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Analyzing Qualitative Changes of Rural Settlements due to Rural Furniture Establishment (Case Study: Zoeram Dehestan of Shirvan County)

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Abstract
Purpose- Planning for optimum distribution of physical services and furniture in order to improve people's welfare is one of the major purposes for rural planners. Rural furniture is the main purpose of developing rural settlements to decrease environmental side effects. The quality of human environments in villages highly depends on the quality of infrastructures of physical welfare including rural furniture. Rural furniture not only improves the quality of villages, but also keeps them consistent and permanent. The present study involves analyzing rural furniture and their effects on the environmental quality of rural settlements in Zoeram Dehestan, Shirvan.
Design/methodology/approach- In this research we used an analytical-descriptive approach and data was gathered through library information and field study. Statistical population involves all rural families of Zoeram that equals to 258 families randomly selected through Cochran Formula with error level of 0.06. We used a questionnaire that its reliability was confirmed by a specific academic panel and its validity was calculated through α-Chronback coefficient. We also used SPSS software to analyze the data.
Findings- The results obtained from Chi Square Test show that among all dimensions, aesthetic and visual beauty factors with mean of 2.70 and among all rural furniture, infrastructural furniture with mean of 3.17 are the most effective factors in increasing the quality of physical environment. Also, results from Spearman Correlation and Simple Linear Regression Models show that there is a strong, direct, and meaningful relationship (Sig: 0.000) between rural furniture and the quality of physical environment. In the end, using Gray Correlation Analysis and Vikor Method, we get the results that in these villages with different qualities in rural furniture, environmental quality is not the same level and according to Spearman Correlation there is a strong, meaningful relationship between the quality of rural furniture and the quality of environment.
Practical implications- Today it is vital to consider and improve the quality of rural settlements, since it has been a major concern of local administrators and rural planners. In this respect, analyzing and measuring the level of available rural accommodations can be a helpful tool to understand and to show differences and inequalities in villages in order to provide better life quality in rural areas and be able to obtain more successful goals and objectives in establishing rural stable development and constant population growth.
Originality/value- No direct research and study considering changes in the quality of rural settlements due to establishing rural accommodations have been done so far. Therefore, it is worth performing a thorough, comprehensive research and study regarding both rural accommodations and quality of environment to show the differences and innovations in this field.
Keywords- Rural furniture, Environmental quality, Rural development, Vikor Method, Gray Correlation Analysis.
Paper type- Scientific & Research.

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1. Introduction

Since the 1960s, widespread problems have emerged in the environmental, economic, social and other issues due to the growing urban population and rural migrations. Confronting such problems, the planners found that merely focusing on quantitative issues does not resolve the rural problems and the qualitative issues should be addressed. The concept of environmental quality was introduced at the United Nations (UN) Habitat I Conference in 1976. At this conference, the environment equally was evaluated as "meeting the human basic needs and social justice" (Taghvaee, Maroufi & Pahlavan, 2012). After the Islamic Revolution in Iran, and especially in recent years, various institutions and entities, particularly the Housing Foundation of Islamic Revolution have concentrated further and multilateral attention on rural communities and rural construction and development through implementing guide plans to achieve the desired physical-environmental conditions. Accordingly, they seek to provide a decent and pleasant environment for the villagers to realize social justice and equal distribution of facilities as well as to prevent the migration of villagers to cities by motivating them to stay in the villages, which has been one of the biggest problems and dilemmas of Iran in recent years. However, based on evidence and studies, public spaces and utilities in the countryside (rural areas) lack the capacity and capability required to meet the villagers' life needs and concerns, especially the younger generation. Therefore, improving the physical quality of the villages, the beauty of the villages and the satisfaction of the villagers require proper planning, proper location, considering the native and cultural conditions, creating a functional-dimensional fit in the village, communication levels and, in particular, its furniture. Otherwise, we will always encounter the unfortunate and distorted face of the village and the residents' dissatisfaction (Malek Hoseini and Dargahi, 2010). Hence, any physical space is created to involve a certain activity and to meet the users' needs and demands. Widening of streets and passages, creation of green spaces and performing environmental-hygienic (health) activities in the village bring a boost into the village and give a special freshness and vitality to the heart of the village so that the villagers will feel a sense of security and peace of mind for living there (Hesam, Cheraghi & Ashor, 2014). Thus, the main goals of the environmental quality approach can be explained and defined in two axes of analysis and evaluation of the physical conditions of the villagers' living environment and their perceptions and mental imageries of the quality of the living environment due to rural furniture. In addition, the spatial distribution of the relationship between the two variables of the quality of furniture and the environment quality at the level of the studied area is analyzed and evaluated so that its results can be used as a basis for further assessments, planning, and policy-making in rural zones, especially in the studied area. Accordingly, the focus on increasing the quality level of villagers' settlements appears to be the main concern of the planners and managers. In such a context, the approach to assessing the quality of the environment in rural areas can be seen as an appropriate approach to understand and perceive the differences and unbalances of the quality of the rural living environment to achieve the goal of a desirable rural life. To this end, we may take an effective step towards sustainable development, stabilization of rural population, etc. (Sojasi Qeidari, 2016).

Thus, the importance of addressing this issue relies on the fact that a desirable village environment brings about dynamism, vitality and more presence of residents in the rural environment with its attractiveness and impact on the human mind. In this way, the sense of security, the sense of belonging and increased sense of happiness will be realized. Therefore, according to the main dimensions of the research (rural furniture) as well as the indices defined for the dimension (environmental quality) in the research process, the main question of the research would be as follows: How much are the qualitative changes influenced by the construction of rural furniture in the rural settlements' environment?

2. Research Theoretical Literature

The quality of the environment is a multi-dimensional concept which involves mental perceptions, attitudes and values of different

groups and individuals (Porteous, 1971). These elements have some commonalities with the concepts such as quality of life, quality of place, and the individuals' perception and satisfaction (Ghalibaf, Roostayi, Ramadanzadeh Lasbuie, Taheri, 2011). The quality of the environment in a place results from the quality of spatial components of a certain area; however, it signifies the general perception of the place rather than the sum of the components. The environment constituents (nature, outdoor or landscape, infrastructures, man-made environment, physical environment facilities, social relations, etc.) have their own features and qualities (Van Kamp, Leidelmeijer, Marsman & Hollander, 2003). Therefore, any environment with a desirable and optimal quality transfers a sense of well-being, welfare and satisfaction to the resident population (Bahrami Nejad, 2003, p. 44). Since the quality of the environment is a complex subject, the experts have provided different theoretical definitions of the concept of environmental quality. These various conceptualizations have formed based on the intellectual context of the experts or the approach used to select the indicators. Nevertheless, the lack of a comprehensive, precise and agreed definition by the scholars of the concept of environmental quality seems a quite obvious issue in the theoretical frameworks (Pourjafar, Taghvaee, Sadeghi, 2009). The main reason can be the association or overlapping of this concept with other vague and complex concepts like quality of life , livability and sustainability (Van Kamp, Leidelmeijer, Marsman & Hollander, 2003). However, the quality of the environment can be defined as an essential part of the broader concept of the quality of life (Sojasi Qeidari, Sadeghloo & Mahdavi, 2015). In addition to the physical quality, the quality of environment in rural areas is related to the quality of rural life and environment. interweaving of which forms the environment quality for villagers (Jomehpour, 2005).

The views on the quality of the rural environment can be classified into two categories. The first category involves those theories emphasizing on the objective (real) area of the environment. These views have seen the quality of the rural environment as a quality and an attribute inherent to the physical environment that exists independently from the observer as such the quality of the environment is clearly originated from the form. In this regard, the Kaplan model can be mentioned. Kaplan has developed a model on how the people experience and understand the human environment. He emphasized on the importance and necessity of gathering information about the environment and believed that the users' satisfaction with the environment requires them to have the information needed for recognition and understanding the environment. Also, the environment has to be meaningful to people, benefiting from freshness, challenges and some mystery to encourage the mind for exploration. The second category relies on the individual's mental arena, introducing the quality of the rural environment as a phenomenon or event that forms in the context of an interaction between physical and tangible features on one hand, and the cultural patterns and codes and mental abilities of the observer on the other hand. The empiricist theorists such as Lynch, Appleyard and Lange can be considered as the most important advocates of this kind of perception of the concept of the environmental quality (Bahreini, 2002). Kevin Lynch emphasized the mutual relationship and the impact of the quality of the rural environment on the quality of life of the villagers. According to him, the rural planning should be able to help enhance the quality of life by improving the quality of the environment to be useful (Golkar, 2000).

Therefore, it should be noted that improving the quality of the environment in rural settlements at different dimensions is one of the goals of rural managers and planners. In all circumstances, they try to provide a suitable environment for the life of the villagers. The environmental quality is influenced by various elements and components. The rural furniture is one of the relevant physical elements, which is located in the rural space. The rural furniture includes the non-fixed components of rural spaces that are located as complementary elements within the spaces between buildings and structures. The rural furniture plays an important role in defining the functional personality of space and is highly effective on the morale and spirit of the village and the people. In fact, as one of the main elements shaping the rural space, the rural furniture affects various issues due to its nature and temporal and spatial conditions (Shafaati, 2008). Proper rural furniture has a significant impact on reducing rural abnormalities and creates the right spaces for life through

establishing more communications between the village and the villagers. Hence, the efficiency and beauty of rural furniture are very influential in achieving healthy and viable villages (Zahedi Yeganeh & Ghadar Jani, 2011). The rural furniture appears to be of great importance due to improving the quality of rural life and enhancing the ground for growth and prosperity of creativity in the villagers (Mohandesi, Shirazi & Heydari, 2013). Thus, in today's society, the design of rural spaces and furniture should be done in such a way to meet the individuals' needs. Nowadays, the designers' task is not only to accommodate people in the social and three-dimensional space of the village along each other but another major task for them is to preserve rural attractions as the greatest artistic masterpiece by relying on indigenous culture within the heart of the rural planning (Azizipour, Lotfi, Mohammadzadeh, & Hasanvand, 2014).

No independent studies have been done on evaluating the quality of furniture with an emphasis on improving the environmental quality in the rural areas so far. In fact, relatively few studies have been conducted in relation to the topic of furniture (Table 1).

Table 1. Review of the research literature
(Source: Research findings, 2015)

Creator	Research findings
Malek Hosseini & Dargahi (2010)	By benefiting from rural furniture along with observing the principles of locating and designing, the villages can induce an impact on improving the physical environment.
Shoorche and Shemshadi (2015)	Lack of proper urban spaces and furniture and failure in proper designing and use of urban furniture appropriate to the environment and space in the totality of the city have imposed an adverse effect on the quality of urban life and health (physical spaces) as well as the sense of satisfaction of the citizens (perceptual spaces).
Akbarian Ronizi and Shaykh-Baygloo (2015)	The environmental quality of the villages has been evaluated above the average level in such a way that out of the studied environmental quality indices, the index of functional and structural quality has the greatest impact on tourism attraction and improvement of the environment's quality.
Sojasi Qidari (2016)	The highest effect of implementation of the rural guide plan in the village is related to the form component, while the least effect is related to the functional component of the three components of the environmental quality. Therefore, one can argue that the guide plan is often done with a form approach and formal impact is more than its functional effect.
Torino (2006)	The turbulent and confusing furniture of the urban environment, which is the result of an inappropriate approach to the layout, leads to reduced visual beauty and the decreased quality of the environment. Thus, the citizens do not feel comfortable in such a place and cannot establish a friendly relationship with it.
Bulut and Atabeyoglu (2007)	The importance of urban furniture elements in establishing the relationship between people and the functional and aesthetic effect on the space and giving identity varies based on various quantities and qualities. Therefore, furniture elements are highly important not only for functional purposes but also they can be beneficial due to their effects on restoring the urban perspectives.
Feng and Zia (2014)	The development of furniture in urban spaces reflects irregular conditions as such the human considerations are not appropriate, and the ambient colors do not match the surrounding environment. Also, due to the regional features, the objects are not placed in their proper place. The environmental awareness and consciousness of ecology are low due to lack of planning. Therefore, the need for planning to improve the ecology of the environment seems essential.

According to the studies, the rural furniture can improve the quality of rural environments in case of adhering to different design principles. Since no man-made environment will sustain without considering the characteristics of the cultural environment and the intended measures of their users, doing a research on rural furniture in the village of Zoeram appeared essential to recognize the current status of the furniture in the area. Accordingly, such a necessity seemed to further focus on beautifying and giving identity to the sights and spaces of the alleys and streets of Zoeram Dehestan (rural district) in the space of passages and squares, creating places to sit, proper distribution and diffusion of furniture in this area to be used by different age groups and all social

classes, (e.g., healthy and disabled people) in order to achieve comfort and convenience, and more social interactions among furniture users, which ultimately reflect the collective memories of these individuals (Heidarinia, Amanpour, Atashafrouz & Nazarpour Dazki, 2014).

The classification of the furniture elements has been presented in different forms, which can be introduced in four main groups as follows: decorative furniture (fountains, statues, springs, water supply, chairs and benches, play equipment, sports equipment, canopies, sunshades, etc.), infrastructure furniture (cover and coating, floor covering, flooring, channelization, making street curb, shield and separator, lightning rod, etc.), communication-conducting furniture (passages, sidewalks, signs, and panels, speed bumps, road surface marking, telephone kiosks, bridges over water ditches, etc.) and service-providing furniture (garbage cans, pots, post boxes and charity boxes, bus stations, WCs, gyms, etc.).

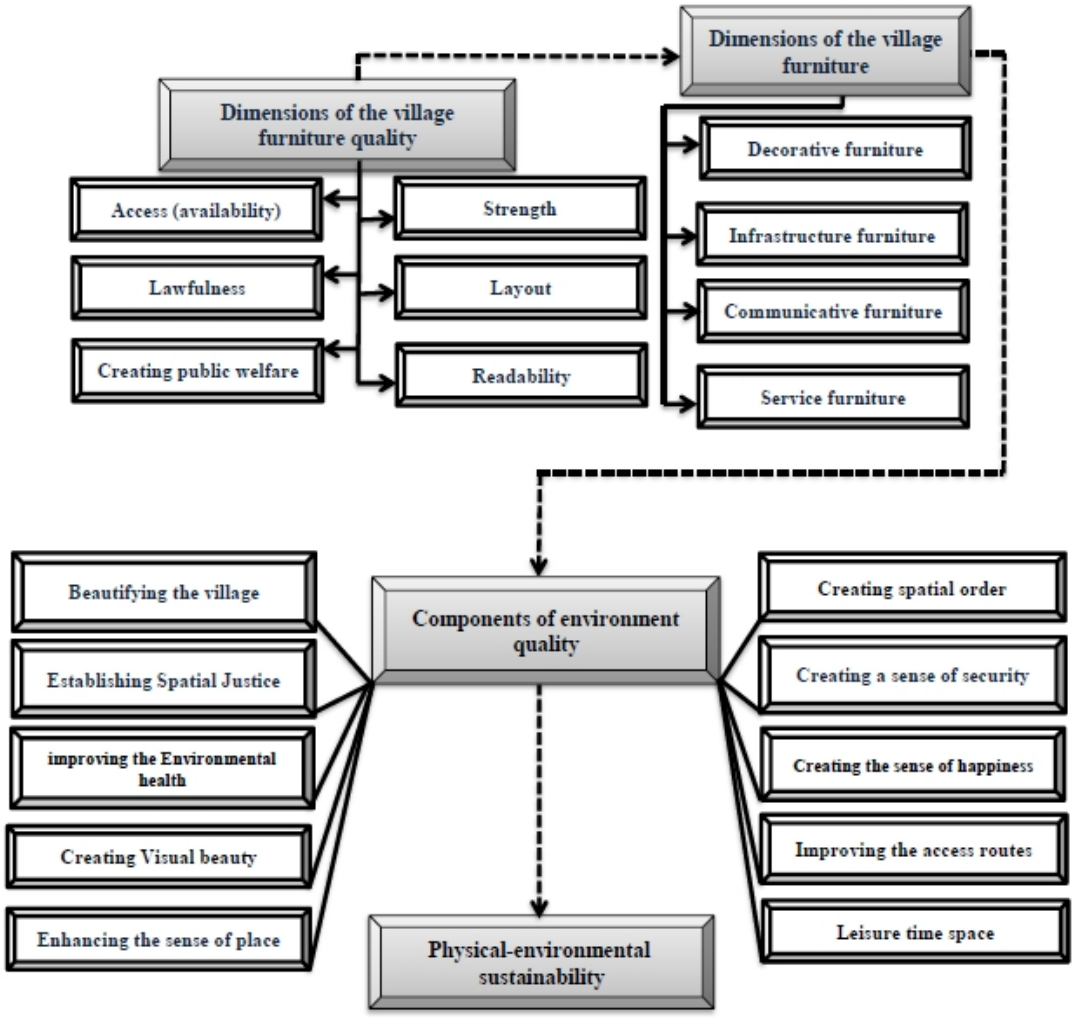

Figure 1. Conceptual Model of the Research
(Source: Research Findings, 2016)

Therefore, improving the environmental quality in rural settlements can be realized through proper designing and use of rural furniture tailored to the rural environment and the villagers' requirements, by increasing the quality of furniture in various aspects such as strength, layout, legibility and other features, improving the accessibility, beautifying, creating the sense of happiness, enhancing the environmental health, and the like (Figure 1). Hence, improving the quality of rural

environment does not depend on increasing rural facilities such as increasing the number of furniture, but it emphasizes on the standards of welfare and recreation by considering the conditions of rural communities in various areas. Therefore, on a macro scale, developing appropriate infrastructures as well as their management seem essential to meet the needs of different classes in line with improving the environmental quality.

3. Research Methodology

3.1. Geographical Scope of the Research

According to the latest census in 2015, the city of Shirvan includes three districts (Central, Sarhad, and Qushkhaneh), nine rural districts (Takmaran, Jirestan, Hoomeh, Zoeram, Ziarat, Golian, Sivkanlu, Qushkhaneh-ye Bala and Qushkhaneh-ye Pain) and 174 villages. The studied village was selected from the central district. The rural district of Zoeram is limited to rural district of Ziarat from the north, to the rural district of Golian from the south, to Tukur Village and Yengi Qaleh-ye Bala Village from the east, and to Bojnord from the west (Figure 2).

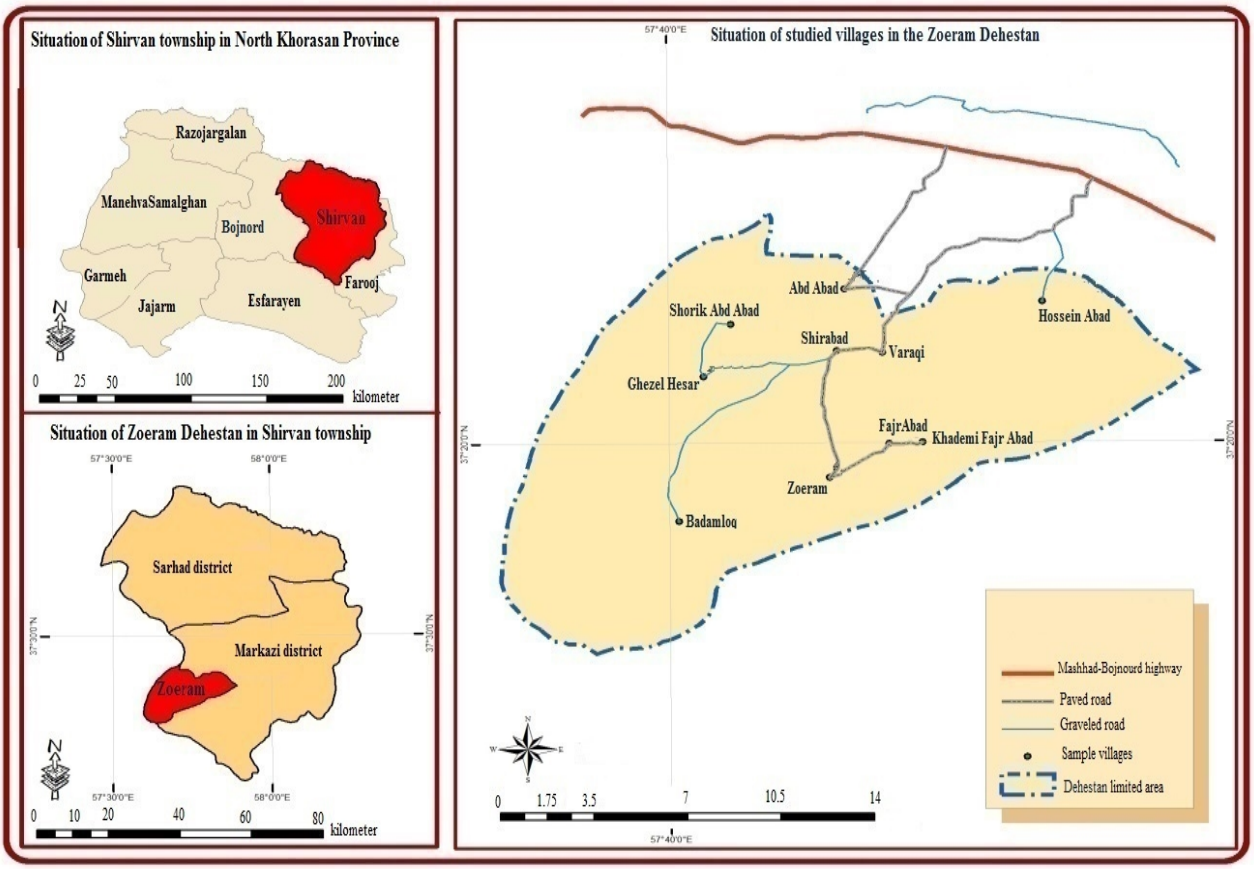

Figure 2. Location of studied villages in the research area
(Source: Research Findings, 2016)

3.2. Methodology

The present study was an applied research based on the objective and type, while it was classified in the descriptive and analytical studies group in terms of nature and methodology. The data was collected through the library method and the field studies were made using a questionnaire. The research variables were designed in the form of 6 dimensions of the furniture quality with 14 indices and the environmental quality with 10 indices , respectively, through theoretical and review literature (Cheraghi, Jafarian, Abbasi & Badri, 2015; Farahani, Einali, Ghasemi Viari, 2014; Zeinali, 2013). Each statement was presented in the form of the Likert spectrum for each of the ten indexes and six dimensions. The validity of the indices was examined through a specialized panel and the reliability was verified as 0.99 using the Cronbach's alpha coefficient which indicated the high capability of the questionnaire. To complete

the questionnaire, sampling was first done in the region of the rural district of Zoeram, Shirvan. The sample villages were selected by complete enumeration method and the simple random sampling approach was used to choose the sample from the statistical population. The sample size was determined using the Cochran formula at the error level of 0.06, leading to the selection of 237 households as samples. Finally, by promoting the samples in the low populated villages to the minimum necessary level, a total of 258 households were obtained as the sample size and the questionnaires were then completed (Table 2).

Table 2. Number of households in villages of Zoeram Dehestan (Rural District), Shirvan
(Source: Statistical Center of Iran, 2011 & Research findings, 2015)

Village	Population	Number of households	Number of the household of the sample	Corrected samples
Hossein Abad	3665	866	97.9	98
Abd Abad	910	259	29.2	29
Varaqi	242	73	8.2	10
Badamloq	261	82	9.2	10
Ghezel Hesar	140	34	3.8	10
Khademi Fajr Abad	160	49	5.5	10
Shorik Abd Abad	193	61	6.9	10
Shirabad	75	22	2.4	7
FajrAbad	620	202	22.8	23
Zoeram	1320	447	50.5	51
Total	7586	2095	237	258

Two descriptive and inferential statistical methods and the multiple-criteria decision-making (MCDM) were used to analyze the data. Thus, the data were analyzed in the inferential statistics using the Chi-square test, correlation test, and the simple linear regression. Finally, the villages were rated by the Vikor model and Gray Relational Analysis (GRA) based on the quality indices of furniture and quality of the environment. In addition, the Spearman correlation test was used to determine the relationship between the quality of furniture and the qualitative changes in the rural settlement environment.

4. Research Findings

The descriptive findings of the research indicated that the majority of respondents were in the age range of 40-49 years with a frequency of 71 people (27.5%). Gender analysis also showed that 151 men (58.5%) and 107 women (41.5%) consisted the whole respondents. Accordingly, in the group of villagers, 63.2% were married and 36.8% were single. Also, 43.4% and 35.7% of all respondants (N=258) had elementary education or were illiterate, respectively. Other subjects had junior high school (8.5%), high school (6.6%) and diploma (3.1%) degrees. The level of academic. education with 2.7% accounted for the least number of the respondents. Of the respondents, 64.3% were employed in the agricultural sector. Other descriptive findings suggested that the use of furniture among the villagers, the availability of welfare facilities in the playing field, and the extent of the playground allowing the children to play mass and collective games were at moderate to high levels.

Analytically, the results of table 3 showed a moderate level equal to 2.56 as the total satisfaction rate of people regarding rural furniture. Among the studied furniture categories, only the rate of communication furniture was lower than the assumed average. Therefore, one can argue that the situation of rural furniture is desirable. In case of ten indices of the dependent variable, the average respondents' opinion about the impact of rural furniture on the environmental quality was at a high level given the hypothetical average of 2.5. According to the respondents, the lowest impact of rural furniture was related to the index of accessibility improvement. This difference was significant at the level of 0.05% and the difference between the components of the examined numerical desirability was positive. In relation to the sub-variables of the research, one can state that among the dimensions of the quality of furniture, the rates of readability dimensions

were lower than the hypothetical average. Thus, the readability status of the furniture was at a weak level. Then, this effective factor can lower the quality of the rural settlements. For example, non-readability of different boards and panels at the village weakens the sense of navigation. In other words, high strength, proper layout, observance of rules, etc., in the furniture increase the quality of the village environment. Considering the fact that most of the mean values of the furniture quality were close to moderate and at the same level as the assumed average, one can infer that the quality of the rural furniture is desirable.

