distances" (Asgari, 2011). The average nearest neighbor ratio (r) is calculated as the observed average distance divided by the expected average distance. After calculating the value of r, the spatial pattern of the observed distribution can be determined. The nearest neighbor ratio is based on the distance between features, and as compared to other methods, it provides better results in the analysis of features that are interrelated. If the average distance is less than one, the distribution of the features being analyzed are considered as clustered. If the average distance is greater than one, the features are considered as dispersed (Asgari, 2011).

The distribution of many geographical phenomena in space may be directional and cannot be represented by a circle. In these cases, by calculating the variance of the x and y axes separately, the trend and direction of the distribution of phenomena in space could be shown. The method typically used to measure the trend in a set of points or areas is to calculate the standard distance between x and y separately. These two values define the elliptical axes that cover the distribution of features. This ellipse is also referred to as the standard deviational ellipse, as in this standard deviation method, the x and y coordinates of the mean center are calculated to determine the elliptical axes. This ellipse let us know if the distribution of space features has a directional pattern. Although the direction of the data could be identified to some extent by their initial representation, the standard deviational ellipse calculates and displays this direction accurately and statistically (Asgari, 2011). Standard deviational ellipse, calculated by using standard deviation, determines the distance of the location of each data to the center of the mean, its distribution, direction and position (Kalantari & Ghezelbash, 2009).

4. Research Findings

4.1. Distribution of agro-processing industries in rural areas of Guilan Province based on the average of the nearest neighbor

According to the results, the average of the nearest neighbors for agro-processing industries in rural areas of Guilan Province is shown in Table 1:

Table 1. Distribution pattern of the variable based on the nearest neighbor ratio
(Source: Research finding, 2020)

agro-processing industries	
Nearest neighbor ratio	0.593
z- score	-25.69
p- value	0.000

As Table 1 shows, the distribution pattern of agro-processing industries is a clustered one. The study of the formation positions of these clusters based on internalization shows that agro-processing industries in rural areas of Guilan province are more inclined to the center of the province and the abundance of such industries in the central villages of the province and those near larger cities confirm this trend.

The spatial correlation map (see Figure 2) clearly shows that the closer the villages are to the cities, the greater the number of agro-processing industries. The less the distance from the cities, the more the agro-processing industries. One of the most important reasons for this is the existence of more infrastructure that strengthens the spatial superiority of an industry which also promotes its efficiency. Besides, more access to the market and better access roads is among the reasons for locating agro-processing industries near cities. This is especially noticeable on the main west-east road from Rasht to Rudsar and also on the main road from Rasht to Qazvin.
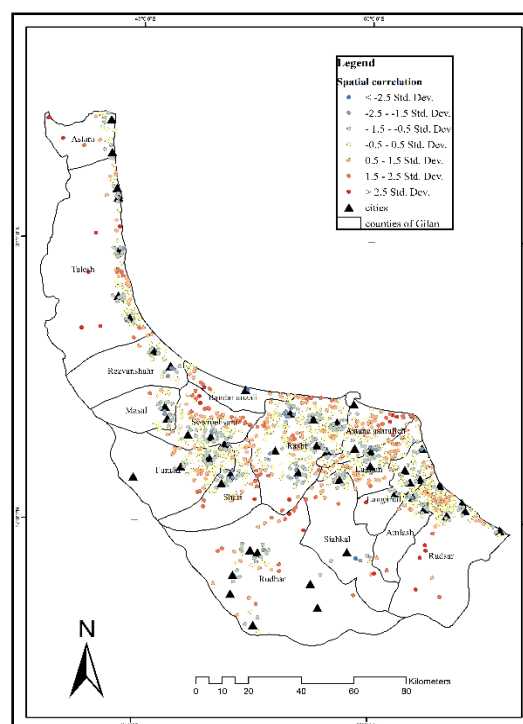
Figure 2. Spatial correlation between the number of agro-processing industries in the villages of Guilan Province and their proximity to the cities
(Source: Authors, 2020)

As Figure 3 shows, most of these industries are located in the cities of Rasht, Rudsar, Astara, Talesh, Lahijan, Langrud and Sowmehsara. For example, in Rasht, 115 industries have been located. This is true even about the diversity of industries. As in cities such as Rasht or Rudsar, the diversity of agro-processing industries is more than other areas.
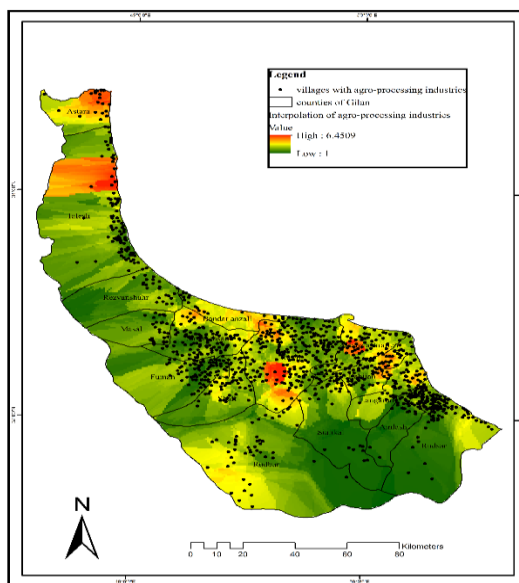
Figure 3. Interpolation of agro-processing industries in the villages of Guilan Province based on their number in each village
(Source: Authors, 2020)

Agro-processing industries in Guilan Province are divided into four categories of agriculture, horticulture, livestock and fisheries. Of 1094 villages having agro-processing industries, 819 villages only have one type of the above industries, 227 villages have two types of the industries, 44 villages have three types of the industries and 4 villages have four types of the above-mentioned industries. Figure 4 shows the distribution map of the diversity of agro-processing industries in Guilan Province.
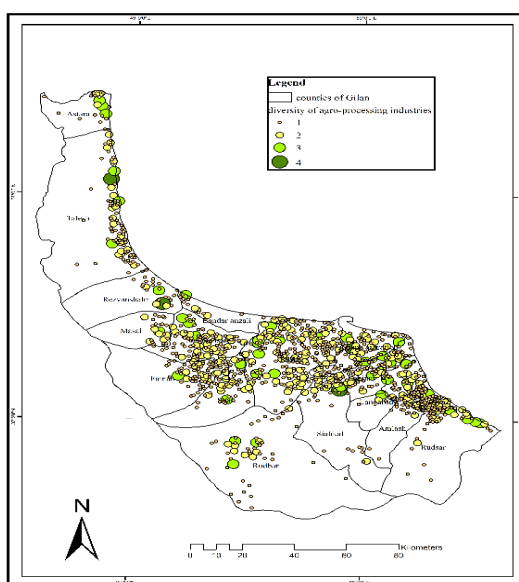
Figure 4. Distribution of diversity of agro-processing industries in the villages of Guilan Province
(Source: Authors, 2020)

4.2. Investigation of agro-processing industries in the villages of Guilan Province based on multi-distance spatial cluster analysis

For this purpose, Ripley's K function was used, which is one of the useful tools for statistical study of the spatial pattern of a phenomenon of interest in space and place, which shows the clustering of the phenomena at different geographical distances (see Figure 5). In the figure below, the horizontal axis shows the distance, and the smooth diagonal

line represents the pattern of random distribution (Asgari, 2011). In general, the higher the curve of the observed results than the expected curve of the results, the more clustered are observations at that