Table 3. Chi-square or X^2 of independent, dependent and substitute variables
(Source: Research Findings, 2016)

Dimensions	Mean	SD	Chi-square	sig	Degree of freedom
Independent variable: Rural furniture					
Decorative furniture	2.85	0.749	203.318	0.000	4
Infrastructure furniture	3.17	0.859	132.736	0.000	4
Communicative furniture	1.88	0.485	381.354	0.000	4
Service furniture	2.35	1.066	235.181	0.000	4
Rural furniture	2.56	0.721	192.349	0.000	4
Dependent variables: Environment quality					
Beautifying	2.77	0.674	253.744	0.000	4
Spatial Justice	2.66	0.675	242.271	0.000	4
Environmental health	2.70	0.658	256.806	0.000	4
Visual beauty	2.77	0.673	257.388	0.000	4
Enhancing the sense of place belongingness	2.67	0.657	250.953	0.000	4
Creating spatial order	2.72	0.691	250.411	0.000	4
Creating a sense of security	2.72	0.679	256.457	0.000	4
Sense of happiness	2.72	0.691	220.992	0.000	4
Improving the access routes	2.64	0.634	219.132	0.000	4
Leisure time space	2.65	0.646	277.465	0.000	4
Sub-variable: Quality of rural furniture					
Strength	2.56	0.599	200.411	0.000	4
Layout	2.50	0.573	256.806	0.000	4
Readability	2.42	0.545	343.202	0.000	4
Access (availability)	2.54	0.541	335.992	0.000	4
Lawfulness	2.62	0.604	223.899	0.000	4
Creating public welfare	2.62	0.585	225.992	0.000	4
Independent variable: Rural furniture					
Decorative furniture	2.85	0.749	203.318	0.000	4
Infrastructure furniture	3.17	0.859	132.736	0.000	4
Communicative furniture	1.88	0.485	381.354	0.000	4
Service furniture	2.35	1.066	235.181	0.000	4
Rural furniture	2.56	0.721	192.349	0.000	4
Dependent variables: Environment quality					
Beautifying	2.77	0.674	253.744	0.000	4
Spatial Justice	2.66	0.675	242.271	0.000	4
Environmental health	2.70	0.658	256.806	0.000	4
Visual beauty	2.77	0.673	257.388	0.000	4
Enhancing the sense of place belongingness	2.67	0.657	250.953	0.000	4
Creating spatial order	2.72	0.691	250.411	0.000	4
Creating a sense of security	2.72	0.679	256.457	0.000	4
Sense of happiness	2.72	0.691	220.992	0.000	4
Improving the access routes	2.64	0.634	219.132	0.000	4
Leisure time space	2.65	0.646	277.465	0.000	4

Table 3.

Dimensions	Mean	SD	Chi-square	sig	Degree of freedom
Sub-variable: Quality of rural furniture					
Strength	2.56	0.599	200.411	0.000	4
Layout	2.50	0.573	256.806	0.000	4
Readability	2.42	0.545	343.202	0.000	4
Access (availability)	2.54	0.541	335.992	0.000	4
Lawfulness	2.62	0.604	223.899	0.000	4
Creating public welfare	2.62	0.585	225.992	0.000	4

The Spearman correlation test was used to investigate the relationship between rural furniture and environmental quality indices due to the nonparametric variables with a relative scale. The results of table 4 showed a strong direct correlation between the rural furniture and the ten indicators due to the significance level lower than 0.01 and the test statistics. Thus, the highest effect of rural furniture was related to the indicator of creating a sense of happiness and felicity with the test statistics of 0.770, while the lowest was related to the index of creating the space for leisure times (0.735).

Given the fact that a significant relationship was found between the independent and dependent variables with a strong intensity and a direct relationship the simple linear regression was used to test the research hypothesis to study the effect of independent variable on the dependent variable.

Table 4. Spearman correlation test

(Source: Research Findings, 2016)

Index	Test statistic	Significance level
Beautifying	0.739	0.000
Spatial Justice	0.757	0.000
Environmental health	0.740	0.000
Visual beauty	0.754	0.000
Enhancing the sense of place (belongingness)	0.745	0.000
Creating spatial order	0.736	0.000
Creating a sense of security	0.753	0.000
Creating the sense of happiness	0.770	0.000
Improving the access routes	0.701	0.000
Leisure time space	0.735	0.000

4.1. Assessing the Effectiveness of Rural Furniture on the Environment Quality

In the regression, the rural furniture was the independent variable, while the quality of the environment was the dependent variable, which was examined using the ten indexes. The model assumptions were also evaluated to prepare the regression models. Thus, the results of the findings in table 5 showed the value of correlation between rural furniture and environment quality equal to 0.862, which was direct with a very strong intensity. As shown in the table, the value of the adjusted coefficient of determination is 0.742. Since this value is closer to 1, it indicates that the independent variable, rural furniture, could have explained a large amount of the variance in the quality of the environment. In this model, the value of F is 741.160 and its significance is also equal to 0.000, which is smaller than 0.05 and meaningful. Then, the independent variable is quite capable of well explaining the changes of the dependent variable. Therefore, the null hypothesis of the test, which suggests the insignificance of the regression model, is rejected with a confidence level of 99%. The value of beta is equal to 0.862 in this model. The high beta value indicates its relative importance and role in predicting the dependent variable.

Therefore, one can argue that the rural furniture has a significant and influential impact on the quality of the rural environment. Thus, the presence of furniture in the studied villages leads to the beautifying of the village, enhanced

environmental health, increasing the sense of belonging, creating a spatial order, and so on.

Table 5. Regression analysis of the impact rate, the existence of a relationship and the coefficients of relationships intensity on the quality of the environment
(Source: Research Findings, 2016)

Standard error	Adjusted coefficient of determination	Correlation value
0.333	0.742	0.862
Components	Sum of the squares	Degrees of freedom
Regression effect	82.607	1
Remainder	28.533	256
Total	111.139	257
Mean of squares	Test statistic (F)	Significance level
82.607	741.160	0.000
0.111		

Variable name	Non-standard coefficients		Standardized coefficients	T	sig
	B	B error	β error		
Constant factor	0.779	0.074	0.862	10.578	0.000
Rural furniture	0.704	0.026		27.224	0.000

4.2. Ranking of Villages Based on Quality Indicators of Rural Furniture

The Gray Relational Analysis (GRA) technique was used for spatial analysis of the differences of quality indices of rural furniture among the studied villages. The GRA technique has an algorithm with specific steps. The GRA technique is used to select the preferred option based on a number of criteria. Accordingly, there are three categories of criteria in the gray decision matrix, including the bigger the better (the same positive criteria in the Topsis and Vikor technique), the smaller the better (the same negative criteria in the Topsis and Vikor technique), and the closer to the optimal value the better (it is not considered in the Topsis and Vikor technique). As the indicators of rural furniture quality are positive, they were placed in the matrix of the gray decision based on the same option as the bigger the better and calculated accordingly. The GRA steps are as follow:

1. Creating the Gray relation: The main idea of the GRA as a quantitative analysis method is based on the fact that the amount of proximity and correlation between the two different factors, which is growing in a dynamic process, should be measured according to the degree of similarity of their curves. The higher similarity indicates a higher degree of the relationship between the series and vice versa. The Gray relation scale is used to measure the rate of this similarity. In this step, each option is evaluated based on each criterion or index (Azar, Junaghani & Ahmadi Nik Jounaghani, 2014; Mohamadi & Molaei, 2010).
2. Values unscaling: When the units of measurement of performance of different indices are different, the effect of some indicators may be ignored. It may also happen when some performance indices have a wide range. One of the following three formulas is used to normalize the values.

$$Xij = \frac{Yij - \min(Yij)}{\max(Yij) - \min(Yij)} \quad \text{The bigger the bette} (1)$$

$$Xij = \frac{\max(Yij) - Yij}{\max(Yij) - \min(Yij)} \quad \text{The smaller the better} (2)$$

$$Xij = \frac{|Yij - Y^*|}{\max\{\max(Yij) - Y^*, Y^* - \min(Yij)} \quad \text{The closer to the optimal value of } Y^* \text{better} (3)$$

Yij: Index value of each village, Min (yij): The lowest value of each village index, Max (yij): The highest value of each village index, y*: optimal value

In the present study, the first formula was used to normalize the values since with higher values of each of the quality indices of the rural furniture, the studied villages will have the furniture with a higher quality.

3. Definition of reference target series: After creating gray relations using the above equations, all functional values will occur between zero and one like in the case of using the concept of normalization. The closer xij to one, the more utility it will have. As a result, the best choice will be the scales series, which all its options equal to 1. All functional values of the reference target series are equal to 1, which is defined as follows:

The closer the series of scales of option i to the reference series, the more utility it will have (Table 6).

4. Gray relational coefficient: The closeness of each xij to the corresponding xoj is measured using the gray relational coefficient. The larger the gray relational factor, the closer it is. The gray relational coefficient is calculated as follows:

$$\overset{\circ}{X} = (\overset{\circ}{X}_1, \overset{\circ}{X}_2, \ldots, \overset{\circ}{X}_4, \ldots, \overset{\circ}{X}_n = (1,1,\ldots,1,\ldots,1) \quad (4)$$

$$r(\overset{\circ}{x}j, xij = \frac{\Delta min + r\Delta max}{\Delta ij + r\Delta max} \quad (5)$$

$$\Delta ij = \overset{\circ}{x}j - xij \quad (6)$$

To calculate the above, the **Δ ij** must be calculated:

Therefore, the smallest value of Δ ij is min and the Δ max will be the largest value of Δ ij. In this equation, r is the coefficient of detection, which is used to extend or limit the range of the gray relational coefficient. It should be noted that the detection coefficient is sometimes displayed with ρ or ζ, with a value between 0 and 1. It is usually considered to be 0.5. Based on Chang and Lane (1999) sensitivity analysis study, the value of 0.5 is a balanced detection coefficient and has a good stability (Table 7).

Gray Relation Rank: After calculating all Gray relation coefficients y (xij, xij), the Gray relation rank is calculated using the following equation:

$$r\,(Xoj - Xij) = \sum_{j}^{n} \mathrm{Wj\ Y}\,(Xoj - Xij) \quad (7)$$

This phrase shows the degree of correlation between the reference target series and the comparative series. In these calculations, w is the weight of the indexes, which is calculated by techniques such as FAHP or entropy, point assignment, etc. In this study, the opinions of 15 experts (Ph.D. students, professors of Geography, Urban Planning and Architecture department of Ferdowsi University of Mashhad and Birjand) in this context and the FAHP method were used (Table 8).

In sum, the score and rank of each village can be seen in table 9. According to the table, the villages of Fajrabad, Zoeram, and Hosseinabad are ranked first to second, while the Ghezel Hesar Village is in the ninth place. This means that the first three villages have a higher quality furniture and the last village has a lower quality furniture than other villages.

Therefore, in the villages of Fajrabad, Zoeram, and Hosseinabad, the quality of decorative, infrastructure, communications-guidance and services furniture are at a better level in terms of strength, layout, legibility, access, lawfulness and providing public comfort and welfare. This is due to the closeness of their geographical location to the city of Shirvan and the arrival of tourists initially at these destinations, adhering to the principles of design, the number of furniture and the handling of worn-out furniture by rural administrators compared to the village of Ghezel Hesar and other similar villages lacking such circumstances. Figure 3 shows the spatial position of the studied villages in terms of the dimensions of rural furniture quality.

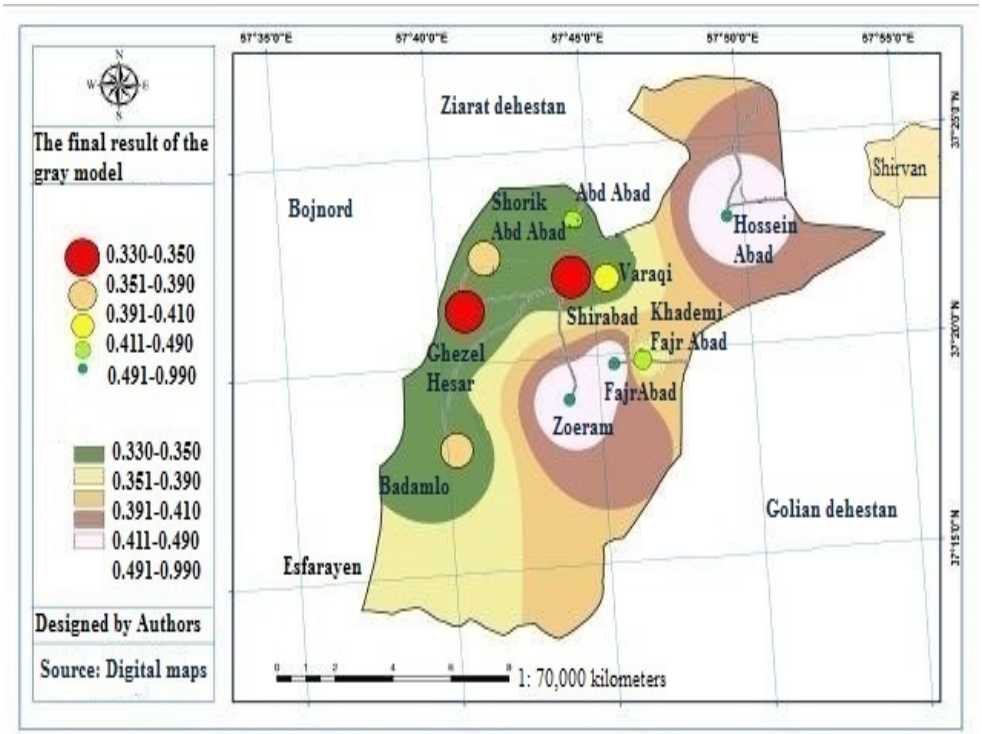

Figure 3. Score obtained from analysis of Gray's relation separated by the studied villages
(Source: Digital maps of North Khorasan Provincial Government, 2016)

Table 6. Definition of target series
(Source: Research Findings, 2016)

Index / Villages	Having high durability	Use of robust materials	Coverage of the whole village	Visible to everybody	Consistency with the building color	Conformity with the culture	Compliance with the environment	Accessibility for all	Quick access for everyone	Observance of the construction standard	Suitable dimensions	Satisfaction with the furniture	Creating environmental attractiveness	Accelerating rural activities
Hossein Abad	0.01	0.02	0.03	0.01	0.13	0.10	0.05	0.04	0.02	0.01	0.00	0.00	0.00	0.03
Abd Abad	0.57	0.55	0.61	0.52	0.60	0.57	0.59	0.56	0.55	0.59	0.63	0.61	0.60	0.60
Varaqi	0.78	0.77	0.78	0.74	0.68	0.76	0.69	0.67	0.63	0.66	0.71	0.74	0.73	0.72
Badamloq	0.78	0.78	0.82	0.80	0.76	0.82	0.82	0.71	0.73	0.71	0.80	0.80	0.79	0.79
Ghezel Hesar	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Khademi Fajr Abad	0.53	0.51	0.58	0.53	0.60	0.52	0.55	0.48	0.56	0.49	0.52	0.48	0.47	0.58
Shorik Abd Abad	0.78	0.75	0.83	0.79	0.87	0.92	0.90	0.83	0.85	0.80	0.84	0.82	0.84	0.85
Shirabad	0.89	0.92	0.92	0.88	0.89	0.96	0.99	0.90	0.93	0.93	0.94	0.93	0.96	0.94
FajrAbad	0.56	0.58	0.59	0.58	0.63	0.55	0.65	0.51	0.58	0.58	0.61	0.56	0.57	0.53
Zoeram	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.01	0.00

Table 7. Determining the Gray factor in the studied villages
(Source: Research Findings, 2016)

Index / Villages	Having high durability	Use of robust materials	Coverage of the whole village	Visible to everybody	Consistency with the building color	Conformity with the culture	Compliance with the environment	Accessibility for all	Quick access for everyone	Observance of the construction standard	Suitable dimensions	Satisfaction with the furniture	Creating environmental attractiveness	Accelerating rural activities
Hossein Abad	0.99	0.96	0.94	0.98	0.79	0.83	0.92	0.93	0.95	0.98	1.00	1.00	1.00	0.95
Abd Abad	0.47	0.47	0.45	0.49	0.46	0.47	0.46	0.47	0.47	0.46	0.44	0.45	0.46	0.46
Varaqi	0.39	0.39	0.39	0.40	0.42	0.40	0.42	0.43	0.44	0.43	0.41	0.40	0.41	0.41
Badamloq	0.39	0.39	0.38	0.38	0.40	0.38	0.38	0.41	0.41	0.41	0.39	0.39	0.39	0.39
Ghezel Hesar	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Khademi Fajr Abad	0.49	0.50	0.46	0.49	0.46	0.49	0.48	0.51	0.47	0.50	0.49	0.51	0.52	0.46
Shorik Abd Abad	0.39	0.40	0.38	0.39	0.36	0.35	0.36	0.37	0.37	0.39	0.37	0.38	0.37	0.37
Shirabad	0.36	0.35	0.35	0.36	0.36	0.34	0.34	0.36	0.35	0.35	0.35	0.35	0.34	0.35
FajrAbad	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.93	0.99	1.00
Zoeram	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.93	0.99	1.00

Table8. Determining the Gary relationship Rank and weight through FAHP

Index / Villages	Having high durability	Use of robust materials	Coverage of the whole village	Visible to everybody	Consistency with the building color	Conformity with the culture	Compliance with the environment	Accessibility for all	Quick access for everyone	Observance of the construction standard	Suitable dimensions	Satisfaction with the furniture	Creating environmental attractiveness	Accelerating rural activities
Hossein Abad	0.17	0.06	0.14	0.03	0.01	0.07	0.01	0.20	0.05	0.06	0.01	0.10	0.03	0.01
Abd Abad	0.08	0.03	0.07	0.01	0.00	0.04	0.01	0.10	0.03	0.03	0.01	0.04	0.01	0.01
Varaqi	0.07	0.02	0.06	0.01	0.00	0.04	0.01	0.09	0.02	0.03	0.00	0.04	0.01	0.01
Badamloq	0.07	0.02	0.06	0.01	0.00	0.03	0.01	0.09	0.02	0.03	0.00	0.04	0.01	0.01
Ghezel Hesar	0.06	0.02	0.05	0.01	0.00	0.03	0.01	0.07	0.02	0.02	0.00	0.03	0.01	0.00
Khademi Fajr Abad	0.08	0.03	0.07	0.01	0.00	0.04	0.01	0.11	0.03	0.03	0.01	0.05	0.01	0.01
Shorik Abd Abad	0.07	0.02	0.05	0.01	0.00	0.03	0.01	0.08	0.02	0.02	0.00	0.04	0.01	0.01
Shirabad	0.06	0.02	0.05	0.01	0.00	0.03	0.01	0.08	0.02	0.02	0.00	0.03	0.01	0.00
FajrAbad	0.17	0.06	0.15	0.03	0.01	0.09	0.02	0.21	0.06	0.06	0.01	0.09	0.03	0.01
Zoeram	0.17	0.06	0.15	0.03	0.01	0.09	0.02	0.21	0.06	0.06	0.01	0.09	0.03	0.01

Table 9. The sum of Gray relation rank and score of each village
(Source: Research Findings, 2016)

Villages	Resilience ultimate score	Ranking
Hossein Abad	0.95	2
Abd Abad	0.46	4
Varaqi	0.41	5
Badamloq	0.39	6
Ghezel Hesar	0.33	9
Khademi Fajr Abad	0.49	3
Shorik Abd Abad	0.38	7
Shirabad	0.35	8
FajrAbad	0.99	1
Zoeram	0.99	1

4.3. Villages Rating Based on the Quality of the Environment Indices Due to the Presence of Furniture

Based on the ten indices of environmental quality, the indices were weighed and the villages were prioritized by the Vikor model. This model has several steps. The first step includes the formation of a decision matrix. In this matrix, the criteria used in the rural environment quality indices are placed in the columns and the studied villages are in the rows. The second step involves the calculation of the normalized values. In the third step, the best and worst values for all criteria functions (Chang & Hsu, 2009, p. 3228) are determined. If the criterion function indicates the profit (positive), the best and worst values are calculated based on the following equation:

$$f_i^* = \max_j f_{ij} \quad , \quad f_i^- = \min_j f_{ij} \qquad (8)$$

If the criterion function indicates the cost (negative), the best and worst values are calculated based on the following relation:

$$f_i^* = \min_j f_{ij} \quad , \quad f_i^- = \max_j f_{ij} \qquad (9)$$

Hence, the best and worst values for the criteria can be determined (Table 10).

Table 10. The best and worst values for all the criteria functions

(Source: Research Findings, 2016)

Index / Villages	Beautifying the village	Establishing Spatial Justice	Improving the Environmental health	Creating Visual beauty	Enhancing the sense of place	Creating spatial order	Creating a sense of security	Creating the sense of happiness	Improving the access routes	Creating the leisure time space
fi*	0.152	0.154	0.151	0.152	0.152	0.153	0.153	0.154	0.149	0.151
fi-	0.072	0.070	0.070	0.072	0.072	0.071	0.070	0.072	0.068	0.071

The fourth step determines the weight and degree of importance of the features. In this study, the Shannon entropy method was used to determine the weight of the indexes. The weights of the proposed criteria were also determined and calculated by several relevant experts and assigned to each indicator (Table 11).

Table 11. Weights of criteria based on the entropy method

Index / Villages	Beautifying the village	Establishing Spatial Justice	Improving the Environmental health	Creating Visual beauty	Enhancing the sense of place	Creating spatial order	Creating a sense of security	Creating the sense of happiness	Improving the access routes	Creating the leisure time space
EJ	0.985	0.982	0.984	0.985	0.984	0.984	0.984	0.984	0.985	0.985
d	0.015	0.018	0.016	0.015	0.016	0.016	0.016	0.016	0.015	0.015
w	0.095	0.112	0.099	0.094	0.101	0.103	0.099	0.101	0.094	0.098

Considering the environmental quality indices in the study area, the indices of establishing space justice (11.2%) and creating a sense of happiness (10.4%) had the highest importance compared to other indices in the studied villages.

The fifth step involves calculating the distance between the options with the ideal solution. At this stage, the distance between each option and the ideal positive solution is calculated. Then, the calculation of its aggregation is performed based on the following relations (Chang & Hsu, 2009, pp. 3228-3229):

$$R_j = \max_j [w_i (f_{ij}^* - f_{ij}) / (f_j^* - f_j^-)] \quad (10)$$

Where Sj is the distance from option i to the ideal solution (the best combination) and Rj is the

distance between option i and the ideal negative solution (the worst combination). The excellent ranking is done based on Sj and the bad ranking will be made based on the Rj values. The sixth step is to calculate the Qi value of the Vikor model for i = 1, 2, …, m. The Qi value is calculated by the following equation: $Q_i = v\left[\frac{S_i - S^*}{S^- - S^*}\right] + (1-v)\left[\frac{R_i - R^*}{R^- - R^*}\right]$ (11)

Wherein:

$S^* = \min_j S_j \ , S^- = \max_j S_j$ (12)

$R^* = \min_j R_j \ , S^- = \max_j R_j$ (13)

Also, v is the strategy's weight (the majority of the criteria) or the maximum group utility. The $\frac{S_i - S^*}{S^- - S^*}$ represents the distance from the ideal positive solution of the i[th] option. In other words, $\frac{R_i - R^*}{R^- - R^*}$ represents the distance from the ideal negative solution for the i[th] choice**.** If v>0.5, the Qi index will have a maximum agreement. In addition, if v<0.5, the Qi index will be indicative of the maximum negative attitude. In general, v = 0.5 implies the equal group agreement.

The seventh step involves the ranking of options based on the Qi values. According to Qi values of the options calculated in Step 6, the options can be rated. The options with a higher Qi value are placed at a lower priority and the smaller Qi values imply higher ranks (Table 12).

Figure 4 shows the spatial position of the studied villages in terms of the dimensions of the environmental quality.