distance. Conversely, the lower the observed results curve than the expected results curve, the more scattered are the data at that distance.
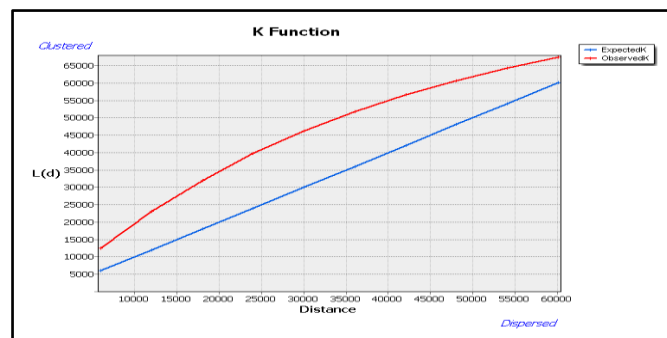
Figure 5. Ripley's K function of agro-processing industries
(Source: Authors, 2020)

The general interpretation of Figure 5 shows that in general, the agro-processing industries in the villages of Guilan Province follow a cluster distribution. It can also be stated that the tendency to random distribution is almost observed at farther distances, because the tendency to clustered industries decreases.

The hot spot map of agro-processing industries in the villages of Guilan Province (see Figure 6) also shows that these stains are mostly developed in the counties of Rasht, Astaneh Ashrafieh, Lahijan and Astar. One

of the reasons behind the clustering of these industries is the ability to invest in these clusters. As in many rural areas at the counties of Guilan Province, poor financial conditions prevent the establishment of agro-processing industries or even the development of agricultural mechanization. However, in some counties, due to better financial conditions (in some cases due to the sale of a part of their agricultural land to non-locals), the villagers are able to invest in agro-processing industries.
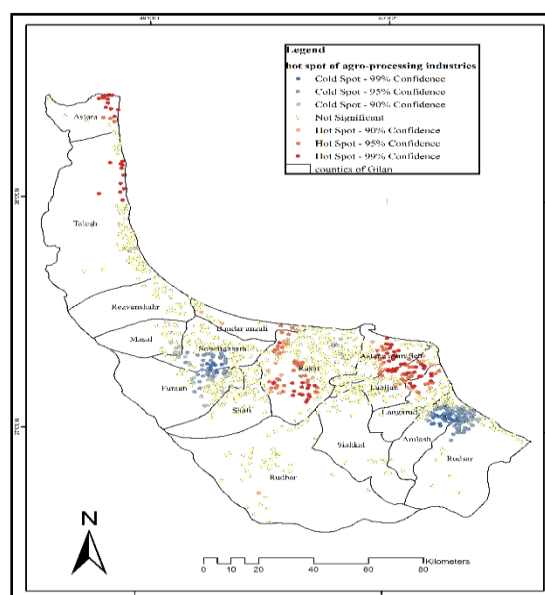
Figure 6. Hot spot of agro-processing industries in the villages of Guilan Province based on their number in each village
(Source: Authors, 2020)

4.3. Mean center

In the analysis of the mean center, the geographical center or the center of concentration of a set of features is identified. In other words, this analysis attempts to determine the central point of dispersion of the interest subjects. As mentioned before, the agro-processing industries in the villages of Guilan Province have been studied as the main subject. The results of this study are shown in Figure 7. As can be seen, the mean center of agro-processing industries in the villages of Guilan Province is located in Rasht.
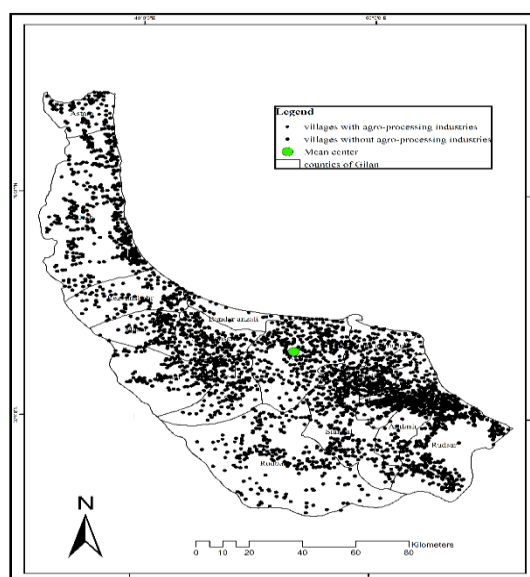
Figure 7. Mean center of agro-processing industries in the villages of Guilan Province
(Source: Authors, 2020)