Table 12. Ranking of the level of quality of the rural environment based on the distance to the ideal solution
(Source: Research Findings, 2016)

Village	Sum (S)	max(R)	Q	Rating
Hossein Abad	0.000	0.001	0.000	1
Abd Abad	0.703	0.075	0.685	5
Varaqi	0.837	0.101	0.870	7
Badamloq	0.896	0.109	0.935	8
Ghezel Hesar	0.999	0.112	1.000	10
Khademi Fajr Abad	0.999	0.064	0.784	6
Shorik Abd Abad	0.551	0.085	0.654	4
Shirabad	0.953	0.103	0.937	9
FajrAbad	0.609	0.068	0.606	3
Zarvarom	0.605	0.010	0.073	2

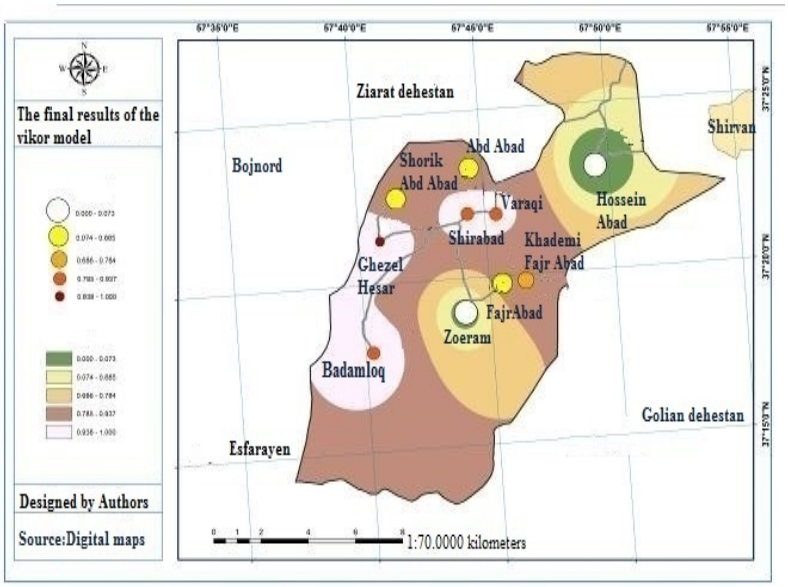

Figure 4.The score obtained from the Vikor analysis separated by the surveyed villages
(Source: Digital maps of North Khorasan Provincial Government, 2016)

The results of this model indicated that the village of Hosseinabad ranked 1st and Ghezel Hesar village with the 10th place have had respectively appropriate and inappropriate situations according to the ten indices of environmental quality compared to other villages. Thus, the studied villages appear to have a significant difference in terms of benefiting from ten indices of the environment's quality. As the village of Hosseinabad had a higher quality furniture in GRA model, it has had an optimal condition in terms of ten indices of the quality of the rural environment, as well. Therefore, one can argue that the high-quality furniture will affect the quality of the environment. Hence, the village of Hosseinabad and similar villages compared to the village of Ghezel Hesar have a better environmental quality due to benefiting from the quality of furniture and observance of design principles (legibility, layout), etc. Thus, improving the quality of the existing furniture in the village has led to the enhancement of beauty, improved environmental health, the creation of the visual beauty and many other factors. Some images of the furniture in the area covered by the study are given below, suggesting the same indication.

Figure 5. Images of the furniture in the studied area
(Source: Research Findings, 2016)

4.4. The Relationship between the Quality of Rural Furniture and the Environmental Quality of the Rural Settlements

The Spearman correlation test was used to investigate the relationship between the quality of rural furniture and the quality of the rural environment given the nonparametric variables with a relative scale.

The findings of Table 13 indicated that a significant relationship is established between all the environmental quality indices and the quality of the furniture since the significance value is at the error level less than 0.05 with a confidence of 99%. Among the indices related to the environmental quality, the variable of creating the space for leisure times with a correlation coefficient of 0.811 justifies the quality of the furniture more intensely (very strongly) than other variables explaining the quality of the environment. In this sense, increasing the spaces and places of spending leisure times in the rural environment will result in the welfare and comfort of the villagers. One can also admit that in the studied villages, the mentioned index in the dimension of quality of the environment has overshadowed the quality of the rural furniture by a positive attitude (welfare of villagers).

Table 13. The relationship between the quality of furniture and the quality of rural environment
(Source: Research Findings, 2016)

*	Index	Beautifying the village	Establishing Spatial Justice	Improving the Environmental health	Creating Visual beauty	Enhancing the sense of place	Creating spatial order	Creating a sense of security	Creating the sense of happiness	Improving the ب access routes	Creating the leisure time space
Strength	Sig	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	R	0.776	0.784	0.761	0.752	0.761	0.799	0.768	0.785	0.764	0.793
Layout	Sig	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	R	0.767	0.766	0.771	0.761	0.771	0.765	0.776	0.753	0.748	0.781
Readability	Sig	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	R	0.742	0.755	0.736	0.756	0.755	0.743	0.741	0.740	0.731	0.749
Access (availability)	Sig	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	R	0.765	0.759	0.754	0.763	0.770	0.770	0.763	0.774	0.785	0.783
Lawfulness	Sig	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	R	0.794	0.765	0.778	0.771	0.781	0.777	0.793	0.774	0.769	0.782
Welfare and Comfort	Sig	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	R	0.787	0.780	0.780	0.777	0.791	0.811	0.805	0.791	0.786	0.811
Furniture quality	Sig	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	R	0.765	0.760	0.751	0.744	0.761	0.770	0.764	0.762	0.757	0.777

Finally, among the indices related to the quality of the environment, the variable of improved accessibility with a correlation factor of 0.731 explains the quality of rural furniture (readability) with a lower intensity (strong) compared to other variables in the examined dimension. Thus, with lower access to activities, the legibility or, in other words, the consistency between the quality of the environment and the quality of rural furniture will be mutually less visible. Therefore, one can acknowledge that the quality of rural furniture is an effective factor in the qualitative changes of rural settlements.

5. Discussion and Conclusion

In this research, we tried to discuss and address the qualitative changes of rural settlements due to rural furniture. A desirable and satisfying settlement needs to enjoy essential, service-providing and facilitating comfort and welfare equipment to provide the living conditions for the general public. Accordingly, we tried to evaluate the current status of rural furniture regarding making changes in the rural settlements. The research results, also, indicated that the satisfaction rate of people with the whole rural furniture is at a moderate level. Hence, factors such as considering the need of villagers (such as having a shelter at the bus stop, especially in winter), the abundance of furniture and handling of destroyed furniture by the rural district administrators, and the visibility of furniture in any space (e.g., garbage bins with colors distinguished from the green space) affect the satisfaction level of the villagers in the use of the furniture.

In case of the ten indices of the dependent variable, one can say that the average respondents' opinion about the impact of rural furniture on the environmental quality was at a high level given the hypothetical average (2.5), while the least impact of rural furniture was on improving the accessibility index according to the respondents. This difference is significant at the level of 0.05% and the difference between the components in terms of examined numerical utility is positive. Regarding the sub-variables of the research, one can suggest that the dimensions of legibility are lower than the hypothetical average. Therefore, the legibility of the furniture has been at a poor level, which can be an effective factor in lowering the quality of the environment. The results of Spearman correlation also showed a significant relationship between rural furniture and rural environment quality. The simple linear regression was used to measure the impact of rural furniture on increasing the quality of the environment to

test the research hypothesis with regard to the significance of the relationship between the independent and dependent variables of the study. The results of simple linear regression also demonstrated that the relationship between the independent variable, i.e., rural furniture, and the quality of the environment is significant given the value of significance of 0.000, which is less than 0.05. Therefore, the rural furniture has a significant effect on increasing the quality of the rural environment. In other words, people will have a good feeling of quality of life in rural environments by increasing the number and variety of furniture in the rural environments. The results of the GRA model also showed that the villages of Fajrabad, Zoeram, and Hosseinabad were placed in the first to second ranks and the Ghezel Hesar Village ranked ninth due to the geographical location closer to the city, the presence of tourist attractions, the treatment of worn out furniture by rural district administrators, etc. This means that the first three villages have higher quality furniture and the last village has lower quality furniture compared to other villages. In addition, the results of the Vikor model suggested that the village of Hosseinabad with the first rank and Ghezel Hesar Village with the 10th place compared to other villages have had, respectively, desirable and undesirable conditions in terms of ten indices of environmental quality. Hence, the studied villages seem to have a significant difference in terms of having the ten indicators of the environment quality. The Spearman correlation results also revealed the influential effect of the quality of rural furniture on the qualitative changes of rural settlements. The results of this study were consistent with the results of the studies by Azimi, Molaeihashjin, Asheghi (2012), Malek Hosseini and Dargahi (2010), Sandooghabadi Etc. (2014) considering the effect of these physical elements on the level of satisfaction of individuals, and thereby, their effects on increasing the quality of the environment. However, these results are contradictory to the study of Azad Khani and Akbari (2013) where the low quality furniture in the study area has been effective in reducing the satisfaction of individuals. Tailored to the research results, some suggestions were presented in this study as follows:

- Locating rural furniture should be done based on the status quo and how the spaces are used by people. This will enhance the participatory sense and improve the cultural and social richness of the village. It also increases the people's satisfaction rate.
- Optimal use of indigenous materials to build the furniture of villages to maintain the authenticity and indoctrinating the sense of solidarity of the residents and employing the villagers in this field by establishing manufacturing workshops to build rural furniture to create jobs and reduce costs.
- Attention to the needs of users, both the old and the young, healthy and disabled, in locating and designing rural furniture.
- Conducting social studies regarding the needs, tastes and behavioral patterns of different rural groups to incorporate such factors in the design and installation of a variety of furniture in the village.
- Preserving, optimizing and organizing the existing furniture and handling the destroyed furniture by the rural district administrators in the villages.
- Providing the grounds for tourist attraction based on the potential and capabilities available (such as providing accommodation for tourists to stay in the village).
- Increasing the number and variety of available furniture and equipment by giving priority to those with more shortage (such as the establishment of restrooms in different villages, drinking fountains, gyms, telephone kiosks, etc.).
- Establishing suitable and standard stairs and steep levels at the entrance of spaces and public places for the use of the disabled.

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بررسی تغییرات کیفی محیط سکونتگاههای روستایی ناشی از احداث مبلمان روستایی (مطالعهٔ موردی: دهستان زوارم شیروان)

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چکیده مبسوط

1.مقدمه

توجه به افزایش سطح کیفیت سکونت‌گاه‌های روستاییان به عنوان دغدغه اصلی برنامه‌ریزان و مدیران می‌باشد. در چنین بستر و زمینه ای رویکرد سنجش کیفیت محیط در مناطق روستایی در پرتو مبلمان روستایی می‌تواند به عنوان رهیافتی مناسب برای شناخت و درک تفاوتها و نامتعادلی‌های کیفیت محیط زندگی روستایی در جهت دستیابی به هدف زندگی مطلوب روستایی باشد تا از این طریق بتوان در راستای در دستیابی به توسعه پایدار، پایدارسازی جمعیت روستایی و ... تلاش کرد. لذا اهمیت پرداختن به این موضوع از این جهت است که محیط روستایی مطلوب با میزان جذابیت خود و اثرگذاری بر ذهن انسان موجبات پویایی و سرزندگی و حضور بیشتر ساکنین در فضای روستایی می‌شود و بدین طریق امنیت خاطر، حس تعلق خاطر، افزایش حس شادکامی و ... تحقق می‌یابد. بنابراین با توجه به ابعاد اصلی پژوهش (مبلمان روستایی) و همچنین شاخص‌های تعریف شده برای بعد (کیفیت محیطی) در فرایند پژوهش، سوال اصلی تحقیق بدین صورت مطرح می‌شود که تغییرات کیفی محیط سکونت‌گاه های روستایی تا چه اندازه ناشی از احداث مبلمان روستایی است؟

2.مبانی نظری تحقیق

ارتقاء کیفیت محیط در سکونت‌گاه‌های روستایی در ابعاد مختلف از اهداف مدیران و برنامه‌ریزان روستایی می‌باشد و در همه شرایط تلاش می‌گردد تا محیط مناسبی برای زندگی روستاییان فراهم شود. کیفیت محیط تحت تاثیر اجزا و عناصر مختلفی است که یکی از آن عناصر کالبدی، مبلمان روستایی می‌باشد که در فضای روستایی قرار دارد. مبلمان روستایی از آن جهت که موجب بالا بردن کیفیت زندگی روستایی و زمینه رشد و شکوفایی خلاقیت در روستاییان می‌شود از اهمیت بسیاری برخوردار است. از این رو در جامعه امروز باید طراحی فضاها و مبلمان روستایی به‌شکلی صورت گیرد که بتواند پاسخگوی نیاز افراد باشد. بنابراین با طراحی مناسب و به کارگیری مبلمان روستایی متناسب با محیط روستا و نیاز روستاییان و با افزایش کیفیت مبلمان از جنبه‌های گوناگون از جمله استحکام، جانمایی، خوانایی و مواردی دیگر؛ بهبود دسترسی، زیبایی بخشی، حس شادکامی، تقویت بهداشت محیط و مواردی نظایر آن که ماحصل آن ارتقاء کیفیت محیط در سکونت‌گاهای روستایست محقق می‌شود. لذا ارتقاء کیفیت محیط روستایی در گرو افزایش امکانات روستایی از جمله افزایش تعداد مبلمان نیست، بلکه تاکید بر استانداردهای رفاهی و تفریحی با در نظر گرفتن شرایط اجتماعات روستایی در زمینه های گوناگون است. بنابراین در مقیاس کلان، توسعه زیرساخت‌های مناسب و مدیریت آنها به منظور پاسخگویی به نیاز اقشار مختلف در راستای ارتقاء کیفیت محیط امری ضروری است.

3.روش تحقیق

پژوهش حاضر از نظر هدف و نوع جزء تحقیقات کاربردی و از نظر ماهیت و روش در گروه تحقیقات توصیفی و تحلیلی است. جمع‌آوری داده‌ها از طریق روش کتابخانه‌ای و مطالعات میدانی با استفاده از پرسش‌نامه می‌باشد. برای عملیاتی‌سازی مطالعه، متغیرهای تحقیق در قالب 14 شاخص کیفیت مبلمان و 10 شاخص کیفیت محیط در قالب طیف لیکرت طراحی گردید.

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روایی شاخص‌ها نیز از طریق پانل تخصصی و بررسی پایایی پرسش‌نامه با استفاده از ضریب آلفـای کرونبـاخ انجـام گرفـت کـه مقـدار آن 0,99 بدست آمد که نشان دهنده قابلیت زیاد ابزار پرسش نامـه اسـت. جامعـه آماری پژوهش شامل تمام روستاهای دهستان زوارم شیروان است که به صـورت تمـام شـماری و انتخـاب نمونـه از جامعـه آمـاری بـه صـورت نمونه‌گیری تصادفی ساده و حجم نمونه با استفاده از فرمول کـوکران در سطح خطای 0/06می‌باشد که 237خانوار به عنوان نمونه انتخاب شدند. در نهایت با ارتقای نمونه‌ها در روستاهای کم جمعیت به سـطح حـداقل لازم، تعداد258 خانوار به عنوان حجـم نمونـه آمـاری بـه دسـت آمـده است.برای تجزیه و تحلیل داده‌ها از دو روش آمار توصـیفی و اسـتنباطی و همچنین تصـمیم گیـری چندشاخصـه (MCDM) اسـتفاده شـده است.

4.یافته‌های تحقیق

یافته‌های تحقیق بر اساس آزمون خی‌دو نشان داد که میزان رضایت افراد از مجموع مبلمان روستایی در حد متوسـط می‌باشـد. در بـین شاخص‌های ده‌گانه کیفیت محیط می‌توان گفـت کـه متوسـط نظـر پاسخ‌دهندگان نسـبت بـه اثرگـذاری مبلمـان روسـتایی در کیفیـت محیط با توجه به میـانگین فرضـی (2,5) در سـطح زیـاد بـوده بـه گونه‌ای که کمترین اثرگذاری مبلمان روستایی مربـوط بـه شـاخص بهبود دسترسی‌ها بوده است. در ارتباط بـا سـایر متغیرهـا می‌تـوان اظهار داشت که در بین ابعاد کیفیت مبلمان، ابعاد خوانایی پـایین‌تر از میانگین فرضی قرار دارد، لذا وضعیت خوانایی مبلمـان در سـطح ضعیف بوده است کـه می‌توانـد عـاملی تاثیرگـذار در پـایین آوردن کیفیـت محـیط باشـد. نتـایج حاصـل از همبسـتگی اسـپیرمن و رگرسیون خطی ساده نیز نشان داد با توجه به اینکه مقدار sig برابر با 0,000 است که کوچکتر از 0,05 و معنـادار اسـت ارتبـاط و اثـر معنی‌دار و خیلـی قـوی بـین مبلمـان روسـتایی و کیفیـت محـیط روستایی وجود دارد. لذا مبلمان روستایی تاثیر معناداری در افزایش کیفیت محـیط روسـتا دارد. نتـایج حاصـل از مـدل تحلیـل رابطـه خاکستری نیز نشـان داد روسـتاهای فجرآبـاد، زوارم و حسـین آبـاد در رتبه‌های اول تا دوم و روستای قزل حصار در رتبه نهم قرارگرفته‌اند. به ایـن معنی که سـه روسـتای اول از کیفیـت مبلمـان بـالاتر و روسـتای آخـر از کیفیت مبلمان پایین‌تری نسبت به سـایر روسـتاها برخوردارنـد. همچنـین نتایج حاصل از مدل ویکور نشان داد که روستای حسین آباد بـا کسـب رتبه 1 و روستای قزل حصار با کسب رتبه 10 در مقایسـه بـا دیگـر روستاها از نظر شاخص‌های ده‌گانه کیفیت محیط بـه ترتیـب دارای وضعیت مطلوب و نامطلوب بوده‌اند. بنابراین مشـخص می‌شـود کـه روستاهای مورد مطالعـه دارای تفـاوت قابـل ملاحظـه‌ای بـه لحـاظ برخورداری از شاخص‌های ده‌گانـه کیفیـت محـیط هسـتند. نتـایج حاصل از همبستگی اسپیرمن هم نشان داد کیفیت مبلمان روستایی عاملی اثرگذار در تغییرات کیفی سکونتگاه‌های روستایی است.

5. بحث و نتیجه گیری

بر اسـاس آزمـون رگرسـیون خطـی سـاده و همبسـتگی اسـپیرمن مشخص شد مبلمـان روسـتایی تـاثیر معنـاداری در ارتقـاء کیفیـت محیط روستا دارد. به گونه‌ای که کیفیت مبلمان روستایی نیز عاملی اثرگذار در تغییرات کیفی سکونتگاه های روسـتایی اسـت.لذا انجـام مطالعات اجتماعی در خصوص نیازهـا، سـلایق و الگوهـای رفتـاری اقشار مختلف روستایی جهت منظور کردن در استقرار انواع مبلمـان در روستا، حفظ، بهسازی و ساماندهی مبلمان موجود و رسیدگی به مبلمان‌های تخریب شده از سوی دهیاران در روستاها، فراهم نمودن زمینه جذب گردشگر بـا توجـه بـه پتانسـیل و قابلیت‌هـای موجـود (مانند فراهم نمودن مکان اقامتی برای ماندن گردشگران در روستا)و توجه به عواملی که در اشتیاق و مراجعه بیشتر روستاییان به مبلمان در فضـاهای مختلـف دخیـل هسـتند و در ارتقـای کیفیـت محـیط اثرگذار می‌باشد پیشنهاد می‌شود.

کلمات کلیدی: مبلمان روستایی، کیفیت محیط، توسعه روسـتایی، مدل ویکور، تحلیل رابطه خاکستری.

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The Efficacy of Farm-Nonfarm Diversification on Rural Households' Quality of Life (Case Study: Golmakan Dehestan of Chenaran County)

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Abstract
Purpose- Considering that a diversified economy can lay the proper groundwork for improving quality of life, the present study investigates and analyzes the efficacy of diversification on rural households' quality of life.
Design/methodology/approach - The study is descriptive-analytical and its population consists of rural settlements in Golmakan Dehestan, Chenaran County. "Economic activities diversification" is the independent variable of the study which is quantified in two agricultural and non-agricultural aspects, using 14 indicators. "Rural households' quality of life" is the dependent variable which is quantified in three social, economic and physical-environmental aspects, using 48 indicators. Questionnaires were handed to 258 rural families in 15 villages and the average score of each indicator was considered as the score of each of the villages studied. The validity of the questionnaire was established through confirmatory factor analysis (65.72%) and its reliability was established by Cronbach's alpha (0.83).
Findings- The results of the step-wise regression show that diversity of non-agricultural activities has a meaningful influence on the variation of the dependent variable (rural households' quality of life), such that a change of one standard deviation in non-agricultural activities leads to a change of 0.6 of standard deviation in rural households' quality of life. Therefore, non-agricultural activities are influential in improving the economic conditions of families, and consequently raising quality of life among rural families.
Research limitations/implications- Among the limitations of the study, the dispersed area that the villages are located in, the long distance between some villages, and the unwillingness of rural households for filling out the questionnaire can be mentioned. According to the role of non-farm activities on improving quality of life, suggestion of the study is to improve non-farming economy in rural areas. This, naturally, requires more attention to national macro-policies along with localization and necessitates implementation of successful global models regarding diversification of non-farming economy in rural areas.
Originality/Value- A review of the studies regarding economic activities diversification in Iran and the world shows that, at the time of this writing, none has dealt with the influence of economic activities diversification on rural families' quality of life.
Keywords- Diversification of agricultural activities, Diversification of non-agricultural activities, Quality of life, Golmakan Dehestan, Rural settlements.
Paper type- Scientific & Research.

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1. Introduction

Although agriculture is important to food safety of many families, nowadays, it, alone, cannot ensure sustainable development of rural areas which is why economic diversification gains importance (Berjan, 2014). Studies show that limited sources of income in the agriculture sector and its sub-sectors are salient features of the economic structure of rural settlements in Iran that has created less flexibility regarding short-term weather changes, price fluctuations of final product at the time of harvest, limitations in marketing and delivering products, unemployment and hidden unemployment, reduced return on investment, destruction of core environmental resources, vulnerability of rural economy and instability of sources of income, weakening of rural economy and culture, weakening of rural households' indigenous knowledge, rural immigration, etc. (Javan, Alavizadeh, & Kermani, 2011). Such a structure enhances the risks to which rural families are exposed in the face of external factors; therefore, lack of job diversity and limited sources of income (agriculture and its sub-sectors), in the short-term, trigger the exodus of labor from villages and turn them into poor quality residential spaces, intensify the problems of such regions and, eventually, obstruct rural development. To solve these problems, the reliance of rural economies and, consequently, that of rural families on agriculture should be reduced and new job opportunities and sources of income should be introduced.

In the sustainable development model, one emphasized item is the diversification of financial activities. Accordingly, in conformity with the model of sustainable development, the "approach of diversification of economic activities" is proposed by the majority of development theoreticians. In line with this model, the World Bank, also, emphasizes the importance of non-farming, multi-dimensional economic activities. In this theory, for sustaining rural economy, "diversification of economic activities" is considered as one of the necessities which, if practiced, will facilitate the stability and sustainability of the economic structures. Therefore, in line with economic sustainability of rural areas, diversification of economic activities is a major priority and adopting this strategy can lay the ground for a sustainable livelihood and settlement in rural areas. What is meant by diversification of sources of livelihood is the effort made by individuals or families to seek new methods of earning a living and withstanding relevant shocks (Khatoon & Ruy, 2010). Considering that a diversified economy can lay the proper ground for improving quality of life, the present study investigates the efficacy of diversification of economic activities on rural households' quality of life. Studies show that two types of diversification can be achieved in rural areas:

Diversification of agricultural (farming) activities: It is related to diversified methods of cultivating agricultural products, animal husbandry, aquaculture, apiculture, greenhouse cultivation, etc., and is also referred to as diversification of the farming system.

Diversification of non-agricultural (non-farming) activities: It results from diversification of non-agricultural (service-based and industrial) activities and is also referred to as non-agricultural diversification.

Obviously, diversification of rural economy is a necessity of rural development since the income earned through agricultural activities is subject to external tensions such as drought, market fluctuation, etc. Golmakan, a Dehestan in Chenaran County, is the area under study in this research. In this Dehestan, the development of the agriculture sector has also supported non-agricultural sectors (house rentals, watering the lands of second-home owners, buying and selling fruits, etc.). Considering the relative farming-non farming diversity in the villages of this rural Dehestan, the present study investigates the efficacy of diversification on rural families' quality of life. Quality of life is a criterion through which satisfaction or dissatisfaction of individuals and groups with various aspects of life can be assessed (Qhalibaf, Roustai, Ramazanzade Lasboui, & Taheri, 2011). Concern about quality of life is a feature of the contemporary society. In most industrial and advanced societies, broaching a subject named quality of life is indicative of a new perspective about development-related issues. It is worth mentioning that quality of life, as a major principle, is consistently considered by development planners and managers (Pourtaheri, Eftekhari & Fattahi, 2011).

The findings of studies about quality of life can be helpful in evaluating policies and formulating suitable rural planning and management strategies and can facilitate realization and prioritization of community issues for rural managers and planners with the objective of improving rural households' quality of life. To this end, Santos and Martinez (2005) mentioned that studies on quality of life can be major points of reference for determining long-term policies and objectives (Cited in Azadi, Taghdisi, Jamshidi, & Jaimini, 2013). Considering the mentioned points, the main questions of the study is as follows: To what extent has diversification of economic activities (farming and non-farming) been influential in rural households' quality of life in Golmakan Rural Dehestan?

2. Research Theoretical Literature

2. 1. The Concept of Diversification and Its Aspects

Diversification is one of the major approaches to sustainable rural development (Luo & Zhu, 2006) which, within the framework of sustainable development, lays the groundwork for reducing the negative effects of unsustainability from social, economic and environmental aspects (Berjan, 2014). This approach, by emphasizing the creation of new jobs and job opportunities which in fact hinge on diversification of the economic base, provides a range of lasting strategies and ways of earning a livelihood which leads to lower vulnerability and higher quality of life among rural families, specially the poor (Yasuri & Javan, 2015). Presence of risk and seasonality of jobs are two primary reasons for "diversification". In fact, rural households engage in diverse income generating activities to reduce risk and to ensure a fixed source of income in each season. Accordingly, individuals, through establishing several sources of income, prepare themselves for potential crises in one of the sources of income, and as the saying goes "do not put all their eggs in one basket" (Ellis, 2005).

In rural areas, jobs, based on their nature and type of work, are divided into two agricultural and non-agricultural categories. Agricultural jobs include all activities that are related to farming, gardening, animal husbandry, hunting, fisheries and aquaculture, forestry and pasture lands**.** Statistical Center of Iran (1998) defines non-farming (non-agricultural) jobs as activities that are not directly derived from farming, gardening or animal husbandry. These sectors entail a heterogeneous collection of diverse groups which range from complex industrial units to traditional activities of a rural artisan (Pasban, 2007). In other words, rural non-farm economy refers to all the economic activities of a village which are outside the realm of farming. It is worth mentioning that non-agricultural jobs are related to farming, since they include processing and trading its products. In addition, these activities induce such instances as trade, commerce and industry as well (Israr et al., 2014).