4.4. Standard deviational ellipse

Thus far, the distribution and mean center of the variables have been studied, but the direction of their distribution is not clear. For this purpose, a standard deviational ellipse was used for each of the variables; the result is shown in Figure 8.
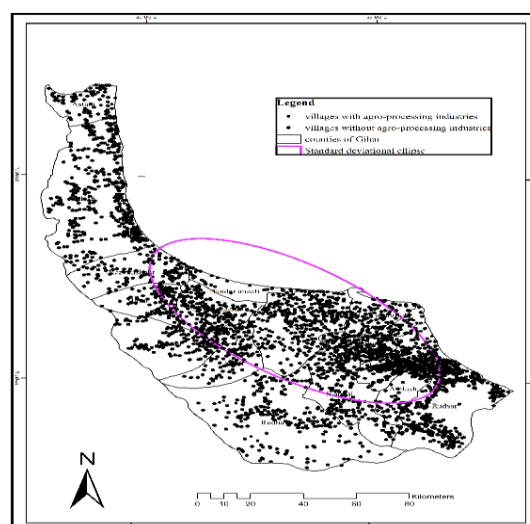
Figure 8. Standard deviational ellipse of agro-processing industries in the villages of Guilan Province
(Source: Authors, 2020)

As shown in the figure above, the distribution of agro-processing industries in the villages of Guilan Province has a northeast-southeast direction. It seems that one of the important reasons for this is that the oval area has more raw materials, more workforce, better access to the

transportation networks and also has better access to the market for the construction of agro-processing industries.

4.5. Rural areas, agro-processing industries and the counties

Cities with a huge volume of demand for the products of agro-processing industries have a great impact on the site-selection of agro-processing industries near them. The same is also true in Guilan Province. As Figure 9 shows, the villages with more agro-processing industries are located closer to the cities. In other words, taking advantage of the existing demand in the cities and more access for agro-processing industries to the facilities and infrastructure in the cities have encouraged more agro-processing industries to be established in the villages close to the cities.
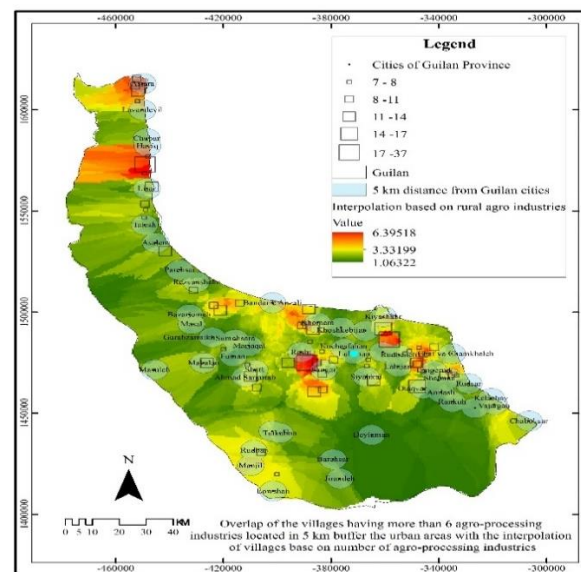
Figure 9. Overlap of the villages having more agro-processing industries with the urban areas
(Source: Authors, 2020)