Diversification of the activities of rural economy is only possible through emphasizing rural non-farm economy (RNFE) and agricultural activities in villages (Davis, 2006). Therefore, implementing such activities along with agriculture can lead to higher security in the social network of villages, livelihood of families and at the same time government and private investment (Ashley & Maxwell, 2001).

Generally, income diversification in rural areas is initially created at the farm level for the purpose of families' livelihood and later, with increased productivity and surplus development, grows in both agricultural and non-agricultural sectors (Tschirley & Benfica, as cited in Parhizkari, Mirzaee, Rahmani & Alini, 2015). Considering the importance of diversification of economic activities in the life of rural families, this phenomenon, as a very dynamic and changing subject, deserves more attention by policy makers. This issue is of critical importance in rural populations who are in search of a better life and face the limitations of traditional agricultural methods and are in desperate need of liquidity (Israr et al., 2014).

Within the framework of rural development, the World Bank, in a strategy titled "from vision to action", has emphasized the creation of non-farming jobs in rural environments. In this approach, the growth of the agriculture sector is a fundamental necessity for eradicating poverty in developing countries. However, without any growth in non-farming, income-generating production activities, efforts to eradicate rural poverty will not be met with success. In this approach, broadening the effective support of rural non-farm economy is considered to be an important part of the World Bank's rural development approach (Agricultural Panning, Economic, and Rural Development Research Institute, 2005).

Diversifying the economy of rural settlements in developing countries leads to an increase in non-agricultural job opportunities in rural areas and has a profound effect on the welfare of rural families (Mohammadi Yeganeh & Velai, 2014). Analysis shows that the majority of the World Bank's projects and activities were undertaken with the aim of diversifying non-farming activities, since if agricultural activities, owing to limited expansion and vulnerability of the natural environment, are exhausted to the extent that are not compatible with the principles of sustainable development, they will have limited power for diversification (Anabestani, Tayebnia, Shayan, & Rezvani, 2014).

The role of non-farming economy is so important that more than one third of the economy of rural regions in developing countries is provided by this sector (Lanjouw, 2007). In fact, in economies that are dependent on agriculture (developing countries) the ratio of earned income from non-agricultural activities ranges from 20 to 30 percent, while in urbanized economies this figure is from 60 to 70 percent (Valdez, et al., 2008). Although agriculture is important to food safety of many families, nowadays, it cannot ensure sustainable development of rural areas on its own; this is why economic diversification becomes important (Berjan, 2014).

By enforcing appropriate measures, governments can play an effective role in diversifying the economy. Measures adopted by various countries for diversifying rural economic activities differ. Green Belt Movement and tree planting in African countries, creation of Grameen Bank in Bangladesh and providing loans for the poor, and providing jobs and income for the majority of women in India are among the chosen methods for diversification of rural economic activities. Increasing the share of rural tourism services and presence of women in the job market are the strategies suggested by the European Union for diversifying rural economy (Anabestani et al.,i, 2014). Therefore, human, social, historic, and natural capitals, in tandem with governments' support through implementation of appropriate measures, can create diverse jobs and economies in various geographical regions (Shtaltovna, 2007) (Figure 1).

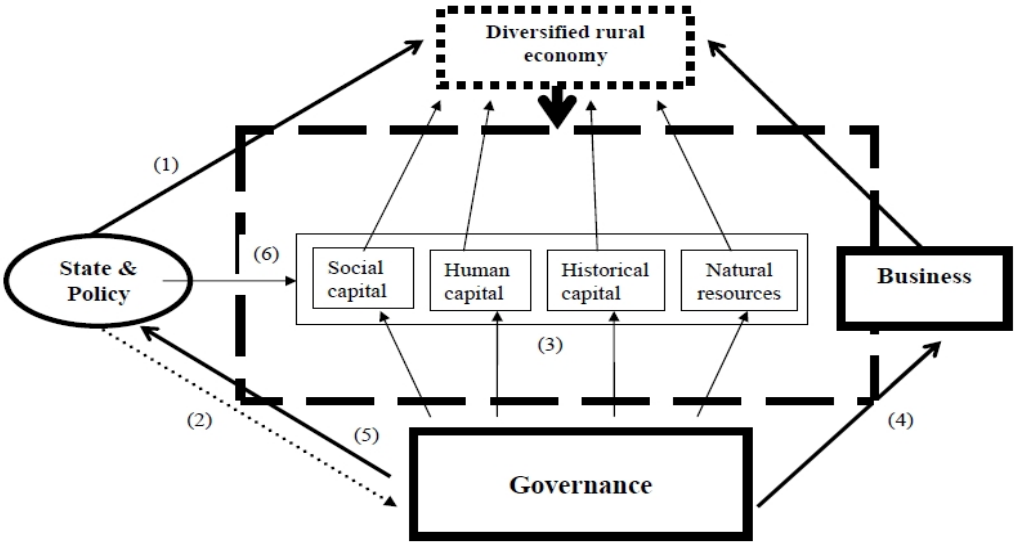

Figure 1. Conceptual framework regarding linkages between governance and rural economy
Source: Shtaltovna (2007, as cited in Berjan, 2014, p. 31)

It seems that job diversity, through minimizing the risk borne by families in various crises such as market fluctuations, drought, etc., and increasing sources of income, reduces rural households' vulnerability and improves their quality of life.

2. 2. The Concept of Quality of Life and its Aspects

Today, quality of life indicates a society's level of development. This concept entails the major factors that determine individual prosperity and the

living conditions of society (Harirchi, Mirzaie, Jahromi, & Makani, 2009).

Quality of life is a broad concept with various meanings for different individuals and groups; however, no acceptable global definition for this concepts has been offered yet because many researchers believe that quality of life is a multifaceted, relative concept which is influenced by time, place, and personal and social values (Khademhosseini, Mansourian, & Sattari, 2010).

Therefore, considering that a major, fundamental characteristic of quality of life pertains to its multidimensionality, neither a universally accepted conceptual framework for measuring quality of life, nor a single methodology for determining its domains and attributes exists; hence, its domains and each of their attributes together with the method of measuring it are selected based on the objectives of the study, researcher's subjective opinion, features of the area under study and the available data (Azadi, Taghdisi, Jamshidi, & Jamini, 2013).

Van Kamp, Leidelmeijer, Marsman, and De Hollander (2003) believe a comprehensive framework for studying quality of life in an integrated, holistic way based on physical, spatial, and social indicators is yet to be proposed (Van Kamp et al., 2003). Schifer et al. (2002) proposed a model for explaining the notion of quality of life. In this model, three social, environmental and economic domains are emphasized and have the advantage of explicating the distinction among various domains and creating an image of such notions as livability, quality of life, and sustainability in relation with one another (Van Kamp & Leidelmeijer, 2003).

Figure 2. Model of Factors Contributing to Quality of Life from the Perspective of Human Ecology.
(Source: Van Kamp et al. 2003: p. 11.)

According to the model developed by Van Kamp et al. (Figure 2) in this research, In the research, the following aspects are studied:

A) The social aspect of quality of life: The social aspect is one of the key factors shaping quality of life and exerts a considerable influence on people's, basically social, emotions. This aspect is measured on an intermediate level, with its indicators being a combination of subjective and objective indicators of quality of life.

B) The economic aspect of quality of life: This aspect is mainly concerned with financial ability, level of assets, purchasing and consumption power, enjoyment of facilities on an individual and collective level, along with Net Domestic Product and Gross Domestic Product, Gini coefficient, availability of jobs and job opportunities, etc. on a macro, national level.

C) The environmental or quality of living environment: Quality of life is totally dependent upon the conditions of the environment where people live, such as pollution, quality of housing, etc.

In the present study, what is meant by the quality of life is the external factors that influence various "economic, social and environmental" aspects of quality of life that are related to observable

phenomena and, inevitably, are obtained through secondary sources such as the ability to travel with family on a yearly basis, visiting relatives and family, quality of housing, etc. Considering that evaluation of quality of life cannot be accomplished solely by analyzing external factors, in some cases people's perception of their living conditions, such as desire to live in village, willingness to migrate to city, job satisfaction, willingness to marry in the village, satisfaction with life, willingness to parent children, etc. are also assessed.

2. 3. The Relationship between Economic activities diversification and Quality of Life

Improving rural households' quality of life without any regard for the development of rural economy is not feasible. Low level of income, limited job opportunities, unemployment and hidden unemployment, reliance on the production of few specific agricultural products, marketing and delivering limitation, etc. are among the obstacles, a large portion of which are created in the presence of an undiversified structure. As a basic strategy, diversification of economic activities leads to creation of jobs, stabilization of the population, effective exploitation of renewable natural resources, increase in sales and savings, higher levels of self-awareness, personality, national and individual identity (Alawizade, 2016) and eventually, improved quality of life. In addition, diversification of economic activities, through improving non-agricultural job opportunities, reduces the risks associated with agricultural activities and provides more options and, ultimately, distributes the returns of the social system in an equitable manner among its indispensable members (Karimzadeh, welai, Manafi Azar, 2016), and leads to an improved welfare and quality of life. Therefore, it is said that access to quality of life entails costs and requires some tools which can be summed up in diversification of rural families' economic activities (Noghani, Asgarpour Masouleh, Safa, & Kermani, 2008).

2.4. Literature Review

From the 1990s onward, and with the introduction of livelihood frameworks, the subject of diversifying methods of earning a living in rural dehestans of developing countries entered the literature and gained significance. In late 1990s, numerous studies were conducted to confirm diversification strategies (Israr, Khan, Jan, & Ahmad, 2014) and to this date, on an international scale, many studies regarding economic activities diversification were undertaken. In most of these studies, diversification of economic activities and expansion of non-agricultural activities are suggested as effective solutions for eradicating poverty among rural families in developing countries. The findings of the majority of these studies indicate that expansion of non-agricultural activities would significantly help increase the level and stability of families' income and consequently reduce poverty and vulnerability in rural areas. Table 1 summarizes some of Iranian and international studies regarding economic activities diversification in rural areas which are related to the present research.

Table 1. A Review of Foreign and Domestic Literature Regarding Economic activities diversification in Rural areas

(Source: Excerpt from Available Resources, 2016)

Author/Year	Conclusion
Imai, Gaiha & Thapa (2015)	The present study examines whether rural non-farm employment has any poverty and/or vulnerability-reducing effect in Vietnam and India. Access to the rural non-farm employment significantly reduces vulnerability too in both countries, implying that diversification of household activities into non-farm sector would reduce such risks. However, because even unskilled or manual non-farm employment significantly reduces poverty and vulnerability in India and poverty in some years in Vietnam, this has considerable policy significance as the rural poor do not have easy access to skilled non-farm employment.
Hoang, Pham& Ulubaşoğlu (2014)	Diversifying into non-farm activities has been suggested as an effective way out of poverty for rural households in developing countries. Using the Vietnamese Household Living Standards Surveys of 2002, 2004, 2006, and 2008, and investigate the effect of non-farm sector involvement on poverty and expenditure growth. Our estimates show that an additional household member involved with non-farm activity reduces the probability of poverty by 7–12% and increases the household expenditure by 14% over a two-year period. Our findings also indicate that non-farm involvement reduces the hours worked on farm but not the household agricultural income.

Table 1.

Author/Year	Conclusion
Asmah, (2011).	Diversified households and less diversified households differed significantly in terms of variables related to household assets, markets and institutions. Both household welfare and rural non-farm diversification decisions are mostly driven by household assets including good health, education, and household age composition. Households who live in communities with access to fertilizers, public transports and local produce markets are more likely to engage in non-farm diversification and enjoy improved welfare. The importance of access to TV and radio as effective mass media tools in influencing household behavior is underscored in the analysis. Targeting interventions that enhance livelihood diversification would ultimately have a positive impact on household welfare.
Schneider & Niederle (2010)	Adopting an actor-oriented approach combined with a livelihoods perspective, this paper discusses the emergence of a new set of strategies among small-scale family farmers in southern Brazil. This region is one of the rural areas of Brazil most affected by the changes in the technological basis of production that have occurred since the 1970s. Such strategies involve innovations in the labour and production processes, and a common denominator among such strategies is the search for 'autonomy' in a context of increasing social vulnerability. In this context, farmers have built livelihood diversification strategies (internalisation of resources, pluriactivity, de-commodification, alternative markets), which indicate the emergence of new forms of resistance based on a wide and heterogeneous set of farming practices.
Babatunde & Qaim (2009)	. Here, we analyze the situation in rural Nigeria based on recent survey data. The majority of households is fairly diversified; 50% of total income is from off-farm sources. Strikingly, richer households tend to be more diversified Econometric analysis confirms that the marginal income effect is positive. Yet, due to market imperfections, resource poor households are constrained in diversifying their income.
Ghasemi and Javan (2014)	The findings show that only 8.8 percent of the studied rural settlements were sustainable in terms of the intended aspect, with 44.1 percent being categorized as semi-sustainable and 47.1 percent being categorized as unsustainable. The findings of one-way analysis of variance show that the average score for diversity of livelihood in sustainable, semi-sustainable and unsustainable villages are 38.6, 30.7 and 27.5 respectively. For a more detailed study of the relationship between sustainability and diversity Pearson Correlation was used. The relationship between sustainability and diversity was determined to be 0.77, which is a strong one. In fact, diversification of economic activities in rural areas can lead to the sustainability of rural settlements.
Kohnepooshi (2013)	Diversification of economic activities has a positive influence on life satisfaction of rural households, in the area under study. Moreover, environmental capabilities and border positioning, more than any other factor, play a role in diversification of the regions' rural economy. Institutional-managerial obstacles are major obstacles preventing diversification of economic activities in the villages of this region. Offensive strategies are presented as the best strategies for diversification of economic activities in border villages of this county.
Alawizadeh (2010)	The findings show that lack of diversification of economic activities in families of the studied are, owing to their reliance on a specific product (i.e. apple), has created unfavorable conditions for them; while families with diversified sources of income in agricultural and non-agricultural sectors had a relatively more satisfactory situation in terms of indicators such as education, income stability, quality of life, and vulnerability.
Heidarimokarrar (2010)	Mentions the role of small wells in such sectors as aquaculture, greenhouse farming, animal husbandry, etc. According to the findings of the study, in some areas of Zehak County where in summer small wells are filled with water, diversity of agricultural products and relatively high levels of income is observed and the residents of these regions are more optimistic about their job prospects. On the other hand, villages with less access to the water of small wells have confined their activities to cultivating wheat and barley. Farmers who use small wells, compared to others, have higher levels of economic and social participation and these small wells have provided secure water supplies for economic activities.

Studies show that diversification of economic, and specifically non-agricultural activities, is a favorable strategy for creating stable income and an immediate solution for reducing poverty and vulnerability in rural areas. Research shows that these strategies have reduced poverty in countries such as Vietnam, India, and Romania considerably. Based on the findings of national and international studies, considering that many young people in villages under the study were unemployed or their part-time jobs as labors, it seems that the expansion of agricultural-based non-agricultural activities such as apiculture and aquaculture (fish breeding) in appropriate areas can be an effective solution for creating jobs for the surplus agriculture workforce, for increasing satisfaction with life, and for improving quality of life. From 90s onward, the subject of quality of life gained considerable

significance in the theoretical and development literature and has been the basis of modern distinctions and categorizations of countries in recent years (Anbari, 2010). A review of literature revealed that at the time of this writing, no study, either in Iranian or foreign sources, regarding the influence of economic activities diversification on quality of life was found.

3. Research Methodology

3.1 Geographical Scope of the Research

The research population includes all the villages with more than 20 families in Golmakan Dehestan, Chenaran County. According to the results of the General Census of Population and Housing of 2011, Golmakan Dehestan has 31 populated villages, of which only 15 have a population more than 20 families or 100 people. Considering the low number of villages with more than 100 people, village was not the unit of sampling and all 15 the villages with more than 20 families were analyzed. For determining the number of families in the sample, Cochran's sample size formula was used. It is worth mentioning that the number of sample families in each village was determined through proportional sampling (table 2).

Table 2. Sample Villages and Sample Size in Each of Them
(Source: Statistics Center of Iran, 2011 and Author's Calculations.)

Row	Village Name	Village Type*	Distance to Mashhad to km	Distance to Chenaran	The Household	The Population	Sample	Sample modification
1	Kalateh payeh	Su	70	45	221	752	26	26
2	Abghad	Su	52	17	155	445	18	19
3	Frizi	Mo	70	27	272	741	32	32
4	Dowlatabad	Mo	50	33	206	625	24	24
5	Ahmadabad	Pl	45	25	161	573	19	19
6	Kahoo	Su	35	35	187	569	22	22
7	Beh Abad	Pl	30	15	200	716	23	23
8	Gavtarna	Su	37	17	127	459	15	15
9	Hashem Abad	Su	40	30	58	216	7	10
10	Jamab	Su	50	7	78	249	9	10
11	Khij	Pl	50	15	151	535	18	18
12	Kheirabad	Pl	45	20	49	166	6	10
13	Islam Abad	Pl	40	5	59	226	7	10
14	Chenar	Mo	55	30	70	205	8	10
15	Nozad	Mo	47	20	35	112	4	10
Total		47.7		22.7	2029	6589	236	258

Su: Sub montane, Mo: Mountainous, Pl: Plain

3.2. Methodology

Considering the nature of this research, a descriptive-analytical methodology was adopted. The population is based on rural settlements of Golmakan Rural Dehestan and the unit of analysis is village. Data were analyzed using stepwise regression. In this study, “quality of life” is the dependent variable which is quantified in three, social with 20 indicator aspects **(**in the components of welfare, hygiene and health, social security, education, leisure time, social interaction, and social solidarity), economic with 16 indicator aspects **(**in the components of purchasing power, economic prosperity, assets and wealth, income and employment) and environmental-physical with 12 indicator aspects **(**in the components of environmental quality, availability of services and housing). Overall, in this study, quality of life was studied using 13 components and 48 indicators, as described in table 3. It should be mentioned that both variables were weighted through point allocation.

Table 3. Major Dimensions and Indicators Used to Measure the Dependent Variable of the research
(Source: Research findings, 2016)

Dimension	Component	Indicator	Direction	Weight
Economic	Purchasing power	The Ability to Fund Children's Education	Direct	0.05
		The Ability to Provide Family Clothing	Direct	0.06
		Supplying Family Food (Rice, Oil, Sugar, etc)	Direct	
	Economic Welfare	Ability to Provide Non-Essential Goods (Jewelry, Furniture, Luxury Goods, etc.)	Direct	0.08
		The Ability to Replace Worn-Out Appliances	Direct	0.06
		Sufficiency of Savings to Face Sudden Happening (Marriage of Children, Illness, etc.)	Direct	0.08
		The Average of Family Expenses	Indirect	0.07
		Financial Ability to Travel Annually with Family	Direct	0.04
Economic	Assets and Wealth	The Ability to Buy House in Mashhad and etc.	Direct	0.09
		The Ability to Buy Car	Direct	0.07
		Financial Support Progeny to Continue College Education	Direct	0.05
	Income and Employment	The Existence of Job Opportunities for Young People in Rural Area	Direct	0.1
		Satisfaction Level of Wages	Direct	0.07
		Job Satisfaction	Direct	0.07
		The Proportion of Income to the Amount of Labor.	Direct	0.07
		Satisfaction of Income	Direct	0.08
social	Well-Being	Feeling of Progress in Life	Direct	0.07
		Feeling Happiness and Cheerful	Direct	0.06
		Feeling of Living in Conditions of Anxiety and Worry and Tension	Indirect	0.05
	Sanitation and Health	Weekly Consumption of Protein (Red meat, White meat, etc.)	Direct	0.06
		Weekly Consumption of Vegetables and Fruits in the Diet	Direct	0.04
		Access to Health Services	Direct	0.03
		The Feeling of Physical Health	Direct	0.09
	Public Safety	Effective Presence of Police Force	Direct	0.04
		The Rate of Crime in the Village (Harassment, Theft, etc.)	Indirect	0.03
		Overall Satisfaction of the Security Quality in the Village	Direct	0.05
		Concerned about Wife and Children's Walking at Night	Indirect	0.05
	Education and the desire to continue education	Access to Educational Facilities (Primary School, etc.)	Direct	0.05
		Satisfaction with the Quality of Educational Facilities (Teacher, School, etc.)	Direct	0.03
		Interested in Continuing Education among Family Youth	Direct	0.04
	Social Interaction	Willingness to Participate in the Election	Direct	0.02
		The Desire to Participate in National Occasions (22 Bahman, Quds Day and etc)	Direct	0.02
		The Visit Relatives	Direct	0.04
	Social Solidarity	Family Relationship and Traveling with Neighbors	Direct	0.03
		Resolving Disagreements Consultative in Place	Direct	0.03
		Participation in Various Religious Affairs (Congregational Prayer, Religious Missions, etc.)	Direct	0.02
Dimension Physical-Environmental	Environmental Quality	Satisfaction with the Health of the Living Environment	Direct	0.11
		Collection and Disposal of Waste	Direct	0.11
		The Quality of Drinking Water	Direct	0.08
		Noise Pollution	Indirect	0.03
		The Desire to Migrate	Indirect	0.09

Table 3.

Dimension	Component	Indicator	Direction	Weight
	Access to Services	Access to Commercial Facilities (Retail and etc.)	Direct	0.06
		Access to Public Transport (Bus and Etc.)	Direct	0.07
		Internet Access at Home	Direct	0.04
		Access to Cultural, Artistic and Sports Facilities	Direct	0.02
	Housing	The Quality of Materials Used in Housing	Direct	0.15
		Equipments and Facilities for Housing (Cooler, Refrigerator, Washing Machine, Etc.)	Direct	0.14
		Compliance with Laws and Standards of Housing Construction in Terms of Rigidity	Direct	0.16

through farming, gardening and animal husbandry, and diversification of non-agricultural activities is mainly based on families' employment in industrial and services sectors.

Livelihood diversification is the independent variable which is analyzed in two "agricultural" and "non-agricultural" sectors, as shown in table 4. Agricultural activities are mainly diversified

Table 4. Indicators for Independent Research Variables.
(Source: Research findings, 2016)

Concept	Variable	Indicator	Weight
Livelihoods diversity	Diversification in Economic Activities of the Agricultural Sector	Diversity in Agricultural Income Sources in the Cultivation Sector (Sales of Crops)	0.13
		Diversity in Agricultural Income Sources in the Garden Sector (Sales of Garden Products)	0.15
		Diversity in Agricultural Income Sources in the Livestock Sector (Cattle-Sheep-Goat)	0.14
		Diversity in Income from Processed Agricultural Products	0.03
		Diversity in Income from Livestock Processed Products (Whey, Yogurt, Cheese, Oil, etc.)	0.04
		Diversity in Cultivating Crops	0.08
		Diversity in the Cultivation of Garden Products	0.09
		Diversity in the Light and Heavy Livestock	0.09
		Diversity in Poultry	0.02
		Diversity in Agricultural Production Units (Number of Hives, Mushroom Breeding, Greenhouses, Cattle Keeping Place, Fishery, Silkworm, etc.)	0.18
		Diversity in the Sale of Active Agricultural Products (Hive Number, Mushroom Breeding, Greenhouse, Dairy, Fishery, Silkworm, etc.)	0.05
	Diversification in Non-Agricultural Sector Economic Activities	Diversity in Income Sources of The Service Sector (Retail, Supply and Sale of Inputs And Agricultural Products, the Purchase and Sale of Building Materials, Activities in the Provision of Non-Residential Services (Driver, Caretaker and Related Services), Guarding Facilities and Second Homes, Land Purchase and Sale and Housing, Subsidies, Pensions, Personal Property Rent, Driver, Farm Worker, Work in Animal Husbandry, Irrigation of Land Owners Second Homes, and etc.)	0.5
		Diversity in the Revenue Sources of the Industrial Sector (Building, Stonework, Tiling, Electricity and Building Plumbing, Carpet Weaving, Welding, Carpentry, Boxing, Woodcarving, Bread Baking, Stoneware, etc.)	0.5

In this study, the validity of quality of life questionnaire was established through confirmatory factor analysis. Confirmatory factor analysis is one of the techniques used for determining the underlying concepts of indicators (Ghiyasvand, 2013). Kaiser-Meyer-Olkin (KMO >= 0.7) and Bartlett (Sig <= 0.5) test statistics are indicative of the adequacy of the data for factor analysis with respect to economic, social, and physical-environmental aspects and also that of the

quality of life questionnaire. For factor extraction, maximum likelihood method and for determining the number of factors Eigenvalue was used. Overall, using orthogonal rotation, 25 social indicators accounted for 61.01 percent of variance, 14 economic indicators accounted for 65.23 percent of variance and 9 physical-environmental indicators accounted for 64.4 percent of variance. All in all, 48 indicators of quality of life accounted for 65.72 percent of variance in this variable. Therefore, we can conclude that economic, social and physical-environmental aspects of quality of life, and in general the concept of quality of life, have construct validity. The reliability of the questionnaire was established using Cronbach's alpha, as depicted in table 5. The value of alpha for the economic factor is 0.727, for the social factor is 0.728 and for the physical-environmental factor is 0.569. Overall, the value of Cronbach's alpha for all 48 indicators equals 0.83, which is indicative of the internal consistency of variables for assessing the intended components and it establishes the questionnaire's reliability.

Table 5. Cronbach's Alpha and Confirmatory Factor Analysis on Reliability and Validity of Quality of Life and Its Dimensions

(Source: Research findings, 2016)

Variable	Number of Indices	Initial Eigenvalues* Cumulative %	Cronbach's Aalpha
Quality of Life in Economic Dimension	14	65.23	0.727
Quality of Life in the Social Dimension	25	61.012	0.728
Quality of Life in the Physical-Environmental Dimension	9	64.4	0.569
Quality of Life	48	65.72	0.83

*- Extraction Method: Maximum Likelihood

4. Research Findings

4. 1. Descriptive Findings

Of the total 258 respondents, 95.7 percent were male (247 people) and 4.3 percent (11 people) were female. In terms of marital status, 98.8 percent of respondents, that is 255 people, were married and 1.2 percent, that is 3 people, were single. Respondents had an average age of 48 years. Respondents' educational distribution is also depicted. Based on cumulative frequency, 72.5 percent of respondents had an elementary-school education or lower and only 2.6 percent, that is 4 people, had an academic education. In terms of employment, 49.6 percent of respondents were employed in the agriculture sector (including farming, gardening, animal husbandry, and apiculture and its sub-sectors), 4.3 percent were employed in the industrial sector, 36.8 percent were employed in the services sector (manual labor, self-employed such as running a shop, selling building materials, collecting milk, etc.), and 8.5 percent were unemployed (including retirees, and those supported by Imam Khomeini Relief Foundation, etc.). And 0.8 percent did not mention their jobs (Table 6).

Table 6. Individual Characteristics of Respondents in the Studied Villages.
(Source: Research findings, 2016)

Percent	Number	Categories	Variable	Percent	Number	Categories	Variable
49.6	128	Agriculture	Job	4.3	11	Female	Gender
4.3	11	Industry		95.7	247	Male	
36.8	95	Services		1.2	3	Single	Marital status
8.5	22	Inactive		98.8	255	Married	
19.8	51	Illiterate	Education	10.1	26	20-30	Age
13.2	34	Read writing		24.8	64	30-40	
39.5	102	Elementary level		19.8	51	40-50	
18.6	48	Secondary school		16.3	42	50-60	
7.4	19	High school level		15.2	39	60-70	
1.2	3	College degree Degree/		11.2	29	70-80	
0.4	1	Post Under Graduated Degree		2.4	6	≤80	

Scores for quality of life and livelihood diversity in the studied rural families are shown in table 7. According to the table, the highest quality of life score belongs to Hashem Abad Village (10.16), followed by the villages of Islam Abad (9.89) and Kahu (9.31), respectively. The lowest quality of life score belongs to the villages of Nozad (7.18) and Jam Ab (7.56), respectively. Field studies revealed that in these villages farming is done on a very limited scale and is mostly in the form of dry farming. According to the findings, diversification of activities in the studied villages is not identical and Nozad has the highest average score for diversity (agricultural and non-agricultural) with 3.05, followed by Kahu with an average of 3.01, and Jam Ab has the lowest average score for diversity with a score of 1.12. The low average score for diversification in Jam Ab Village is due to the fact that no gardening activity in this village exists and the only crop is barley. Among the studied villages, Nozad with an average score of 3.05 and Kahu with an average score of 3.02 in terms of both agricultural and non-agricultural diversity are classified as diversified villages. In Kahu, along with gardening, most families engage in such activities as animal husbandry (producing and selling the resultant products), processing products like dried berries, traditional sheep fattening, watering the lands of second-home owners, driving (taxi driving, cargo transportation), manual laboring (working in construction sites and farms), leasing houses and lands in the city of Mashhad or in the village, and also shop keeping. There are three poultry houses in Nozad where some families, in addition to their gardening activities, are employed; moreover, some engage in buying and selling processed products (like various types of dried berries), some work as cargo drivers or tractor drivers on farms, or engage in sheep fattening.

Table 7. Raw Data Matrix of Quality of Life and Economic activities diversification by Dimension in Selected Villages
(Source: Research findings, 2016)

Village name	Quality of Life by Dimension				Livelihoods Diversity		
	Economic	Social	Environmental-Physical	Total	Agriculture	Non-agricultural	Total
Ahmadabad	2.38	3.04	3.66	9.07	0.53	1.11	1.63
Nozad	2.04	2.74	2.4	7.18	1.79	1.26	3.05
Kalateh payeh	2.47	2.94	3.51	8.92	1.22	1.12	2.34
Frizi	2.07	3.29	2.75	8.11	1.07	0.96	2.03
Kahoo	2.37	3.06	3.88	9.31	1.68	1.34	3.02
Kheirabad	2.06	2.86	3.26	8.18	0.13	1.22	1.35
Islam Abad	2.39	3.55	3.96	9.89	0.92	1.56	2.48
Hashem Abad	2.57	3.41	4.18	10.16	1.25	1.64	2.89
Dolat abad	2.22	3.31	2.94	8.47	0.73	1.1	1.83
Abghad	2.14	3.33	3.68	9.14	0.62	1.07	1.69
Gavtarna	2.11	2.83	3.85	8.79	0.23	1.23	1.45
Khij	1.98	3.12	3.48	8.58	0.33	1.39	1.72
Chenar	2.01	3.2	3.17	8.39	1.39	1.02	2.41
Beh Abad	2.1	2.72	3.71	8.54	0.19	1.37	1.55
Jamab	1.67	2.72	3.18	7.56	0.1	1.02	1.12

Non-agriculture sectors include jobs in industry and services; the services sector is mainly comprised of construction workers, farm workers, drivers and those who water lands. In the studied villages, there were 369 drivers (truck, pickup truck, or taxi), 222 people had the job of watering lands of second-home owners, 187 people were house lessors and 30 were land lessors. In the villages of Khij, Abqad, and Jam Ab, due to the presence of iron ore mines, 45 people work as mine workers. One hundred and thirty-seven people are employed in poultry houses and dairy farms, and 129 people are employed in firms and Chenaran Industrial Town as workers. One humdred and nine people are shopkeepers (grocery store, fast food, barber, etc.), and 53 people are working as shoemakers, carpenters, bakers, etc. In addition, due to the relative boom of gardening activities, 46 people engage in buying and selling fruits during the harvest season. Eleven people are sellers of building materials and there are 7 realtors (buying and selling land, garden, villa). Similarly, two eating houses (restaurants) are operating in the villages of Dowlatabad and Gavterna. Apiculture, which is practiced by 780 people, is present in most studied villages. Forty people engage in mushroom farming in Kahu, Hashmeabad and Dowlatabad Villages and 40 people work in 8 greenhouses in Kheirabad, Gavterna and Behabd Villages. Likewise, nearly 160 families engage in sheep fattening, 170 people work in 22 farm dairies, 13 people work in 6 aquaculture centers in five villages, and 38 people work in 6 poultry houses in 4 villages. Also, there is an ostrich farm in Kahu where 5 people are employed. Four people engage in packing medical herbs and dried fruits in Dowlatabad. Present industrial units include welding, carpentry, box making, bakery, stone cutting, embroidery workshop, and garment and shoe production workshops where 217 people of the studied villages are employed.

We can see that activities of the non-agricultural sector are highly diverse in the villages under study and income of a large percent of rural families is provided by the non-agriculture sector (in tandem with agricultural activities).

Table 8. Number of Households with Non-Agricultural Income Sources in Each of the Studied Villages.
(Source: Research findings, 2016)

Village Name	Income from the processing of agricultural products and livestock			Income from Agricultural Production Units								Income from The Service-Workers Sector				
	livestock Processed	Raw Animal Products	Processed Garden And Agricultural	Beekeeping	Mushroom Planting	Greenhouse	Sheep Fattening	Cow keeping	Fisheries	Aviculture	Breeding ostrich	Construction worker	Ore worker . Mineral worker	Worker of the Company or Industrial town	Poultry workers, cattle and ...	Agricultural Worker
Kalateh Payeh	2	102	50	60	0	0	0	0	3	0	0	0	0	0	0	50
Abghad	50	60	0	5	0	0	40	0	2	0	0	0	15	0	0	20
Frizi	40	3	40	700	0	0	40	0	4	0	0	20	0	5	0	40
Dolat Abad	10	10	0	3	0	0	10	0	3	0	0	100	0	0	0	100
Ahmad Abad	100	111	60	3	0	0	0	13	1	0	0	0	0	10	27	60
Kahoo	10	13	0	4	40	0	50	20	0	0	5	120	0	0	10	250
Beh Abad	0	5	0	0	0	5	5	5	0	0	0	120	0	10	5	35
Gavtarna	0	0	0	0	0	25	0	40	0	30	0	0	0	0	75	40
Hashem Abad	10	20	0	0	0	0	0	10	0	0	0	0	0	1	10	60
Jamab	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0
Khij	5	35	0	0	0	0	15	0	0	2	0	0	30	2	0	40
Kheirabad	10	13	0	0	0	10	0	20	0	0	0	40	0	0	4	0
Islam Abad	0	0	0	0	0	0	0	2	0	1	0	0	0	1	6	10
Chenar	20	60	70	5	0	0	0	0	0	0	0	0	0	0	0	30
Nozad	0	2	15	0	0	0	7	0	0	5	0	0	0	0	4	0
Total	258	434	235	780	40	40	167	110	13	38	5	400	45	129	177	735

Table 9. Number of Households with Non-Agricultural Income Sources in Each of the Studied Villages.
(Source: Research findings, 2016)

Village name	Income from Various Activities of the Industry Sector											Income from Other Services Activities.							
						Building													
	Welding	Carpentry	making boxes	Handicrafts	Bakery	Builder	Tiling	Electrician	Embroidery Workshop	Production of shoes	Clothes industrial	Rent a house / land	Driver	Irrigation Lands of Second Homeowners	Shoe, plumbing and etc.	Materials Selling	Buying and Selling Fruit	Shopkeeper	Estate deals
Kalateh Payeh	0	0	1	3	4	4	3	1	0	0	0	70	100	70	15	0	10	5	0
Abghad	0	0	0	0	3	5	0	0	0	0	0	3	5	5	0	0	1	5	0
Frizi	0	0	0	3	3	3	8	3	0	0	0	50	100	10	1	0	10	7	0
Dolat Abad	0	0	0	1	4	12	4	3	0	1	6	0	5	50	0	0	11	9	3
AhmadAbad	0	0	0	0	8	10	3	3	0	0	0	30	6	20	0	2	5	5	0
Kahoo	3	1	0	7	5	10	5	3	0	0	0	28	100	50	7	1	5	10	5
Beh Abad	5	2	1	0	0	10	5	5	0	0	0	15	12	5	30	4	0	50	0
Gavtarna	2	0	0	2	4	0	0	0	0	0	0	13	3	10	1	2	1	13	1
Hashem Abad	0	0	0	0	2	10	0	0	0	0	0	5	15	0	0	1	0	5	3
Jamab	0	0	0	0	0	20	3	0	0	0	0	0	8	0	0	0	0	1	0
Khij	0	0	0	0	4	4	1	0	5	0	0	0	4	0	0	1	0	3	0
KheirAbad	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	2	0
Islam Abad	0	0	0	0	0	3	0	0	0	0	0	2	1	0	0	0	0	1	0
Chenar	0	0	0	4	0	3	0	0	0	0	0	1	10	0	0	0	1	1	0
Nozad	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0
Total	10	3	2	14	37	93	22	10	5	1	6	217	369	222	54	11	46	117	12

4. 2. Inferential Findings

In the present research, economic activities diversification in agriculture and non-agriculture sectors is the independent variable and rural households' quality of life is the dependent variable. Sample villages are the unit of analysis. To investigate the effect of independent variable on the dependent variable, stepwise regression was used. Before the test, skewness and kurtosis in dependent and independent variables were measured to determine their normality. Coefficients of skewness and kurtosis in both variables ($|Ku|$ & $|SK| \leq 1.5$) are indicative of very little skewness, confirming that in terms of symmetry both are rather similar to normal distribution and are not very different from it. As shown in table 9, since both the dependent and independent variables are normally distributed, stepwise regression can be used.

Table 10. Checking the Normality of the Independent Variable (Diversity) and Dependent (Quality of Life)
(Source: Research findings, 2016)

Normal Distribution Indexes	Diversification in the Economic Activities of the Agricultural Sector	Diversification in Non-Agricultural Economic Activities	Total Diversification	Quality of Life
Skewness	0.315	0.718	0.407	0.027
Std. Error of Skewness	0.58	0.58	0.58	0.58
Kurtosis	1.184-	0.185-	1.077-	0.179
Std. Error of Kurtosis	1.121	1.121	1.121	1.121

In stepwise regression, independent variables are added (or subtracted) one after another (Farbod, Olaadi, & Abbasi, 2014) and the variable with highest degree of correlation with the dependent variable is chosen in the model (Habibpour & Safavi, 2012). In the present study, the two variables of diversity of agricultural and non-agricultural economic activities were added to the model; only the variable of diversity of non-agricultural economic activities remained in the model and economic activities diversification in the agriculture sector was removed. It should be mentioned that according to table10, value of multiple correlation coefficient was equal to 0.6 which depicts a direct, rather strong correlation between independent and dependent variables.

Table 11. Correlation Value, Adjusted Coefficient and Standard Error Estimation in Regression Test.
Source: Research findings, 2016

R	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
0.60	0.31	0.655	2.11

The F value equaled 7.294 and its level of significance equaled 0.018, which is less that 0.05 and therefore is statistically significant; hence, the independent variable can explain the variation in the dependant variable; as a result, the regression model is statistically significant.
The statistical adequacy of the model is shown in the following table. The constant statistic is the y-intercept which shows the value of dependent variable without any interference from the independent variable. The relative importance of each independent variable in the model is shown by its corresponding t statistics. A t statistics with an absolute value bigger than 2.33 and a significance with a value smaller than 0.05 or 0.01 means that the intended variable has a significant role in explaining the variations of the dependent variable. As can be seen in table 11, the t statistics equals 2.701 and has a significance smaller than 0.05 which shows that the diversification of non-agricultural activities has a significant role in explaining the variations of the dependent variable (rural households' quality of life) and one standard deviation change in non-agricultural activities results in a 0.6 standard deviation change in the variable of quality of life. In addition, a large beta (0.6) is indicative of its relative importance and its role in predicting the dependent variable. The regression equation with the standard beta coefficient is as follows:

(Quality of Life in Rural Areas) y= (5.795) + (0.6) (Diversity in Non-Agricultural Activities)

Table 12. Non-Standardized Regression Coefficient, T and Significance Level of Regression
(Source: Research findings, 2016)

Model	Unstandardized Coefficients	Standardized Coefficients	T	Sig.
(Constant)	5.795	0.6	5.347	0.000
Diversification in Non-Agricultural Economic Activities	2.357		2.701	0.018

a. Dependent Variable: Quality of Life

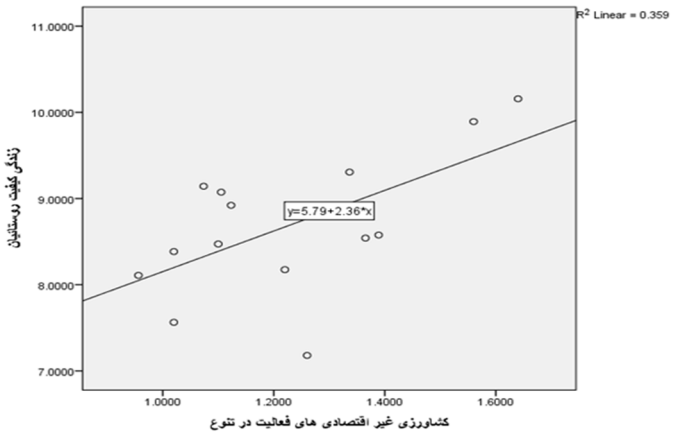

Figure 3. The Effect of Diversity in Non-Agricultural Economic Activity
(Source: Research findings, 2016)

As can be seen in figure 3, there is a linear, direct relationship between diversification of non-agricultural economic activities and quality of life. Obviously, expansion of non-agricultural activities in rural areas, in addition to creating jobs for a work force who due to the changes of the economic structure and reduction of agriculture labor has found himself unemployed, provides a powerful incentive for preventing rural labor from migrating to cities; in addition, the development of such professions can expedite the economic growth and improve income distribution. What's more, these jobs, in the long-term, diversify the income opportunities of rural families and reduce their income vulnerability to economic and environmental fluctuations. Overall, diversifying fields of occupation can be seen as a kind of indirect insurance for the income security of rural households who had low levels of productivity or sustained losses due to unexpected natural disasters. Therefore, non-agricultural jobs deter the increasing poverty which is created by the reduction of national per capita production and increased unemployment in rural areas. Studies show that creation of non-agricultural jobs in rural areas is dependent upon the growth and development of the agriculture sector; since the need for non-agricultural products and services depends on the financial ability of rural households. Considering that most rural families engage in agricultural activities or other related jobs, boosting the production of agricultural products and eventually increasing rural households' income is an effective step toward creating non-agricultural jobs (Naseri, Baskha, Hasanzadeh, & Masaeli. 2009). Non-agriculture sectors in rural areas of developing countries facilitate economic growth and job creation, reduce poverty, and eventually enhance rural households' quality of life.

Therefore, it is no secret that creation of jobs, distribution of income, diversification of the rural economy, etc. are among the necessities of rural development in Iran. Considering that the income generated by agricultural activities is susceptible to external tensions such as drought, market fluctuations, etc., diversification of non-agricultural activities can be considered as an influential factor in improving the economic status of families and, hence, improving rural families' quality of life (Figure 4).

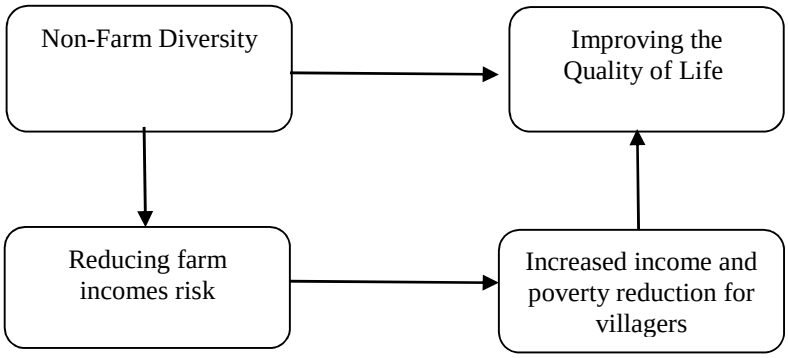

Figure 4. The Effect of Diversity of (Non-Agricultural Activities) on the Quality Life of rural households.
(Source: Research findings, 2016)

The importance of non-agricultural sector stems from the fact that even if agriculture is in recession, a non-farm economy can compensate some of the damages (Lanjouw, 2007). Studies in various countries (e.g., USA, Korea, India, Uganda, Egypt) show that non-agriculture and non-farm sectors in the majority of these countries share the following common features:

1. Throughout villages, these activities are closely linked with the agriculture sector.
2. The growth of the agriculture sector is dependent upon the nature of non-agricultural activities and undertaking such activities.
3. An increase in diversity of non-agricultural activities tends to reduce the seasonal feature of employment which is indicative of a willingness for more stability in these sectors.
4. It seems that employment in non-agricultural sectors has a positive relationship with higher levels of income in rural families, higher potential for diversifying non-agricultural sources of income, and improved productivity of agricultural activities.
5. Engagement in such activities is positively related with the level of education, structure-changing abilities, quality and services of governmental organizations, creation of job opportunities by government policies in international, regional and local levels and access to finance and credit services.
6. The key point is that, in villages, non-agricultural activities are usually market based and boost the business (with an increasing business, rural households' income and earnings increase, resolving the issue of insufficient funds for creating or developing rural employment programs) (Barati, Sadeghi, & Khatunabadi, 2016). It should be mentioned that these features are observed in the villages of Golmakan Dehestan, to some extent.

5. Discussion and Conclusion

Basically, diversification of activities is a fundamental necessity and all assets should not be used in one specific activity, particularly at the presence of numerous livelihood challenges such as limited resources like land, livestock and methods of exploiting resources without damaging them; one of the important ways for improving present and future strategies is transition from one type of capital and income to other forms or diversifying them (Karimi, Karami, & Dehkordi, 2015). By diversifying methods of earning a livelihood, the sustainability of both natural resources and livelihood of the families that use natural resources are ensured; since livelihood diversity can provide a solution for overcoming unfavorable living conditions and poverty in such regions (Karim, Karami, & Dehkordi, 2015).

On the other hand, improving rural households' quality of life without any regard for the development of rural economy is inconceivable. Low income levels, limited job opportunities, hidden and visible unemployment, reliance on a few agricultural products, limitations in marketing and delivering products, etc. are among the obstacles that are largely created owing to an undiversified structure. Non-agricultural activities can help rural households and be effective in improving their quality life. This can be done by prioritizing rural households' needs, activating them and investing in infrastructure and social services provision, creating justice and equity in accordance with local capacities, and behaviors totally different with all past injustices. As the results of studies at the global level and the results of the current study have shown, the diversity of non-agricultural activities is influential in improving rural families' quality of life, such that one standard deviation change in non-agricultural activities leads to a 0.6 standard deviation change in rural families' quality of life. Analysis shows that diversified non-agricultural activities can influence quality of life in various ways; first, they reduce the demand for agricultural land and the pressure on lands in poor regions; therefore, to disrupt the broken cycle of poverty, excessive exploitation of land and ecological deterioration can play an effective role. Second, the income

generated by these sectors can significantly increase the overall income of rural families and, accordingly, improve the capacity for investment in various other activities. Moreover, these sorts of income reduce rural households' income instability. Third, these earnings usually provide a source of saving and play a significant role in food security. Rural families who diversify their income through engagement in non-agricultural activities are, usually, more capable of overcoming adverse shocks (Azkia & Imani, 2008). Various measures can be adopted for effectively improving rural economy in non-agricultural sectors. For instance, non-agricultural activities such as processing and other industries, along with services and trading sectors, which are characteristics of a modern agriculture sector, can be developed using agricultural policies. Appropriate policies should not only improve non-agricultural economy, but also, through adoption of effective measures, they encourage rural households to engage in non-agricultural activities; similarly, institutions and governments should employ all their tools and capacities in various fields, especially for reducing the knowledge gap between cities and villages. Overall, considering the studies conducted regarding diversification of activities and sustainability of livelihood and settlement in rural areas, the main strategies emphasized by the World Bank are as follow:

- Running educational programs;
- Investing in development of infrastructure;
- Policy making and funding;
- Soft support in the field of knowledge;
- Improving access to economic and social infrastructure;
- Improving the accessibility of information and communication technologies in rural regions;
- Enhancing marketing infrastructure;
- Providing credit and using other financial tools to stimulate non-agricultural investments (Alawizadeh, 2010).

Therefore, it is suggested that mangers in charge of rural affairs, using these strategies, diversify economic activities and, specifically, help prosper non-agricultural activities as a supplementary source of income for families.

The findings of the present research are in line and aligned with the findings of the following national and international studies: Imai, Gaiha, and Thapa (2015) and also Gibson and Olivia (2010) found that the non-agricultural sector of rural regions in developing countries is conducive to economic growth, creating jobs, diversifying livelihood and reducing poverty. Hoang, Pham, and Ulubaşoğlu (2014) concluded that diversification of non-agricultural activities is an effective tool for lifting rural families out of poverty in developing countries.

The findings of the study are relatively in line with the following Iranian studies: Nourbakhsh Razmi (2014) in his M.A. thesis found that jobs created by non-agricultural activities had a significant and positive effect on economic, social, and environmental aspects of quality of life, respectively. Kohnepooshi (2013) in his Ph.D. dissertation concluded that diversification of economic activities positively affects life satisfaction of rural households in the area under study. Similarly, Alawizadeh (2010) in his Ph.D. dissertation found that families with diversified sources of income in agricultural and non-agricultural sectors had a relatively more favorable situation in terms of such indicators as education, income stability, quality of life, and vulnerability.