In general, the larger and more populated the cities, the deeper their impact would be on site-selection and distribution of agro-processing industries.
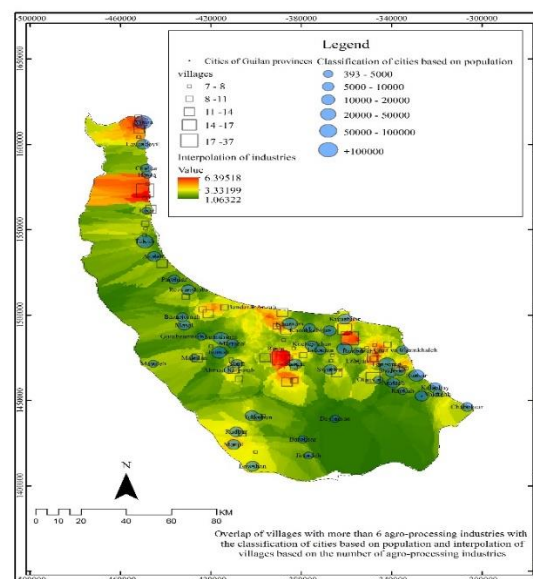
Figure 10. Overlap of the villages having more agro-processing industries with urban space according to their population
(Source: Authors, 2020)

5. Discussion and Conclusion

Agro-processing industries are among the industries established and developed in areas with agricultural potentials. Agro-industries can act as a necessary condition and stimulus for the development of this sector. In fact, the industrialization of agriculture and the development of agro-processing and complementary industries in the agricultural sector are closely inter-related. Most of the agro-processing industries are also located in rural areas where most of their employees are engaged in agriculture. Meanwhile, knowing the distribution of agro-processing industries in rural areas and the impact they receive from various factors can be useful in planning for the development of this sector. Therefore, in this paper the spatial analysis of the distribution of agro-processing industries in the villages of Guilan Province is studied. The results of the analysis show that the agro-processing industries in the villages of Guilan Province are located in clusters. That is, due to favorable conditions in certain areas of the province, a large number of them were established in specific villages and cities. These favorable conditions include proximity to population centers and markets, access to infrastructure, proximity to political and decision-making centers, access to main roads, access to more and cheaper raw materials. The results are in line with the study conducted by Zangiabadi et al., (2011). In their research, Isfahan Province has different levels of development in industries. In the meantime, proximity to cities, especially large cities, can provide all the desirable features for locating industries. For this reason, it is observed many rural agro-processing industries are concentrated in clusters near the large and central cities of Guilan Province. These cities are always attractive to industries due to facilities provided for industries, including transportation, energy, workforce, etc. This has also been emphasized by Nouri et al. (2012). Nevertheless, this trend is not favorable in general, as it deprives many areas of the province from agro-processing industries; consequently, the villagers turn to presale or sale of their raw agricultural products, which will decrease their income. This is especially evident in the citrus processing industries. Sometimes, due to the high level of production and the lack of agro-processing industries in many parts of the province, the products are either discarded or purchased by brokers at low prices. This priority has been emphasized in a research conducted by Amiri et al. (2017). Therefore, the presence of abundant raw materials can increase the need to pay attention to the establishment of agro-processing industries. The fact that areas with a high level of agricultural production have a higher priority for the construction of agro-processing industries has also been confirmed by Khajeh Shahkoohi et al. (2013), Zaheri, Aghayari Hir and Zakeri Mayab (2014), and Abazari and Hosseini Yakani (2014). On the other hand, the establishment of agro-processing industries is highly dependent on the economic situation of the villages and consequently the counties of the province. As many counties in the province are economically weak, they have fewer agro-processing industries. The analyses show that most of the agro-processing industries in the province are concentrated in the counties of Rasht, Rudsar, Astar, Talesh, Lahijan, Langrud and Sowmehsara, which are counties with better economic conditions. Therefore, due to the high costs of establishing such industries, on the one hand, and the weak financial conditions of the villagers on the other hand, it is essential that government support agro-processing industries, as they have many positive effects on the rural economy. This support can even be in the form of consulting services for creating cooperatives to establish agro-processing industries; some successful examples of which are found in the province. By collecting micro-capital of local people, the cooperatives help the household economy, which leads to job creation and higher agricultural productivity. This positive effect has also been emphasized by Nowruzi & Fathi (2015). Therefore, there should be plans to establish agro-processing industries in a more scattered, and of course, more diverse manner in Guilan Province. In addition to selecting suitable locations for the construction of industries, the type of industries must also be considered. There should be agro-processing industries whose raw materials and other optimal conditions are available in their vicinity. Therefore, it is essential to prioritize the construction of agro-processing industries. In addition, in order to make more use of agricultural products, it is necessary to build cold storages to store crops during the harvest seasons, which is accompanied by an increase in the input of the existing industries. Attracting foreign investors should also be considered along with using the capacity of knowledge-based companies to turn agricultural products into other value-added products, such as the extraction of tea oil.