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بررسی اثرگذاری تنوع زراعی و غیرزراعی بر کیفیت زندگی روستائیان (مطالعهٔ موردی: دهستان گلمکان شهرستان چناران)

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چکیده مبسوط

1. مقدمه

ویژگی بارز ساختار اقتصادی سکونتگاه‌های روستایی کشور عدم وتنوع در زمینه های شغلی و اتکاء منابع درآمدی به کشاورزی و زیربخش‌های آن می‌باشد، این امر موجب تبدیل سکونتگاه‌های روستایی به فضاهای سکونتی کم‌توان و در نهایت انسداد توسعه رو ستایی گردیده ا ست. رفع این معضل در گرو کاهش اتکاء اقتصاد رو ستا و به تبع آن خانوارهای رو ستایی به بخش ک شاورزی و ایجاد فرصت‌های شغلی و منابع درآمدی متنوع غیرزراعی ا ست. در الگوی توسعه پایدار، یکی از گزینه‌های مورد تاکید رعایت اصل تنوع در فعالیت‌های اقت صادی ا ست. بانک جهانی نیز در قالب الگوی فوق، بر اهمیت فعالیت‌های اقتصاد غیرزراعی و چندبخشی تأکید کرده است. از آنجا که نگرانی از کیفیت زندگی به عنوان یک اصل اساسی، پیوسته مورد نظر برنامه‌ریزان و مدیران امر توسعه است، سؤال اصلی تحقیق بدین صورت مطرح می‌گردد: تنوع فعالیت‌های اقتصادی (زراعی و غیرزراعی) تا چه حد بر کیفیت زندگی روستاییان در دهستان گلمکان مؤثر بوده است؟

2. مبانی نظری تحقیق

مو ضوع کیفیت زندگی از آغاز دهه 1990 به بعد، در ادبیات نظری و توسعه، اهم یت فوق‌العاده‌ای یافته است و مبنای تمایز و دسته‌بندی‌های نوین کشورها در سال‌های اخیر شده است این اصطلاح دربرگیرنده مهمترین عواملی است که شرایط زندگی در جامعه و رفاه شخصی افراد را تعیین می‌کنند. کیفیت زندگی مفهوم گسترده‌ای است که دارای معانی گوناگونی برای افراد و گروه‌های مختلف می باشد. برخی آن را به عنوان قابلیت زیست پذیری یک ناحیه، برخی دیگر به عنوان سنجه‌ی برای میزان جذابیت و برخی به عنوان رفاه عمومی، بهزیستی اجتماعی، شادکامی، رضایت‌مندی و ... تفسیر کرده اند. با این وجود، هنوز تعریف قابل قبول جهانی برای این مفهوم صورت نگرفته است. زیرا بسیاری از محققان بر این باورند که کیفیت زندگی مفهومی چندوجهی، نسبی، متأثر از زمان، مکان، ارز شهای فردی و اجتماعی ا ست. به نظر می ر سد تنوع م شاغل با کاهش ریسک خانوار در بحران‌های مختلف من جمله نو سانات بازار، خ شک سالی و امثالهم و به مدد تعدد منابع درآمدی آ سیب‌پذیری را کاهش داده و موجب بهبود کیفیت زندگی روستائیان میشود. بررسی های انجام شده نشان می دهد دو نوع تنوع در اقتصاد نواحی روستایی قا بل حصول است: 1- تنوع در فعالیت های ک شاورزی(زراعی): که تنوع در الگوی ک شت محصولات، فعالیت‌های دامداری، نظام های پرورش آبزیان، پرورش زنبور ع سل، ک شت های گلخانه‌ای و امثالهم می پردازد و 2- تنوع در فعالیت‌های غیرکشاورزی(غیرزراعی): که در نتیجه تنوع در فعالیت‌های غیرزراعی (صنعت و خدمات) حاصل می‌گردد. پیاده‌سازی این رهیافت می‌تواند منجر به ایجاد امنیت در شبکه اجتماعی روستا، معیشت خانوار و سرمایه‌گذاری‌های دولتی و خصوصی گردد.

3. روش تحقیق

روش انجام تحقیق با توجه به ماهیت کار، توصیفی- تحلیلی است. جامعه آماری منطبق بر سکونتگاه‌های رو ستایی دهستان گلمکان و

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واحد تحلیل روستا است. تجزیه و تحلیل داده ها به کمک رگرسیون گام به گام انجام گردید. در این مطالعه «کیفیت زندگی» متغیر وابسته است که در سه بعد اجتماعی، اقتصادی و محیطی-کالبدی به کمک 48 شاخص کمی گردید. متغیر مستقل تنوع معیشتی است که در دو بخش «کشاورزی» و «غیرکشاورزی» مورد بررسی قرار گرفت. جامعه آماری مورد بررسی 15 روستای بالای 20 خانوار دهستان گلمکان در شهرستان چناران است. به کمک فرمول کوکران 236 خانوار به عنوان نمونه در این روستاها به صورت تصادفی مورد بررسی قرار گرفت. روایی سازه کیفیت زندگی به وسیله «تحلیل عاملی تأییدی» مورد بررسی قرار گرفت. با توجه به اینکه کیفیت زندگی با 48 شاخص دارای میزان درصد واریانس تبیین شده برابر با 65,72 درصد است، مفهوم کیفیت زندگی از اعتبار سازه ای برخوردار می‌باشد. همچنین مقدار آلفای کرونباخ 0,83 به دست آمد. که نشان می‌دهد ابزار تحقیق از قابلیت اعتماد و یا پایایی لازم برخوردارمی باشد.

4. یافته‌های تحقیق

به منظور بررسی میزان اثرگذاری متغیر مستقل بر وابسته از رگرسیون گام به گام (Stepwise) استفاده شد. در این مطالعه دو متغیر تنوع فعالیت‌های اقتصادی کشاورزی و غیرکشاورزی وارد مدل شد و تنها متغیر تنوع در فعالیت‌های اقتصادی غیرکشاورزی در مدل باقی ماند و تنوع در فعالیت‌های اقتصادی بخش کشاورزی از مدل خارج شد. نتایج رگرسیون نشان می‌دهد که تنوع فعالیت های اقتصادی غیرکشاورزی تأثیر معنی داری در تغییرات متغیر وابسته (کیفیت زندگی روستاییان) داشته است و تغییری به اندازه ی یک واحد انحراف معیار در فعالیت های غیرکشاورزی موجب 0,6 انحراف معیار تغییر در کیفیت زندگی می شود. معادله رگرسیون با ضریب بتای استاندارد به شکل زیر می‌باشد:

(تنوع فعالیت های غیرکشاورزی) (0,6) + (5,795) = (کیفیت زندگی در نواحی روستایی)

در واقع بین تنوع فعالیت‌های اقتصادی غیرکشاورزی و کیفیت زندگی رابطه خطی و مستقیم وجود دارد. بدیهی‌است توسعه فعالیت‌های غیرکشاورزی در مناطق روستایی می تواند موجب تسریع رشد اقتصادی و بهبود توزیع درآمد گردد. همچنین این مشاغل در بلندمدت، فرصت‌های درآمدی خانوارهای روستایی را متنوع ساخته و آسیب پذیری درآمد آنها را در برابر نوسانات اقتصادی و محیطی کاهش می دهد.

5. بحث و نتیجه گیری

بهبود کیفیت زندگی روستائیان بدون توجه به توسعه اقتصاد روستا محقق نخواهد شد. نتایج تحقیق حاکی از این امر است که تنوع در فعالیت های اقتصادی غیرکشاورزی در کیفیت زندگی خانوارهای روستاهای مورد بررسی به میزان 0,6 انحراف معیار موثر بوده است. اهمیت بخش غیرکشاورزی بدان جهت است که حتی اگر کشاورزی دچار رکود شود، اقتصاد روستایی غیرزراعی ممکن است بعضی از خسارات را مرتفع سازد. بررسی ها نشان می دهد در برخی کشورها فعالیت‌های غیرکشاورزی بالغ بر 50 درصد از اشتغال روستایی و هم چنین سهم مشابهی از درآمد خانوارهای روستایی را به خود اختصاص داده است. با توجه به نتایج تحقیق پیشنهاد می شود نسبت به گسترش فرصت های شغلی جدید در بخش صنعت و خدمات اقدام گردد.

کلیدواژه‌ها: تنوع کشاورزی، تنوع غیرکشاورزی، کیفیت زندگی، دهستان گلمکان، سکونتگاه‌های روستایی.

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Barriers to the Promotion of Agricultural Land Consolidation in Rural Areas from Farmers' Point of View (Case Study: Fash Dehedtan of Kangavar County)

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Abstract
Purpose- The present study aimed to investigate the most important obstacles to the promotion of agricultural land consolidation in the rural areas of Kangavar County. This study seeks to answer a key question: What are the main obstacles to the implementation of agricultural land consolidation policy in the villages of the study area?
Design/methodology/approach- The present research is an applied one conducted in a descriptive-analytical method; field work was used for data collection and factor analysis was used for data analysis. The population of the study included 1216 land users. Using Cochran's formula, 211 questionnaires were developed and randomly distributed among the users. The stratified sampling method was used to determine the number of samples in the villages. Cronbach's alpha was used to determine the coefficient of validity of the questionnaire in the village; the validity of the questionnaire was 0.816, which indicated the data were suitable for the research.
Findings- The findings show that 'the factor of investment and fund' accounts for 14.445% of the variance, which is the most important obstacle to the development of land consolidation in the rural areas. However, the lack of support of government agencies and organizations, infrastructural weaknesses, individual factors, lack of creativity, lack of intellectual participation and trust, lack of management and production practices, lack of knowledge and awareness, and lack of access to communication facilities in rural areas are important constraints on land consolidation in the rural areas of the study.
Keywords: Rural development, agricultural consolidation, opportunities, Fash Dehestan (Kangavar County).
Paper type- Scientific & Research.

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1. Introduction

Essentially, agricultural development is a fundamental change in the economic, social and cultural variables of any society, and its realization requires the coordination between its various dimensions. Sustainable agriculture development is not feasible without economic, cultural, social and political development; however, economic, cultural, social and political development will not go a long way without a logical and scientific approach to agricultural development in the long run. On the one hand, the obstacles to agricultural development in the country thus include low investments and government funds, lack of proper physical infrastructure and lack of strategic plans and policy-based approaches. On the other hand, the fragmentation of agricultural lands and their dispersion is one of the structural challenges of traditional exploitation of land in the country, which is rooted in the peasant-lord-system and is now considered as one of the obstacles to agricultural and rural development (Einali, 2013).

In addition, land fragmentation and the fragmentation of plots belonging to each farmer is affected by socioeconomic factors (inheritance, land division, land purchase, sale, endowment, etc.) and physical-environmental factors (topography, distance from the village, access to roads, soil quality, distance from water resources, etc.) in different parts of the country (Jamshidi et al., 2009). These factors lead to introversion and stability against changes, reduced venture (Matondi, 2013), lower productivity, higher production costs, lack of access to funds and financial resources (Sikor, Müller, & Stahl, 2009; FAO, 2008). It also hinders the use and the application of new practices in agriculture and lowers the efficiency of production factors. One of the strategies recently been taken into consideration in most countries of the world which has even been implemented in some of them and has had positive outcomes is the promotion of agricultural land consolidation. Therefore, on the one hand, changes in farmland structure through farm management reform not only encourages rural economy, but also has been introduced as an effective tool for rural development in most countries (Gonzalez & Smith, 2007). On the other hand, it makes ground for overcoming the barriers in the rural labor market, providing the required microfinance, and growing real estate businesses (Sohrabivafa, 2013). Land consolidation encourages the land owners to make more investment, meanwhile it makes way for optimal allocation of production factors based on water and soil, the efficiency of the new production structures, the use of modern irrigation methods and commercial production, etc., all of which improve the agricultural productivity (Stockdale, 2006). Other effects include the transfer of technology and new practices and consequently the conversion of a traditional agriculture to a commercial one (Nandanwar, 2011), higher income and wealth, as well as creating employment for the success of domestic development of rural communities (Stockdale, 2006). As a result, any changes in this section can be related to changes in land ownership structure. Therefore, the consolidation of agricultural land is considered as one of the major factors in the transformation of the agricultural sector whose proper implementation can play a significant role in achieving the goals of agricultural and rural development (Amir Nejad, 2007).

Fash Dehestan (rural district) is one of the most suitable areas for agriculture in Kermanshah Province; however, despite abundant water resources and fertile soil, it faces many problems in agriculture and retaining population in rural areas. Fash Dehestan has enough water resources and fertile soil, but its crop yield and agricultural productivity is very low due to the fragmentation and dispersion of agricultural land, leading to the migration, and in some cases, land use change in the study area. Based on field studies, every agricultural land is divided into 3 to 15 plots, in some cases a 2-hectare piece of land has been divided into 15 plots, which has significantly affected the efficiency, the income of the villagers, and the way the agricultural land is used. Therefore, the purpose of this study is to analyze the obstacles to the development of agricultural land consolidation in rural areas in Fash Dehestan (Kangavar County) and seeks to answer the following question: What are the most important barriers to the implementation of land consolidation policy in the rural areas of the study area?

2. Research Theoretical Literature

Agricultural and rural issues are closely interconnected. Due to their interconnection, the role and significance of agriculture in rural development activities, the concepts of agricultural development and rural development have been used interchangeably in many papers. Rural development, which makes use of water resources, soil, fertile agricultural lands, science and technology, livelihoods, population structure, etc., plays an essential role in the development of countries as the basis of the system of habitation and national activity (Hejrati, 2000). Therefore, given the importance of agricultural activities in the national and local economies, agriculture is one of the most important factors in the economies of developing countries (Poza & Daugherty, 2013), which its optimal use is one of the most important goals of sustainable agriculture development and economic development in the world (Guo et al., 2015).

Land consolidation is a process of land reform which changes agricultural land structure through farm management reform. It not only promotes rural economy, but also encourages activities in rural areas and rural development process (Eftekhari, 2003). Indeed, land consolidation is a process aimed at helping communities to use resources optimally, and spatially re-organize the land plots according to public agreement, which eventually leads to the modernization of society in all its economic, social, and political dimensions (Kopeva, Noev, & Evtimov, 2002). Therefore, the objective of land consolidation under the EU regulations established in 1999 is to help farmers and villagers increase the efficiency of production factors (land, water, manpower, and capital) by improving the agricultural land structures, ensuring income, enhancing the quantity and quality of production, and also increasing the capacity of rural households to improve their economic conditions and their living standards (Ríos & Díaz, 2011). Land organization is the result of improving the management of natural resources (esp. water resources) (Sallaku et al., 2010), increasing cultivated areas, and increasing the income and productivity of farmers (Sohrabi Vafa, 2013). However, due to changes in the structure and conditions of lands and the agricultural infrastructure, land organization will have different and long-term effects on agricultural promotion and rural development (Sklenicka et al., 2014). The member states of EUhave been required to prepare national development plans for 2007-2013 to support agricultural land consolidation as one of the most important measures to achieve rural development. For example, in the Munich Statement, land consolidation is a tool for rural development in the Eastern and Central European countries with the main purpose of consolidating fragmented lands and improving land productivity by concentrating them on the smallest possible parts, providing roads and essential infrastructure, and maintaining the environment and rural livelihoods (Munich Statement, 2002). In another example, while investigating the process of land consolidation in the Czech Republic, Rembold (2003) considered cadaster with a logical zoning of lands based on soil quality as one of the most effective methods and introduces it as the basis for land valuation, which leads to better management of the basic production resources in addition to increasing the crop yield and the competitiveness of production in the agricultural sector. According to Vitikainen (2004), in the context of land consolidation experiences in Europe, reducing the size of plots and their number is the most justifiable reason for land consolidation programs, and the main obstacles are land exchange, the difference in fertility, access to water resources and roads. Tran (2006) in Vietnam states that according the Land Law (1993), five rights were granted to families, including the rights of transfer, exchange, inherit, rent and bail. These rights played an important role in land consolidation, and they were made possible with the cooperation of farmers, local cooperatives, farmers' unions and government-related agricultural institutions at the regional and local levels (Transponder, 2006). As the size of the land increases, there is a higher tendency to cultivate money-making productsthe farmers' income, land productivity, and the mechanization of agricultural activities increase as a result (Zvi, 2002). Mann (1959) believes that land consolidation encourages land reform, prevents erosion, and helps repair irrigation systems through integrating the fragmented plots (Mann, 1959). Agrowal (1996) argues that consolidation has led to the rearrangement of lands and the rehabilitation of communication networks and the drainage of rural settlements in a compact form of farming and crop construction (Agrowal, 1996). Therefore, the agricultural land consolidation

programs in European countries have started extensively in different ways since the 16th century (Ayranci, 2009) and continued after World War II in most countries of the world, especially in Western European countries (e.g. Germany, the Netherlands, Spain, etc.). These countries have use scientific methods to achieve goals such as improving production and achieving food security.

In the 1960s and 1970s, most European countries developed comprehensive plans in cooperation with the United Nations Agricultural and Food Organization (FAO) to consolidate agricultural lands. With the advent of sustainable development theories from 1980s, socio-economic and environmental factors were added to development variables aiming to increase production, as they have been considered a tool for rural development, especially entrepreneurship in agriculture.

The implementation of agricultural land consolidation plans in Iran dates back to 1960s when rice fields in Mazandaran Province were consolidated under the supervision of Chinese experts; farmland leveling began at Amol rice research station, its surrounding areas, and some parts of Babol, Ghaemshahr, and Sari. However, land consolidation as a serious and new approach to development officially began in the first five-year Land Development Plan after the Islamic Revolution (1989-1993), which is a fundamental move to improve the conditions and the quality of infrastructure in agricultural lands (Ashkar Kalaee et al., 2006). Therefore, in order to overcome the challenge after the Land Reform, the government adopted the policy of agricultural land consolidation in different regions of the country, which for some reasons did not win the farmers' trust and eventually failed, with the exception of a few cases. The most important land consolidation plans conducted with the aim of laying the ground for under-pressure irrigation were considered by the Ministry of Agriculture in the first Development Plan after the Islamic Revolution (1989-1999). In these projects, the land consolidation operations were introduced as "land improvement and rehabilitation programs" and were implemented as national and provincial plans on one million hectares of land in the country, and the performance analysis was considered for the end of the program (Sohrabi, 2013). For example, some of the successful examples of land consolidation projects included: rice field consolidation project in the village of Islamabad in Amol County (1990), rice field consolidation project in Abandansor village, Sari County (1991), rice field consolidation project in Ejbarkalay, Amol County(1992) and Sooteh Fereydunkenar (1993), and Kateh posht Amol (1995) (Amir Nezhad and Rafiee, 1999). In addition, in some parts of the country, local communities, having developed local knowledge and trust, achieved acceptable results in consolidation of agricultural lands (Vosoughi and Faraji, 2006).

Many studies have been conducted on agricultural land consolidation in Iran and other countries of the world. Rios et al., (2011) using descriptive-analytical methods concluded that land consolidation is a driver of rural development and rural entrepreneurship, as it can be a source of job creation and rural development that generates income and reduces immigration. Aslan et al., (2007) concluded that land management provides an opportunity to improve the ownership structure of the fields which increases the productivity and facilitates the use of modern technology in the fields, and make way for more employment and income for the farmers. Georgievsk (2016), in an article entitled ‘land consolidation as a ways of agricultural development in Macedonia’, shows that land fragmentation is one of the main obstacles to Macedonian agricultural development, and the establishment of rural cooperatives and government technical support are effective factors for implementing land consolidation plans.

Zio et al., (2015) concluded that land consolidation as an appropriate approach to achieve sustainable use of land resources does not focus solely on the amount of arable land to balance and consolidate farmlands, rather it includes other aspects, such as improving the quality of agricultural land, restoring environmental conditions, and progressing in the economic formulation. Dopalmer (2014) in a study called ‘FAO, an experience with land consolidation in Eastern and Central European countries’ showed that land consolidation has increased agricultural competitiveness, and increased farm size has improved rural conditions. Lemmen et al., (2012) found that properly informing the villagers about land consolidation processes in rural areas plays an important role in

higher investment made in production and marketing, and could strengthen the basis for entrepreneurship in the agricultural sector. Huang et al., (2010) believed land consolidation is a means for creating employment and income, increasing production capacity, and eventually improving the economic situation and improving the living standards of the farmers. Yu et al., (2010) came to the conclusion that land consolidation has improved the natural ecosystem, environmental and socio-economic status of the villagers. Teimouri et al. (2009), using descriptive - analytical and field studies, concluded that factors such as age, agronomy, land area, crop area, number of crops, types of production system and average production cost affect the implementation of land consolidation plans. Zarifian et al., (2012) found that land integrity is one of the major factors of agricultural development and under-pressure irrigation projects, and variables such as consultancy with experts, agricultural history, membership in organizations, number of land plots and land revenues are among the factors that facilitate rural development. Mohammadi Yeganeh and Nabati (2013), in their research entitled 'the obstacles to agricultural development in rural areas, a case study of Karyani village in Bijar County', concluded that structural factors in Karyani Dehestan are the main obstacle to rural development of agriculture; nevertheless, cultural, environmental and market factors received lower priorities.

Miraskari et al., (2013) in their study entitled 'an analysis of the barriers and management approaches to management of agricultural land consolidation from farmers' point of view, a case study of Dareh Shahr County', concluded that cultural factors and rules were the biggest obstacles to agricultural land consolidation in the study area.

Mahdavi et al., (2017) in their study entitled 'An assessment of the barriers to agricultural land consolidation, a case study of the villages in Azna County' came to the conclusion that farmers would rarely like to consolidate their lands, and mostly prefer to temporarily consolidate their lands with their relatives and friends, which is the main individual and socio-economic obstacles to land consolidation.

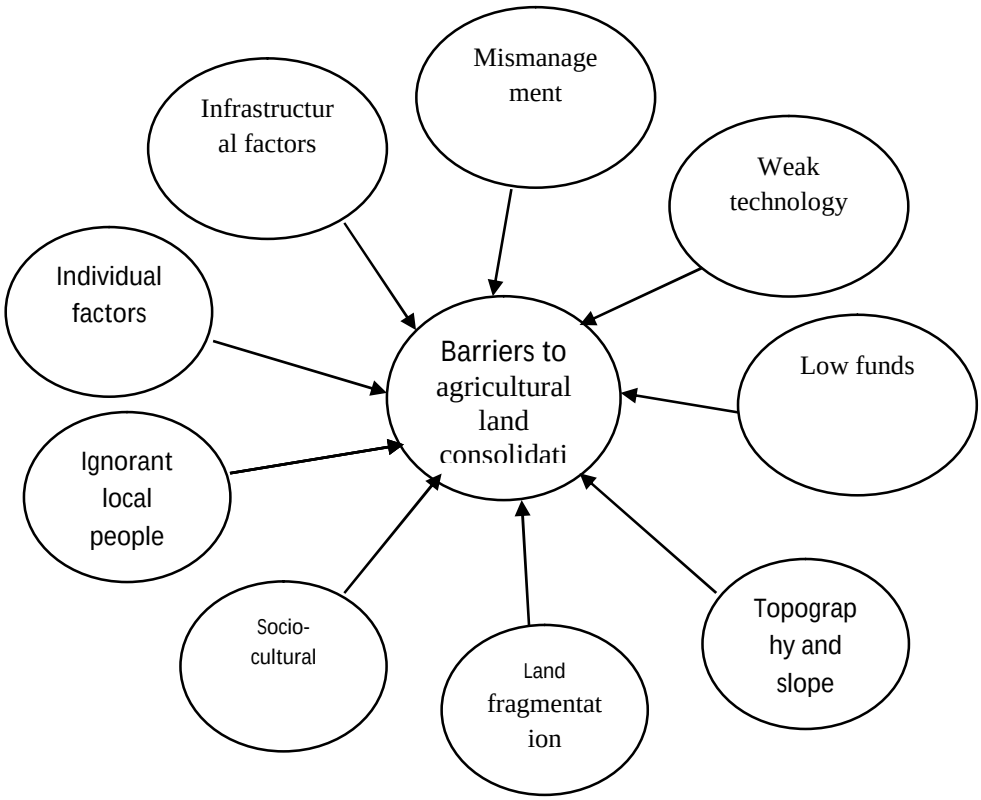

Figure1. Conceptual model of the study
(Source: Research findings, 2017)

3. Research Methodology

3.1 Geographical Scope of the Research

Fash Dehestan (rural district) is in Kangavar County, Kermanshah Province, with a population of 4335 people and 1613 households. It is located in the 10 km east of the Kangavar County. Fash Dehestan, located in the central part of Kangavar County, is comprised of 19 villages. It has a moderate climate with a rainfall of 500 mm per year. A large number of deep and semi-deep wells are used to irrigate agricultural land within the study area. Concurrent with the implementation of land consolidation plan in the country, two villages in this Dehestan were qualified for the plan and land consolidation has been implemented in them. Khoram Abad village has 160 hectares of rainfed land and 51 hectares of irrigated land, and Sarab village has 186 hectares of rainfed and 36 hectares of irrigated lands.

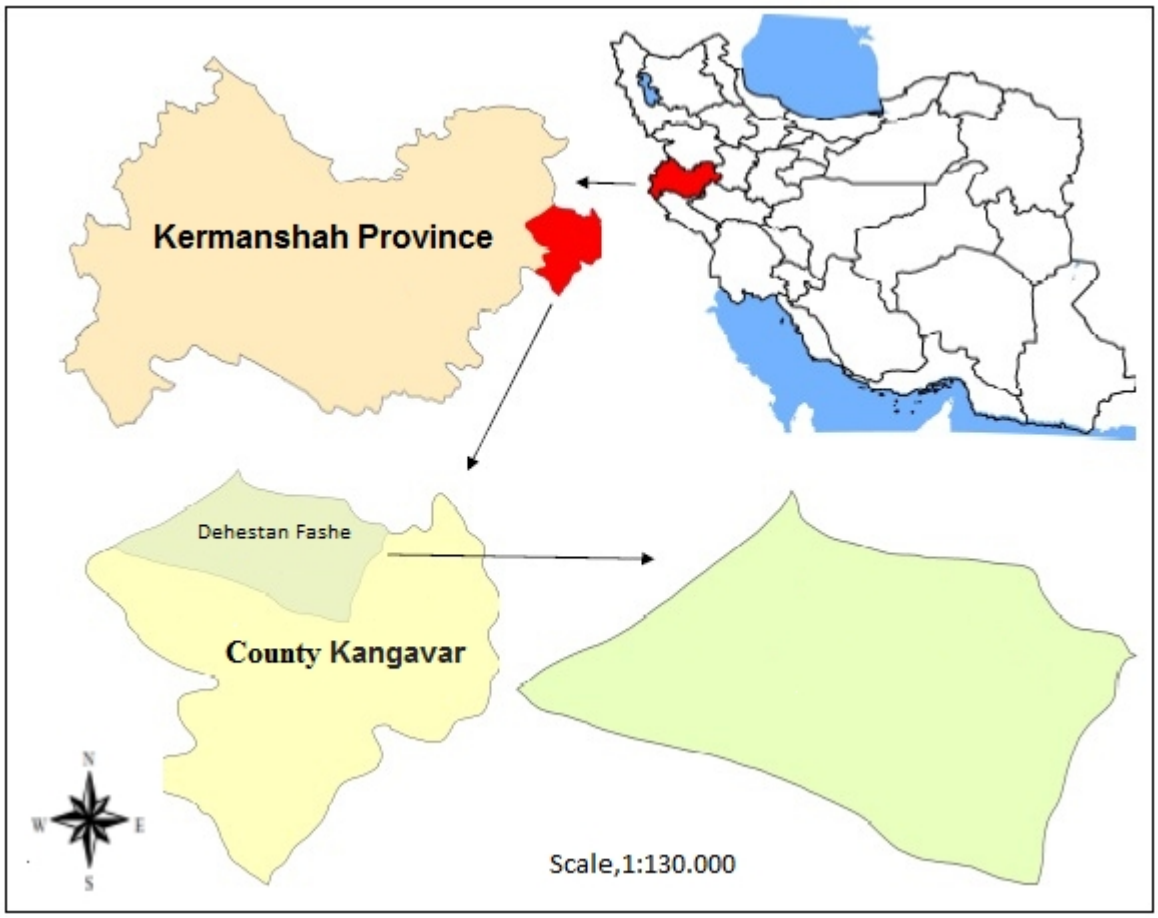

Figure 2. Rural position of the studied area
(Source: National Mapping Organization, 2016)

3. 2. Methodology

This study is an applied one conducted in a descriptive-analytical method. Library research and field survey based on a questionnaire with a Likert scale were used for data collection. The population of the study included 1216 land users. Using Cochran's formula, 211 questionnaires were developed and randomly distributed among the land users in the villages of Fash, Ab-Barik, Abdol-Tajedin, Homayoun Kesh, Darbsar, Shekarab, Hemianak, Rahman Abad, Shesh-yekan, Foshkhoran, Gerdkaneh, Soleiman Abad, Dambadam, Khorramabad, Sarab, Zardeh, Rashtian, Hazarkhani, and Hesar. The stratified sampling method was also applied to determine the number of samples in the villages and the

share of each village. To determine the reliability of the questionnaire in the study area, the collected data were entered into SPSS software; the reliability of the questionnaire was 0.816 based on Cronbach's alpha, which indicated that the questionnaire was suitable for the research. In addition, the barriers to the development of agricultural land consolidation in rural areas were investigated from farmers' point of view according to five indicators (financial, socio-cultural, infrastructural, individual factors, and governmental organizations). In order to select the indicators, we attemped to consider research papers on agricultural land consolidation, as much attention has been paid to agriculture and land consolidation in recent years. As the literature shows, the barriers to land consolidation include a large number of factors; however, this study seeks to investigate the important indicators that are the main obstacles to the consolidation of agricultural lands. Eventually, descriptive and inferential statistics (factor analysis) were used for the analysis of the data, and VIKOR model was used to investigate the barriers to land consolidation in the villages with regard to spatial distribution.

n = 255
t = 95% error rate for 1.96
N = 1216
p = 0.7 probability of a feature
q = 0.3 non-probability of the attribute

Table 1. Number of users and share of each village from the questionnaire
(Source: Agricultural Jihad, Kermanshah County, 2014)

villages	users and share	Rings well	questionnaire
Gard Heganeh	107	14	19
Dambadom	27	4	5
Rshtiyan	81	-	10
Darsar	34	-	6
Salman Abad	98	-	17
Shabakan	15	1	3
Hesar	55	-	10
Abdulatajeddin	75	-	13
Ab-Barik	63	3	11
Rahman Abad	36	4	6
Shekarab	26	3	11
Hazarkhani	45	-	8
Hmiyank	82	2	14
Fash	260	8	45
Zardeh	95	2	16
Hamankafsh	32	-	6
Fohsh khoran	85	1	15
Total	1216	70	255

Table 2. The criteria and variables used in the study
(Source: Sohrabi Vafa, 2013; Einali, 2013; Bouzarjomehry, 2014; Yasori et al., 2007; Jamshidi et al., 2009; Ahmadi and Amini, 2007; Yasuri, Javan and Sabunchi, 2012; Ríos and Díaz, 2011; STUDIES, 2003.)

criteria	Variables
Investment	insufficient funds for agricultural consolidation, lack of investment funds for agricultural lands, lack of bank credits for agriculture, lack of investment for inputs and machinery, lack of infrastructure investment for consolidation of agricultural lands, lack of investment for the leveling of soil, lack of investment for water transmission, lack of investment in purchasing agricultural machinery
Socio-cultural	The low level of group work spirit among the villagers, the low level of education of the villagers, the lack of organizations and unions in various agricultural businesses, lack of cooperation among villagers to consolidate agricultural lands, weak information sharing network in agricultural sector, lack of awareness of the concept of consolidation, considerable disagreements over agricultural land, unfamiliarity with backgrounds of agricultural land consolidation and entrepreneurship

Table 2.

criteria	Variables
Individual factors	Lack of access tools to facilitate agricultural land consolidation, diversification of crops, low level of cooperation among villagers, conflicts over agricultural lands due to disagreements resulting from the way they are inherited, lack of individual readiness to accept the views on development of land consolidation, lack of interest in using modern technologies in land consolidation, lack of trust among friends and relatives in group work in agricultural consolidation, lack of individual management to improve consolidated lands and increase agricultural products, preferring new methods to traditional ones
Infrastructure	Lack of appropriate communication infrastructure in villages for land consolidation, lack of modern equipment for mechanization in agricultural lands, lack of adequate support for infrastructure to consolidate agricultural lands, waste of water resources while irrigating agricultural lands, fragmentation and small size of lands, dispute over land plots inherited by heirs, natural obstacles such as mountains, rivers, floodplains to promote land consolidation
Government organizations	Not paying due attention to the agricultural sector of the villages by government agencies, the lack of strategic plans for the consolidation of agricultural lands by government agencies and organizations, wrong policies of the organizations and government agencies in agricultural plans, poor and limited services provided by government in agricultural sector, lack of government support in agricultural production to raise crop yield, lack of appropriate management policies taken by government agencies in agricultural production, inadequate application of guidelines by rural managers and agricultural promoters in the selection of cultivars and seeds, lack of support from responsible institutions of the agricultural sector

4. Research Findings

The descriptive findings of the study showed that out of 211 respondents, 83.8% were married and 16.2% were single. With regard to literacy, 18.9% were able to read and write, 12.6% had elementary education, 18% had junior high school degrees, 16.5% had senior high school degrees and 34% had high school diploma or higher. 98.5% of the participants were male and 1.5% were female. In terms of employment, 10.8% were employed in state run agencies, 59.3% were farmers, and 29.9% of them were self-employed. Factor analysis was used to investigate the barriers to the development of agricultural land consolidation in rural areas. The Bartlett and KMO tests were used to test the suitability of the data for the analysis of variables. Bartlett test had a confidence level of 99% and the KMO value indicates the correlation and suitability of the variables for factor analysis (Table 3).

Table 3. Bartlett test at a significant level

(Source: Research findings: 2017)

Analysis	KMO Value	Bartlett value	significant level
barriers to agricultural land consolidation in rural areas	0.754	1102.822	0.000

In the following steps, 38 variables were used in a factor analysis model to investigate the barriers to promotion of agricultural land consolidation in rural areas. Thus, the indicators loaded in each factor above 0.3, form one factor and the variables that cannot be aggregated with them, form another factor. The result of the reduction of 38 variables, represents 8 factors that explain 70.751% of the variance, which indicates that factor analysis and the variables were satisfactory. Table 4 shows the Eigen value, variance percentage, and percentage of aggregate variance**.**

Table 4. The factorization of the variables

(Source: Research findings, 2017)

Factors	Initial Eigenvalues	% of Variance	Cumulative %
Investments and credits	3.035	14.454	14.454
support received from government organizations and agencies	2.360	11.238	25.693
Infrastructure	1.895	9.024	34.716

Table 4.

Factors	Initial Eigenvalues	% of Variance	Cumulative %
Individual and creativity	1.805	8.596	43.312
Intellectual contribution and trust	1.655	7.882	51.194
Management and production practices	1.463	6.968	58.161
Knowledge and awareness	1.375	6.550	64.711
Communication accesses	1.268	60.40	70.751

Analysis of the factors

First Factor: investments and credits

Eigen value of this factor is 3.035, which alone can calculate and explain 14.454% of the variance. Five variables were loaded in this factor. Of the five variables, the lack of financial resources for investing in agricultural land in the villages with a factor load of 0.883 and the lack of investment in inputs and machinery with a factor load of 0.847 were the most important barriers to development of agricultural land consolidation (Table 5).

Table 5. Variables loaded in the first factor
(Source: Research Findings: 2016)

variables	factor Load
financial resources for investing in agricultural land	0.883
Access to/use of bank credits for agriculture	0.774
investment in inputs and machinery	0.847
Investment in the infrastructure for integrated development of the agriculture	0.700
Decline in funds for agricultural land consolidation	0.659

The second factor: inadequate support of government agencies and organizations

The Eigen value of this factor is 2.360, which alone can calculate and explain 11.238 percent of the variance. In this factor, 4 variables were loaded. Among the four variables studied in this factor, the variable of the inappropriate policies of the government agencies and organizations in rural agricultural plans with a factor of 0.805, the lack of government support from agricultural production and the raise in crop yields with a factor load of 0.542, and the poor and limited service provided by government in agriculture and production with a factor load of 0.720 were identified as the most important obstacles to the development of agricultural land consolidation in this factor (Table 6).

Table 6. Variables loaded in the Second factor
(Source: Research Findings: 2016)

variables	factor Load
Lack of strategic plans for consolidation of agricultural lands from the state and government agencies	0.518
Lack of government support for agricultural production and higher crop yield	0.542
poor and limited service provided by government in agriculture and production	0.524
inappropriate policies of the government agencies and organizations in rural agricultural plans	0.805

Third factor: Infrastructure

The Eigen value of this factor is 1.895, which alone can calculate and explain 9.024 percent of the variance. In this factor, 4 variables were loaded. Of the four variables, the variable of the inadequate support from infrastructure to consolidate agricultural lands with a factor load of 0.824, and the dispute among heirs resulted from small size of the plots and their distance with a factor load of 0.814 are identified as the most important obstacles to the development of agricultural land consolidation in this factor (Table 7).

Table 7. Variables loaded in the Third factor
(Source: Research Findings: 2016)

variables	factor Load
inadequate support from infrastructure to consolidate agricultural lands	0.824
dispute among heirs resulted from small size of plots and their distance	0.814
Squandering of water resources on the way to the fields	0.379
Inadequate modern machinery on the fields	0.456

Fourth factor, individual factors and creativity

The special value of this factor is 1.805 which alone can calculate and explain the 8.596 of the variance. This variable has 5 variables. Among the five variables studied in this variable, the dispute and conflict on agricultural land due to their inheritable nature with a factor load of 0.780, the production of access tools to facilitate activities in agricultural integration with a factor of 0.779 and a low level of trust between families and friends for group work in agricultural integration with a factor of 0.720 were identified as the most important obstacles to the development of agricultural land consolidation in this factor (Table 8).

Table 8. Variables loaded in the Fourth factor
(Source: Research Findings: 2016)

variables	factor Load
Diversification into agricultural land products	0.661
Lack of access tools to facilitate agricultural integration activities	0.779
Lack of trust in acquaintances and friends for group work in agricultural integration	0.720
Lower interest in using modern technologies in integration	0.669
Controversy over agricultural land due to their propriety	0.780

Fifth factor: trust and intellectual participation

The Eigen value of this factor is 1.655, which alone can calculate and explain 7.882% of the variance. In this factor, 4 variables were loaded. Of the four variables, the low level of group work spirit and the lack of participation in solving people's disputes over agricultural land with a factor load of 0.823, lack of associations and unions in various business and agriculture sectors with a factor load of 0.756 and lack of awareness about the concept of consolidation and weakness of informational network in agricultural sector with a factor load of 0.659 were identified as the most important barriers to development of agricultural land consolidation in this factor (Table 9).

Table 9. Variables loaded in the Fifth factor
(Source: Research Findings: 2016)

Variables	factor Load
lack of associations and unions in various business and agriculture sectorS	0.756
the low level of group work spirit and the lack of participation in solving people's disputes over agricultural land	0.823
lack of awareness about the concept of consolidation and weakness of informational network in agricultural sector	0.659
Lack of cooperation and trust among local people to consolidate agricultural lands	0.568

Sixth factor: management and production methods

The Eigen value of this factor is 1.463, which alone can calculate and explain 6.968% of the variance. Three variables are loaded in this variable. Of the three variables, the lack of government management and supervision on agricultural production with a factor load of 0.783, lack of individual management for improving land consolidation and increasing agricultural products with a factor load of 0.756 were identified as the most important barriers to the development of agricultural land consolidation (Table 10).

Table 10. Variables loaded in the Sixth factor
(Source: Research Findings: 2016)

Variables	factor Load
Lack of support from responsible institutions and agricultural sector administrators	0.446
lack of individual management for improving land consolidation and increasing agricultural products	0.521
lack of government management and supervision on agricultural production	0.782

Seventh factor: knowledge and awareness

The Eigen value of this factor is 1.375, which alone can calculate and explain 6.550% of the variance. Three variables were loaded in this factor. Of three variables, the lack of government management and supervision on agricultural production with a factor load of 0.783, and the lack of individual management for improving land consolidation and increasing agricultural products with a factor load of 0.756 were identified as the most important barriers to the development of agricultural land consolidation in this factor (Table 11).

Table 11. Variables loaded in the Seventh factor
(Source: Research Findings: 2016)

Variables	factor Load
Not using the guidance provided by managers and promoters of agriculture in choosing the type of seed and cultivation/planting	0.881
Public awareness about backgrounds of agricultural consolidation and entrepreneurship	0.461
Preferring the old approaches to modern ones	0.307

Eighth factor: communication access

The Eigen value of this factor is 1.286, which alone can calculate and explain 6.040% of the variance. Three variables were loaded in this factor. Of the three variables, the variable of the lack of suitable communication infrastructure in rural areas required for consolidation with a factor load of 0.811 and the lack of popular participation in accessing the agricultural activity areas with a factor load of 0.481 were identified as the most important barriers to the development of agricultural land consolidation in this factor (Table 12).

Table 12. Variables loaded in the Eighth factor
(Source: Research Findings: 2016)

variables	factor Load
lack of popular participation in accessing the agricultural activity fields	0.481
lack of suitable communication infrastructure in rural areas required for land consolidation	0.811
natural obstacles such as mountains, rivers, bunds to expand land consolidation	0.375

In order to use the VIKOR technique to measure the difference between sampled villages in terms of having five criteria, at first the mean of the questionnaire data was calculated and presented in the initial matrix. Table-13 shows the indicators used and their number in the study area.

Table 13. Matrix derived from the indicators used in the questionnaire
(Source: Research Findings: 2016)

villages	investments	Social and cultural	Factor Individual	Infrastructure	Organization and offices
Gard Heganeh	3.07	1.71	1.71	2.58	2.44
Dambadom	2.68	2.17	2.17	2.32	3
Rshtiyan	2.84	1.74	1.76	2.5	3.18

Table 13.

villages	investments	Social and cultural	Factor Individual	Infrastructure	Organization and offices
Darsar	2.40	1.83	1.83	2.7	2.84
Salman Abad	2.97	1.93	1.94	2.6	3.17
Shabakan	2.57	1.96	1.96	2.72	2.6
Hesar	2.42	2.14	2.15	2.48	2.30
Abdulatajeddin	2.48	1.69	1.69	2.44	2.82
Ab-Barik	2.54	1.52	1.52	2.2	2.96
Rahman Abad	2.8	1.84	1.84	2.52	3
Shekarab	3.02	1.95	1.95	2.92	2.72
Hazarkhani	3.08	1.90	1.94	2.56	3.28
Hmiyank	2.82	1.74	1.74	2.33	3.18
Fash	2.56	1.70	1.71	2.41	2/59
Zardeh	2.83	1.96	1.93	2.72	3.15
Hamankafsh	3.64	2.01	20.01	2.73	3.76
Fohsh khoran	2.90	1.77	1.73	3.20	3.3

In order to prioritize the proposed villages in the study area and to determine the weight of each criterion, a questionnaire was first developed and 12 managers and experts of Jihad Agriculture were interviewed about the importance of the indicators (investment, socio-cultural and individual factors, infrastructure, governmental organization and agencies), and finally, their significance was determined in the form of weight of variables. The power function was used to determine the weight of the indicators.

Rated power function:

$$(n - r_i + 1)^2$$

Table 14. Indicator weight index
(Source: Research Findings: 2016)

Criteria	investments	Social and cultural	Factor Individual	Infrastructure	Organization and offices
Weight	0.23	0.16	0.17	0.19	0.25

As table 14 shows, spatial analysis of the distribution of villages in the Dehestan of the study area in the indicators (of investment, socio-cultural and individual factors, infrastructure, governmental organization and agencies) shows a significant difference in the study area. The village of the Hamankafsh with the value of 0, due to the lack of public participation at various levels and the lack of government measures to reduce the rural deprivation, and lack of physical infrastructure and access to communication roads had the highest rank, and the Ab-Barik village (0.93) due to the long distance from the Dehestan center and because of geographical isolation, has the lowest rank in terms of the number of obstacles to land consolidation.

Table 15 shows the villages of the study area encounter a lot of obstacles, as the village of Hesar, Abtahedin and Fash respectively with the scores of 0.287, 0.816, and 0.813, were in a similar situation in terms of barriers they face. The villages of Shabakan, Hayang and Shekarab respectively with the scores of 0.677, 0.515 and 0.515 are in the same rank. The villages of Darsar, Rahman Abad, and Rshtiyan respectively with the scores of 0.499, 0.481 and 0.455 were very similar to each other. The villages of Zardeh (0.367), Dambadom (0.334), Fohsh khoran (0.312), Havar Khani (0.301), Salman Abad (0.300) and Gard Heganeh (0.265) encounter the highest number of obstacles analyzed in the study.

Table 15. Final Rankings
(Source: Research Findings: 2016)

villages	Gard Heganeh	Dambadom	Rshtiyan	Darsar	Salman Abad	Shabakan	Hesar	Abdulatajedin	Ab-Barik
Rating	0.265	0.344	0.445	0.499	0.300	0.677	0.827	0.816	0.938
villages	Rahman Abad	Shekarab	Hmiyank	Fash	Hazarkhani	Zardeh	Hamankafsh	Fohsh khoran	
Rating	0.481	0.515	0.562	0.813	0.301	0.367	0	0.312	

Figure 3 shows the ranking of villages in terms of the obstacles they encounter in land consolidation, where the village of Hamankafsh has the highest and the village of Ab-Barik has the lowest rank in terms of barriers. This shows that Fash Dehestan is facing many problems and requires more attention from people and government officials.

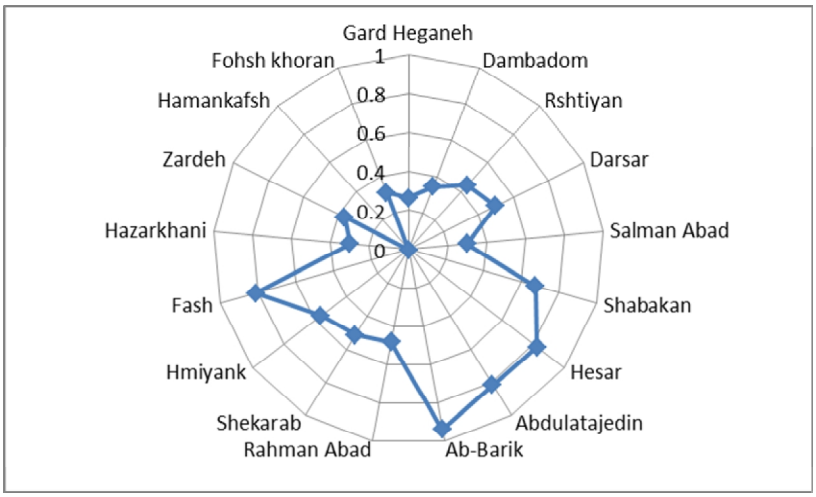

Figure 3. Ranking of villages in terms of the obstacles they encounter in land consolidation
(Source: Research Findings: 2016)

5. Discussion and Conclusion

Land is one of the most important factors in production process of the agricultural sector. The small-scale units are a factor limiting the productivity and crop yield due to the ineffective use of technology, machinery and agricultural production factors. The purpose of the agricultural system is to achieve the goals of sustainable agriculture and promote the living standards of farmers especially the poor ones, and let them use the findings of technology, in simple and practical methods to increase crop yield, and reduce costs and make more money and raise the living standard of their families. Therefore, one of the effective factors that can reduce fragmentation of agricultural lands is to implement land consolidation plans. In fact, land consolidation is a standard tool for pursuing rural development, raising the effectiveness of land use, and to control soil erosion, protect natural resources, rationalize rural development and other social and economic issues. Therefore, this paper investigates the factors and variables necessary for land consolidation in rural communities. However, you can compare them with some land consolidation studies conducted as field works or observation. Therefore, in most studies, common points are presented in terms of indicators. Obstacles to land consolidation include structural factors, cultural factors, laws and regulations, environmental, market, individual, social and economic factors. The studies conducted by Mohammadi Yeganeh and Nabati (2013), Mir Askari et al. (2013), Mahdavi et al., (2017) particularly concord with this study. The results of this study shows that the analysis and the output of this research are particularly in accord with the facts expressed in the level of the cities of Bijar,

Azna and Dareh Shahr. On the other hand, given the indicators relevant to barriers to land consolidation, and considering the local conditions, the barriers to agricultural land consolidation are at an acceptable level and should be considered in terms of the obstacles to agricultural land integration and economic, socio-cultural, commercial, infrastructure and individuals aspects. It is worth noting that the techniques used by the researcher in this regard have been able to present the reality of the regions, and this shows that the present study on barriers to agricultural land consolidation is important in terms of the indicators used. Therefore, we may conclude that the results of this study are valid and its results could be extended to other similar regions. In general, based on the results of this study and in line with studies conducted by other Iranian researchers, one can argue that the present study is valid and confirms the barriers to agricultural land consolidation in the studied villages in terms of the obstacles to land consolidation in the city of Kangavar and other similar areas.

The samples encountered some limitations, the most important of which are: the complexity of land fragmentation in terms of socio-cultural dimensions due to the inheritable rights of the families and the extent and diversity of agricultural activities on lands and morphological and geological features, lack of cooperation to improve institutional, technical and executive capacities in implementing land consolidation projects, lack of supportive institutions in infrastructure to confirm swaps and high costs of this process, lack of funds for agricultural land consolidation, lack of a comprehensive plan, inappropriate policies in agriculture and its products, lack of awareness and creativity about land consolidation, lack of support granted by government organizations in agricultural land consolidation plans, lack of efficient management in production methods, and lack of public participation in rural areas. Accordingly, it can be concluded that the most important restrictions in the field of rural land consolidation are related to investment criteria and lack of support granted by government organizations and agencies. Besides, the findings of the research show there is a significant difference between the villages in terms of spatial distribution, as the village of Hamankafsh with the value of 0, due to lack of public participation at different levels and failure to reduce rural deprivation resulted from the lack of physical infrastructure and access to communication roads has the highest rank, and the village of Ab-Barik with the value of 0.93, due to the long distance from the Dehestan center and geographical isolation, has the lowest rank in the amount of barriers to land consolidation in the study area.

Recommendations

1. Land consolidation should be implemented gradually by removing the barriers mentioned in Hamankafsh village, facing the most obstacles to agricultural land consolidation, as the total removal of the obstacles requires a great deal of time.
2- Hamankafsh village needs more educational and informative courses to raise the level of public awareness of the farmers.
3. The authorities should make attempts to raise funds, which is the most important barrier from the farmers' point of view.
4. Practical laws should be passed and implemented to consolidate lands and prevent the fragmentation of agricultural land to pave the way for effective implementation of the plans in villages of the study area.

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چکیده مبسوط

1.مقدمه

اصولاً توسعه کشاورزی تغییر بنیادی در متغیرهای اقتصادی، اجتماعی و فرهنگی هر جامعه محسوب می‌شود و تحقق آن، مستلزم ایجاد هماهنگی بین ابعاد گوناگون آن است. توسعه کشاورزی پایدار بدون توسعه اقتصادی، فرهنگی، اجتماعی و سیاسی امکانپذیر نیست و توسعه اقتصادی، فرهنگی، اجتماعی و سیاسی نیز بدون نگرش منطقی و علمی به مسأله توسعه کشاورزی در بلند مدت، راه به جایی نخواهد برد. لذا از موانع توسعه کشاورزی در کشور از یک سو می‌توان به کاهش اعتبارت و سرمایه‌گذاری، نبود زیرساخت‌های فیزیکی مناسب و فقدان برنامه های راهبردی و سیاست‌های اصولی در این زمینه از یک سو اشاره کرد و از سوی دیگر، خرد شدن اراضی کشاورزی و پراکندگی قطعات آن یکی از چالش‌های ساختاری بهره برداری‌های سنتی در کشور است که ریشه در نظام ارباب- رعیتی دارد و امروزه از آن به عنوان یکی از موانع توسعه کشاورزی و روستایی قلمداد می‌شود.

2.روش تحقیق

نوع تحقیق کاربردی، روش مورد استفاده توصیفی- تحلیلی و برای گردآوری داده‌ها و اطلاعات از روش‌های کتابخانه‌ای و پیمایش میدانی مبتنی بر پرسشنامه با سؤالات طیفی استفاده گردید. جامعه آماری این تحقیق 1216بهره بردار در نظر گرفته شده است که با استفاده از فرمول اصلاح شده کوکران 211 پرسشنامه بدست آمد و بین بهره برداران به صورت تصادفی توزیع و پخش گردید است. برای تعیین تعداد نمونه در روستاها از روش نمونه‌گیری طبقه‌بندی استفاده شده است و سهم هر یک از روستاها مشخص شده است. جهت تعیین ضریب اعتبار پرسشنامه در دهستان مورد مطالعه، پس از جمع‌آوری پرسشنامه های مذکور داده ها وارد کامپیوتر شدند و با استفاده از نرم افزار SPSS و روش آماره‌آلفای کرونباخ، اعتبار پرسشنامه به میزان 0/816 بدست آمد. که نشان از رضایت بخش بودن داده‌ها برای انجام تحقیق می‌باشد. همچنین به منظور بررسی موانع توسعه یکپارچه‌سازی اراضی کشاورزی در نواحی روستایی از دیدگاه کشاورزان در پنج معیار(سرمایه‌گذاری، اجتماعی و فرهنگی، زیرساختی، عواملی فردی، سازمان و ارگان دولتی) مورد بررسی قرار گرفته است و اقدام به تهیه و تدوین پرسشنامه مطابق با طیف لیکرت گردید است.