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Original Article

تحلیل فضایی پراکنش صنایع تبدیلی کشاورزی روستاهای استان گیلان

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چکیده مبسوط

۱. مقدمه

توجه به ایجاد صنایع روستایی گام مهمی در ارتباط با اشتغال روستائیان برداشته خواهد شد، اما نکته مهمی که در این میان باید موردتوجه بیشتری قرار بگیرد و درواقع مسئله اصلی پژوهش حاضر به شمار می‌رود، نحوه توزیع صنایع در نواحی روستایی است. در صورت عدم توجه به نحوه پراکنش صنایع و بسنده کردن به سرانه‌های کارکردگرایانه، واقعیت‌های موجود در زمینه توسعه نواحی روستایی فراموش‌شده و نمی‌توان به همه‌گیر شدن توسعه روستایی امید چندانی داشت. چراکه در صورت ضعف در پراکنش صنایع و اجتماع در برخی نواحی خاص، فقط بخش کوچکی از روستاها از منافع آن بهره‌مند می‌شوند و بخش عمده‌ای از روستاها از آن بی‌بهره می‌شوند. بنابراین ازاین‌رو شناسایی وضع موجود صنایع روستایی ازنظر چگونگی پراکنش آن‌ها می‌تواند حقایق موجود را آشکار ساخته و به‌طور هدفمندتر در راستای توسعه صنایع روستایی گام برداشت. این پژوهش به دنبال پاسخگویی به این سؤال است که پراکنش صنایع تبدیلی کشاورزی در استان گیلان چگونه است؟

۲. مبانی نظری تحقیق

صنایع تبدیلی باعث تضمین امنیت غذایی، ایجاد شغل، ایجاد درآمد، به حداقل رساندن ضرر و زیان پس از برداشت محصول، افزایش ثبات قیمت، افزایش تقاضا برای محصولات کشاورزی محلی می‌شود.

قابل‌ذکر است گسترش صنایع تبدیلی کشاورزی در کنار مزایای خود، معایبی نیز دارد.

گسترش سریع کشاورزی در هر دو گروه کشور توسعه‌یافته و درحال‌توسعه نقش مهمی در آلودگی محیط‌زیست در سراسر دنیا دارد. ماهیت جامعه مبتنی بر صنایع تبدیلی کشاورزی منجر می‌شود که موضوع مکان این صنایع به‌عنوان موضوع محوری مطرح نشود ولی بااین‌حال، صنعتگران روستایی قادر به یافتن بازارهایی برای محصولات خود در چارچوب مناطق عملکردی شهری هستند که در آن روابط متقابل محلی انجام می‌شود، روابطی که از آن به‌عنوان تماس‌های درون منطقه‌ای یاد می‌شود و باعث ایجاد فرصت‌های بازاریابی و معاملات برای صنعتگران روستایی می‌گردد.

۳. روش تحقیق

پژوهش حاضر از نوع توصیفی – تحلیلی است. مهم‌ترین داده موردنیاز برای انجام پژوهش، پراکندگی روستاهای دارای صنایع تبدیلی و تعداد این صنایع در استان گیلان بوده است.

این داده‌ها از طریق مطالعات اسنادی شامل اطلاعات دریافتی از اداره کل جهاد کشاورزی استان گیلان (مربوط به سال ۱۳۹۶) بوده که پس از انتقال داده‌ها شامل تعداد و تنوع صنایع تبدیلی روستاها به سیستم اطلاعات جغرافیایی، تجزیه‌وتحلیل بر روی آن صورت پذیرفت. درمجموع استان گیلان دارای ۲۸۹۵ روستا می‌باشد (مرکز آمار ایران، ۱۳۹۵) که از این تعداد، ۱۰۹۴ روستا دارای صنایع تبدیلی می‌باشند.

*. نویسندهٔ مسئول:

دکتر مهدی حسام

آدرس: گروه جغرافیا، دانشکده علوم انسانی، دانشگاه گیلان، رشت، ایران.

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۵. بحث و نتیجه‌گیری

نتایج تحلیل‌ها نشان می‌دهد که صنایع تبدیلی واقع در روستاهای استان گیلان به‌صورت خوشه‌ای مکان گزینی شده‌اند. یعنی با توجه به مساعدت شرایط در مناطق خاصی از استان، تعداد زیادی از آن‌ها در روستاها و در شهرستان‌های مشخص تأسیس گردیدند. این شرایط مطلوب اغلب به نزدیکی به مراکز جمعیتی و بازارها، دسترسی به زیرساخت‌ها، نزدیکی به مراکز سیاسی و تصمیم‌گیری، دسترسی به راه‌های اصلی، دسترسی به مواد اولیه بیشتر و ارزان‌تر مربوط می‌شود. بدین‌جهت در استان گیلان نیز مشاهده می‌شود که بسیاری از صنایع تبدیلی روستای به‌صورت خوشه‌هایی در نزدیکی شهرها بزرگ و مرکزی استان تمرکزیافته‌اند. این شهرها با توجه به دسترسی که برای صنایع در حمل‌ونقل، انرژی، نیروی کار و غیره ایجاد می‌کنند، همواره جاذب صنایع می‌باشند. تحلیل‌ها نشان‌دهنده این موضوع است که اغلب صنایع تبدیلی استان در شهرستان‌های رشت، رودسر، آستارا، تالش، لاهیجان، لنگرود و صومعه‌سرا تمرکزیافته‌اند که شهرستان‌های با وضعیت اقتصادی مناسب‌تر نیز می‌باشند. بنابراین لازم است با توجه به بالا بودن هزینه‌های تأسیس چنین صنایعی ازیک‌طرف و ضعف بنیه مالی روستاییان برای این کار از طرف دیگر، حمایت‌های خاصی از جانب دولت برای تشکیل صنایع تبدیلی که تأثیرات مثبت بسیار زیادی در اقتصاد روستاییان دارد صورت پذیرد. این حمایت حتی می‌تواند به‌صورت کمک‌های مشاوره‌ای و تسهیلگری برای تشکیل تعاونی‌هایی به‌منظور تأسیس صنایع تبدیلی باشد که برخی از نمونه‌های موفق آن در استان قابل‌مشاهده است.

کلیدواژه‌ها: تحلیل فضایی، صنایع تبدیلی کشاورزی، توسعه روستایی، استان گیلان.

تشکر و قدردانی

با توجه به هدف پژوهش مبنی بر تحلیل توزیع فضایی صنایع تبدیلی در روستاهای استان گیلان، از روش‌های میانگین نزدیک‌ترین همسایه، تحلیل خوشه‌ای فضایی چند فاصله‌ای، تحلیل میانگین مرکزی و بیضی انحراف معیار استفاده‌شده است.

۴. یافته‌های تحقیق

با توجه به نتایج به‌دست‌آمده از میانگین نزدیک‌ترین همسایه برای صنایع تبدیلی در روستاهای استان گیلان به میزان ۰/۵۹۳ هست. همبستگی فضایی این مطالب را نشان می‌دهد که هر چه روستاها به شهرها نزدیک‌تر هستند، تعداد صنایع تبدیلی آن‌ها نیز بیشتر می‌باشد. یعنی فاصله کمتر از شهرها و تعداد صنایع تبدیلی بیشتر. یکی از مهم‌ترین دلایل این امر وجود زیرساخت‌های بیشتر می‌باشد که تقویت برتری‌های مکانی یک صنعت و افزایش کار آیی آن می‌گردد. همچنین دسترسی به بازار فروش بیشتر و راه‌های دسترسی بهتر می‌تواند از علل مکان‌یابی صنایع تبدیلی در نزدیکی شهرها باشد. این امر بخصوص در مسیر جاده اصلی غربی – شرقی رشت به رودسر و همچنین جاده اصلی رشت به قزوین قابل‌ملاحظه است. بیشترین تعداد این صنایع در شهرستان‌های رشت، رودسر، آستارا، تالش، لاهیجان، لنگرود و صومعه‌سرا مکان‌یابی شده‌اند. به‌طور مثال در شهرستان رشت تعداد ۱۱۵ صنعت مکان‌یابی شده‌اند. این امر حتی در تنوع صنایع نیز مصداق پیدا می‌کند. بطوری که در شهرستان‌هایی مانند رشت یا رودسر تنوع صنایع تبدیلی بیشتر از سایر نقاط می‌باشد. بر اساس تقسیم‌بندی صورت گرفته از تنوع صنایع تبدیلی استان گیلان در چهار نوع زراعی، باغی، دامی و شیلات، مشخص‌شده است که از ۱۰۹۴ روستایی که صنایع تبدیلی دارند، ۸۱۹ روستا دارای یک نوع صنعت، ۲۲۷ روستا دارای دو نوع صنعت، ۴۴ روستا دارای سه نوع صنعت و ۴ روستا دارای چهار نوع صنعت ذکرشده می‌باشند.

فهرست مندرجات

داوران این شماره به ترتیب حروف الفبا

دکتر منیژه احمدی (استادیار جغرافیا و برنامه‌ریزی روستایی دانشگاه زنجان)

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دکتر پوریا عطائی (استادیار ترویج و آموزش کشاورزی دانشگاه تربیت مدرس)

دکتر زهرا عنابستانی (استادیار جغرافیا و برنامه‌ریزی شهری دانشگاه آزاد اسلامی مشهد)

دکتر علی‌اکبر عنابستانی (استاد جغرافیا و برنامه‌ریزی روستایی و GIS دانشگاه فردوسی مشهد)

دکتر بهروز قرنی آرانی (استادیار جغرافیا و برنامه‌ریزی روستایی دانشگاه پیام نور)

دکتر تکتم محتشمی (استادیار اقتصاد کشاورزی دانشگاه گیلان)

دکتر حوریه مرادی (استادیار جغرافیا و برنامه‌ریزی روستایی دانشگاه لرستان)

دکتر محمودرضا میرلطفی (دانشیار جغرافیا و برنامه‌ریزی روستایی دانشگاه زابل)

دکتر ولی‌الله نظری (استادیار جغرافیا و برنامه‌ریزی روستایی دانشگاه فرهنگیان)

۳. ۹. 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 نویسندگان فارسی زبان 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 مجلّهٔ 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) **مجلّهٔ 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 هنگامی‌کـه جـواب پـذیرش از نشـریه 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 پـایین ۲ و راسـت ۲ و چـپ 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 نبایـد از حـدود 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 عنـوان مقالـه ذکـر شـود. ضـمناً 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 شـود. انـدازهٔ قلم‌هـا 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 علمـی، نشـانی دقیـق (کـد پسـتی، تلفـن، دورنگـار و پسـت 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 حـاوی مقدمـه، مبـانی 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 بعداً 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 کـه ارجاع به کارهای چاپ شده فقط به زبان فارسی بوده و در اسامی لاتین معادل آن در زیر نویس همان صفحه ارائه شود. به عنـوان نمونـه: (شـکوئی، ۱۳۸۷، ص. ۵۰) یـا (وودز، ۲۰۰۵، ص. ۲۷).

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

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