3.یافته‌های تحقیق

اصولاً توسعه کشاورزی تغییر بنیادی در متغیرهای اقتصادی، اجتماعی و فرهنگی هر جامعه محسوب می‌شود و تحقق آن، مستلزم ایجاد هماهنگی بین ابعاد گوناگون آن است. توسعه کشاورزی پایدار بدون توسعه اقتصادی، فرهنگی، اجتماعی و سیاسی امکانپذیر نیست و توسعه اقتصادی، فرهنگی، اجتماعی و سیاسی نیز بدون نگرش منطقی و علمی به مسأله توسعه کشاورزی در بلند مدت، راه به جایی نخواهد برد. لذا به منظور بررسی موانع توسعه

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یکپارچه‌سازی اراضی کشاورزی در نواحی روستایی از دیدگاه کشاورزان در دهستان فش- شهرستان کنگاور پرداخته شده است و در پی پاسخ گویی به این سوالی کلیدی که مهمترین موانع اجرای سیاست یکپارچه‌سازی اراضی کشاورزی در نواحی روستایی در محدوده مورد مطالعه کدامند؟ ز آزمون تحلیل عاملی بهره گرفته شده است. نتایج تحقیق نشان می‌دهد که عامل سرمایه‌گذاری و اعتبارات با توجیه 14/454درصد واریانس، مهمترین مانع توسعه یکپارچه‌سازی اراضی کشاورزی در نواحی روستایی می‌باشد. ضمن اینکه عدم حمایت سازمان‌ها و ارگان‌های دولتی، ضعف زیرساختی، عامل‌ها فردی و خلاقیت، فقدان مشارکت فکری و اعتماد، فقدان مدیریت و شیوه تولید، نبود دانش و آگاهی و عدم دسترسی‌های ارتباطی در نواحی روستایی از محدودیت‌های مهم توسعه کارافرینی در روستایی مورد مطالعه بوده است.از طرف دیگر، از طرف دیگر، یافته‌های تحقیق نشان داد که بین روستاها از لحاظ توزیع فضایی تفاوت معنادار زیادی وجود دارد، به طوری که روستای همان‌کفش با میزان(0) به دلیل عدم مشارکت مردم در سطوح مختلف و توجه نکردن مسئولیت برای کاهش محرومیت روستایی و از سوی دیگر به دلیل نبود زیرساخت فیزیکی و دسترسی به راه‌های ارتباطی دارای بالاترین رتبه و روستای آب باریکی با میزان(0/93) بدلیل فاصله زیاد نسبت کانون دهستان و به دلیل انزوای جغرافیایی دارای پائین‌ترین رتبه به لحاظ برخورداری از میزان موانع یکپارچه سازی در محدوده مورد مطالعه را دارا می‌باشند.

کلمات کلیدی: توسعه روستایی، یکپارچه سازی کشاورزی، فرصت‌ها، دهستان فش- شهرستان کنگاور.

تشکر و قدرانی

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

4. بحث و نتیجه‌گیری

نتایج تحقیق نشان می‌دهد که عامل سرمایه‌گذاری و اعتبارات با توجیه 14/454درصد واریانس، مهمترین مانع توسعه یکپارچه‌سازی اراضی کشاورزی در نواحی روستایی می‌باشد. ضمن اینکه عدم حمایت سازمان‌ها و ارگان‌های دولتی، ضعف زیرساختی، عامل‌ها فردی و خلاقیت، فقدان مشارکت فکری و اعتماد، فقدان مدیریت و شیوه تولید، نبود دانش و آگاهی و عدم دسترسی‌های ارتباطی در نواحی روستایی از محدودیت‌های مهم توسعه کارافرینی در روستایی مورد مطالعه بوده است.از طرف دیگر، از طرف دیگر، یافته‌های تحقیق نشان داد که بین روستاها از لحاظ توزیع فضایی تفاوت معنادار زیادی وجود دارد، به طوری که روستای همان‌کفش با میزان(0) به دلیل عدم مشارکت مردم در سطوح مختلف و توجه نکردن مسئولیت برای کاهش محرومیت روستایی و از سوی دیگر به دلیل نبود زیرساخت فیزیکی و دسترسی به راه‌های ارتباطی دارای بالاترین رتبه و روستای آب باریکی با میزان(0/93) بدلیل فاصله زیاد نسبت کانون دهستان و به دلیل انزوای جغرافیایی دارای پائین‌ترین رتبه به لحاظ برخورداری از میزان موانع یکپارچه سازی در محدوده مورد مطالعه را دارا می‌باشند.

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Measuring the Level of Social Capital of Rural Settlements (Case Study: Hasanabad Dehestan of Islamabad-e-Gharb County)

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Abstract

Purpose- The purpose was to measure the social capital of rural settlements in Hassan Abad rural district of Islamabad-e Gharb as well as ranking and leveling the villages under study was based on social capital.

Design/methodology/approach- The study was applied, quantitative, and survey, where documentary study and field research were used for data collection. The documentary method was used in problem statement, theoretical foundations, and the literature. The data were collected from the villages using field research and the questionnaire tool. SPSS software was used in statistical analyses. It is worth mentioning that the field operations were done by direct questioning.

Findings- The villages examined were categorized into three levels of high, medium, and poor in terms of social capital. Out of 22 villages examined, 9 villages (40.90%) were considered to have high social capital, 5 villages (22.73%) medium, and 8 villages (36.37%) poor social capital. Moreover, Siah Khor Village with 128.44 was in the highest rank whereas Kamar Zard Village with the score of 114.09 was in the lowest rank.

Research limitations/implications- In the present study, there were some problems including, scarcity, sometimes the lack of comprehensive information resources, limited access to the resources, scattered villages, the lack of appropriate access routes, low cooperation, and sometimes the lack of cooperation between some organizations and institutions.

Practical implications- In sum, one can state that some significant ways to strengthen social capital. They were the presence of local authorities in the villages, holding forum meetings with villagers and presenting performance report to the people, using education and increasing the awareness of villagers about the importance of participation and its role in society, strengthening the norms and values and promoting them.

Originality/value- Local planners and institutions associated with the village can use the results.

Keywords- Social capital, leveling social capital, ranking social capital, Hasanabad.

Paper type- Scientific & Research.

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1. Introduction

In the most traditional attitude towards development dating from the late 1940s to the early 1960s, development is considered only in economic development in the context of GDP growth (Pourtaheri, Zal & Roknaddin Eftekhari, 2011). In this period, growth and development were seen as equal so that in the 1960s the United Nations considered six percent growth necessary for improving the social, economic and environmental conditions of underdeveloped countries (Faraji Sabokbar, Badri, Motiee Langroudi, & Sharafi, 2010).

In developing countries, modernization theory and its teachings have had a significant effect according to the politicians and planners of these countries, as the factors of non-development of Third World countries were related to the social, cultural, psychological, and economic problems of their societies. The idea of the contradiction of tradition with modernity at once looks down at all the traditions governing the rural communities. The promotion of individualism, instead of the sociology of social capital, targets the many social foundations and economic relations coming from it. The development of Western culture and the model variables of developed societies dooms to destruction many of the values that govern the social system of the developing world (Tavakoli, 2007).

These conditions stated led to the emergence and development of a major development challenge, especially in rural communities. The lack of social capital and sometimes the disappearance of this capital in traditional societies under the pretext of modernization are among the problems created by humanity today. This capital, which is more important than physical and human capitals compared to the other capital, is an important source of collective action and an effective factor in increasing the efficiency of human, economic and physical capital (Alibeygi, Aliabadi, & Gravandi, 2012).

By strengthening trust and group participation, and thus facilitating confidence in complex interactions and reducing the need for executive guarantees, social capital allows easy exchange of information, increase in social skills of members, increasing the degree of participation in groups and productive organizations, enhancing flexibility and increasing the interactions of the components of the economic system, and so on, social capital helps improve the economic situation (Shabani, Nakhli, & Sheikhani 2013). The need for social capital in stagnation and inflation conditions, which is need of creating trust is felt more than any other capital, and can take many problems away from the development of society (Farahani, Abdoli, & Shariati, 2012).

Besides these effects, social capital plays a significant role in empowerment of rural communities regarding management and response to economic, social and environmental pressures and attempt to ensure rural development (Jordan et al., 2010), and strengthening it increases participation and relationship with other people. Societies having high levels of social capital can collaborate to reach developmental goals, and this partnership and solidarity diminish the cost of achieving development goals and programs (Romiani, Anabestani & Valei, 2015).

Nowadays, more than ever, the need is felt that the reaching sustainable progress and development calls for the presence, trust and participation of the villagers in the development process, which is impossible unless the spirit of partnership, trust and solidarity go high in a modern way and form of governmental and nongovernmental organizations in rural areas (Farahani et al., 2013)

Preliminary evidence and studies in Hassan Abad rural district from the central part of the Islamabad-e Gharb of Iran, as the scope of the present study, showed that most villages in rural district lack a favorable status in terms of social capital and ware at different levels of social capital. In this regard, the potential effects of factors like distance from urban centers and communication networks, the economic situation, and the level of education have been significant according to the researchers. Furthermore, although many studies have been conducted on social capital in rural areas of many countries, the necessity of planning based on local cognition and the lack of such studies in the scope of this study have been the main motivations for social capital research in Hassan Abad rural district.

Based on this, the main theme of the study is what level and rank the social capital of rural settlements are. Regarding this, the researchers considered other sub-questions 1 as well. What

are the most important elements of each of the components of social capital? 2. What is the difference between villages regarding social capital about variables like population, distance from main road, percentage of employees, and so on? 3. What is the rate and direction of the relationship between the major parts of social capital in the villages examined?

2. Research Theoretical Literature

Social capital usually consists of the two words "capital" and "social". These two words indicate that, firstly, the concept possesses a generative nature, and secondly, it is not individualistic (Alibeygi et al., 2012). The social capital of society consists of customs, relationships, attitudes and values governing the interactions between people and ended in economic and social development (Farahani et al., 2012). Moreover, it is a desirable element for inter-group collaboration, and the higher its level is, at a lower cost the group reaches its goals (Salehi and Imam Gholi, 2012).

James Coleman explains social capital with its function. Coleman states that social capital is not a single thing, yet different things, all of which have two shared features. Firstly, they encompass dimensions of a social construction. Moreover, secondly, certain actions of individuals in the structure, whether they are real individuals or perpetrators legal, facilitation, and the achievement of certain goals that, in their absence, will be impossible to reach (Coleman, 1988). Bourdieu defines social capital as follows: "Social capital is a set of actual and potential resources that can be accumulated for a person or group by the existence of more or less institutionalized networks of mutual relations" (Field, 2007).

Putnam (1996) sees social capital as the manifestations of social life including networks, norms and trust enabling the participants in reaching common affairs, along with high performance (Noghani & Asgharpour Masouleh, 2008). According to Fukuyama, social capital is a set of values or norms that members of a group together believe enables the cooperation between them (Fukuyama, 2005) and refers to coordination and balance the internal and cultural norms, values and the interactions of the state with the people and organizations within the community (Fukuyama, 2001).

Woolcock considers social capital to have the information, trust, and the inherent two-way norms of the social networks of each person (Woolcock, 1998), elsewhere Woolcock and Narayan have stated that social capital is the norms and networks that make people act collectively (Woolcock & Narayan, 2000).

The Organization for Economic Co-operation and Development has defined social capital as "Networks, common norms and perceptions that facilitate intra-group collaboration." In addition, the World Bank has defined social capital: "Social capital refers to institutions, relationships, and norms forming the quality and quantity of social interactions in a society. Social capital is not only the sum of the basic institutions of society but also a set of bonds holding them together" (Noghani & Asgharpoor Masouleh, 2008). Using this concept has increased since the 1990s little by little in dissertations and academic papers, especially in sociology, economics, politics and education (Wall, Ferazi & Schyer, 1998).

Considering social capital, there are several theories and approaches, some of which are tackled here:

George Zimmel believed that the structure of society was a combination of double realities making sense, and sometimes this shows two periods of the evolution of history. However, understanding each one needs understanding the other, and understanding the totality of society needs understanding the relationships between these two components. Anthony Giddens separates two kinds of trust: a) trusting certain people and b. trusting individuals or abstract systems. An abstract trust involves awareness of the risk and the person to be trusted (Iranian Society of Sociology, 2004). According to Pierre Bourdieu, social capital is a social product taken from social interaction. His stress is on the participation of individuals in social networks, enabling them to have access to the resources and facilities of the group (Abolhassan Tanahi & Hazrati Somee, 2009).

James Coleman stated that social capital could show up in three types: 1) Excellence and expectations relying on trustworthiness of the social environment, 2) the capacity of information to transfer and move in the social structure to provide the context for action, and 3) the existence of norms effective with the guarantee of execution. Coleman argues that social capital has

to do with social interaction (ibid, 45). Francis Fukuyama stresses the existence of informal norms and values in a group. According to this perspective, the norms producing social capital should encompass issues such as honesty, commitment, and mutual communication (ibid, 46).

Components of social capital A review of the literature on social capital shows that the following components and indicators should be considered:

a. Social participation and collective action: this implies the development of inter-group relationships as voluntary associations, clubs, unions and groups that usually have local and non-governmental character to engage people in various social processes as social policies (Heydari Mokarar, Sheibani Shad, Mohammadzai Rad & Ganrezafat, 2015).

b. Social solidarity and cohesion: this is a kind of feeling of communication and interaction with others, meaning that it is a sense of mutual responsibility between several individuals or groups (Birou, 1991).

c. Social trust: it is among the requirements of the occurrence of social capital and, as an inherent component, presents the norms that result from social networks (Field, 2007). Social trust refers to socially accepted expectations and commitments that people have from each other and the institutions associated with their social life (Kiani & Mirzapour, 2009).

d. Common norms and values: People through encouragements and punishments learn them, so that in many societies, strong norms and participatory networks minimize the risk of decisiveness.

e. Social networks: social relations of the individuals and their interactions with each other make the most important part of social capital, and networks as the pursuit of two other components of social capital, the norms of trust and participation (Ebrahimzadeh & Zare, 2014).

Miri, Javan, Afrakhteh, Velayati & Shayan (2010) examined the role of social capital in developing villages in Abposhtan of Sistan. The results showed that social capital in the study area is moderate and the highest level of variance among social capital dimensions has to do with the network aspect. This shows the high level of network and social bonds in the rural areas studied. There was a significant relationship between social capital and rural development, regarding which, each of these parameters can have a critical role. Thus, strengthening social capital in the studied area can play an important role in rural progress.

The study of Farahani et al. (2012) about the role of social capital in the Mashhad Mighan rural district showed that besides the increase of social capital assisted by people and local institutions like the village councils, government performance cannot be without effects. The government can somewhat open the way for rising social capital in rural areas. Moreover, one can delegate part of its responsibilities to NGOs, which will also contribute to increasing social capital in rural areas by completing rural communities and cooperatives. The result of this two-way communication is increase in social capital can help to increase the level of rural development.

Salehi Amiri. Ghademi & Beigzadeh (2012) studied the effect of social capital on sustainable development aspects. The findings indicated that the direct and significant effect of social capital on the aspects of sustainable development is 88%, sustainable economic development 71%, social and environmental dimension of sustainable development and ultimately 70% on the sustainable development of the political aspect.

Nasrallahi & Eslami (2013) examined the relationship between social capital and sustainable development in Iran. The outcomes approved the relationship between social capital and environmental pollution. In other words, the more social capital in its positive sense is, the less polluting and degrading the environment will be.

In a paper, Salari Sardari, Beiranvandzadeh & Alizadeh (2014) examined the role of social capital in sustainable local development. The results of the study, given the direct relationship between sustainable development and social capital, indicated that the level of social capital and participation in rural settlements relative to urban settlements, since the local indigenous factor in the development of the region, is more effective in furthering the objectives of sustainable development of the area.

Romiani et al. (2015) studied the effects of social capital on sustainable development of villages, and the outcomes did not indicate relationship

between the aspects of sustainable rural development and coherence. Nonetheless, trust is the most significant element among the components of social capital in sustainable rural development and then local institutions have had the least effect on sustainable rural development in the study area.

3. Research Methodology

3.1 Geographical Scope of the Research

The study place was Hassan Abad rural district from the central part of the Islamabad-e Gharb with an area of 338.1 square kilometers (Agriculture Jihad of Khemesh in Kermanshah, 2011). The rural district has 22 villages with a population of 9596 inhabitants and 2399 rural households (Statistics Center of Iran, 2011) located between Kermanshah as the capital of the province and the Islamabad-e Gharb as the second largest city in the province. Hassan Abad plain is one of the most important plains of the city and province (Figure 1).

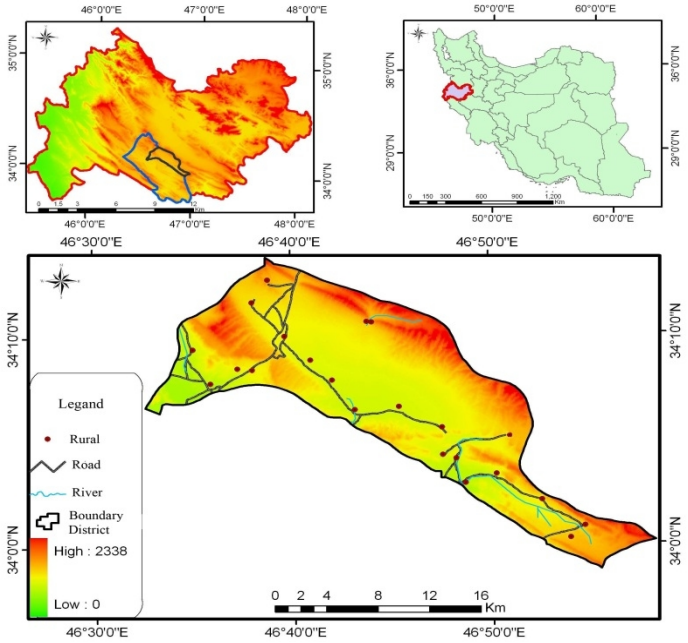

Figure 1. Location of Kermanshah, Islamabad-e-Gharb and Hassanabad Dehestan
Source: Research findings, 2017

2.3. Methodology

The study was applied, quantitative, and survey, where documentary study and field research were used for data collection. The documentary method was used in problem statement, theoretical foundations, and the literature. The data were collected from the villages using field research and the questionnaire tool. In addition, to measure the social capital of villages studied, based on documentary studies, components and items were formulated and evaluated by survey method.

3.2.1. Population and sampling

In the present study, the level of analysis is 22 villages in Hassan Abad rural district of central Islamabad-e Gharb, and the population of the study was 2399 households with a population of 9596 people (Statistics Center of Iran, 2011). Cochran formula was used to determine the sample size. Accordingly, the sample size was determined to be 331 households, soaring to 350 households to cover the probability of error. Sample size distribution in the studied villages was by proportional allocation method. Moreover, random simple was done in the villages examined (Table 1).

Table 1. Population and sample size distribution in the villages examined
Source: Research findings, 2017

	Village name	Number of households	number of samples		Village name	Number of households	number of samples
1	Hassan Abad	321	47	12	Shahini	89	13
2	Anjirak	198	29	13	Kamreh Olia	78	11
3	Dalou Hassan Abad	151	22	14	Mohammad Ali Khani	76	11
4	Kamarzard	150	22	15	Mandarak	71	10
5	Bagheraabad Sofla	150	22	16	Lorini Ajudani	71	10
6	Tang-e-Shohan Olia	143	21	17	Sheet Kamarzard	69	10
7	Dah Kerisheh	136	19	18	Darkhor Hassan Abad	58	9
8	Bagheraabad Olia	132	19	19	Sarab Shahini	49	7
9	Tang-e-Shohan Sofla	128	18	20	Farrohk Khani	45	6
10	Siah Khor	128	18	21	Karim Haseleh Sofla	26	3
11	Gorgi Mandarak	125	18	22	Karim Haseleh Olia	5	5
Total sample						2399	350

3.2.2. Components and items

The following issues were proposed as 35 items to examine the social capital and environmental sustainability of the villages surveyed, according to theoretical foundations and literature review:

A. Social trust with six items
B. Social solidarity with seven items
C. Social participation with seven items
D. Common norms and values with nine items
E. Social networks with six items

3.2.3. Data collection and measurement tool

The study used field method and questionnaire to collect data from the villages studied. In this regard, a questionnaire was developed with components and the items stated. One has to state that field operations were done through direct questioning.

Content validity method was used to examine the validity of the tool. Therefore, some university professors and relevant experts were given the questionnaire. The interviews were done with the interviewees and their comments and opinions were received to correct and resolve the ambiguity of the questionnaire's questions and items about their validity. Furthermore, the reliability of the questionnaire was calculated with the help of Cronbach's alpha. The reliability of the social trust was 0.73, social solidarity 0.75, social participation 0.86, common norms and values 0.77 and social networks 0.71 showing the reliability of the questionnaire.

4. Research Findings

4.1. Explaining the components of social capital

This part explains and prioritizes the items of each component in the studied villages.

a. Social Trust:

Examining the items related to social trust was indicative of the fact that the respondents' views have earned the highest confidence among neighbors with a mean of 4.32 and the trust in the county with a mean of 3.14 had the lowest level (Table 2). Unfortunately, state institutions at the local level have not succeeded in gaining the trust of the people. Among the villages studied, Sheet Kamarzard with a mean of 4.05 is the highest and Upper Kamareh with a mean of 3.28 was the lowest.

Table 2. Prioritization of social trust components
(Source: Research findings, 2017)

Items	The effect (percentage)					Average
	Very low	Low	Average	High	Very high	
Trust in rural district and village council	0	12.3	28	56.9	2.9	3.50
Confidence in district governing	0.09	20.6	44.3	32.6	1.7	3.14
Trust in the staff of government agencies	0.03	2.7	30.9	58.6	8.6	3.73

Table 2.

Items	The effect (percentage)					Average
	Very low	Low	Average	High	Very high	
Trust in the police force	0.09	10.9	28.3	55.4	4.6	3.52
Village people trusting each other	0	4.6	23.1	55.4	16.9	3.85
Trusting neighbors	0	0.03	6.6	54	39.1	4.32
Social trust						3.67

B. Social solidarity components- Examining social solidarity issues shows that according to the respondents, the inverse of the disagreement leading to physical conflict with an average of 4.45 had the highest priority and attention to common interests in decision making with a mean of 3.01 was at the lowest level (Table 3). From among the villages examined, Tang-e-Shohan Sofla, with a mean average of 3.76 had the highest social solidarity and Hassan Abad the lowest with 3.27.

Table 3. Prioritizing the components of social solidarity
(Source: Research findings, 2017)

Items	The effect (percentage)					Average
	Very low	Low	Average	High	Very high	
Inverse disagreement leading to conflict	48	49.7	2	0.03	0	4.45
Inverse disagreement leading to complaint	0.125	68.6	6.3	0	0	4.19
The village people's attention to social duties	0	10.3	39.4	48.9	1.4	3.41
Feel the responsibility to help others	1.1	15.1	31.4	46	6.3	3.41
The spirit of teamwork	2	22.3	30.6	42.3	2.9	3.22
Paying attention to common interests in decision making	4	26.3	34.9	34.6	0.03	3.01
The tendency to solve problems at village meetings	1.7	2.31	37.7	35.7	1	3.13
Social solidarity						3.54

C. Component of social participation- The study of social participation indicates that based on the respondents, the material and spiritual partnership in the rituals with a mean of 3.98 has the highest priority. Participation in the construction projects and maintenance of the rural buildings and facilities with a mean of 2.83 is at the lowest level (Table 4). We can conclude that despite the presence of the fields of participation, especially in events like participation in the events and programs of villagers, the participation of the community in the basic cases, such as the adoption of a collective decision or maintenance of the village building, is at a low level. In other words, participation in the main fields of rural development is not observed. Among the studied villages, Dalou Hassan Abad with an average of 3.66 and Upper Kamareh with an average of 3.01 percent, have the lowest social participation rates.

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Table 4. Prioritizing the components of social participation component
(Source: Research findings, 2017)

Items	The effect (percentage)					Average
	Very low	Low	Average	High	Very high	
Participation in the current affairs of the village	0.09	16.9	37.4	44.3	0.06	3.27
Participation in rural development projects	2	40.9	30	26	1.1	2.83
Material and spiritual partnership at the ceremony of the villagers	0	3.4	19.7	52.3	24.6	3.98
Participation in village decisions	0.06	15.1	35.1	47.7	1.4	3.34
Participation in collective decision making	0	26.3	44.9	28.9	0	3.03

Table 4.

Items	The effect (percentage)					Average
	Very low	Low	Average	High	Very high	
Participation in protecting natural attractions	0.03	4.6	34.3	55.4	5.4	3.61
Participation in rural health	2	18.3	31.1	44.3	4.3	3.31
Social participation						3.33

D. Common norms and values- Examining the norms and values indicates that according to the respondents, the level of adjustment of villagers with a mean of 3.91 has the highest priority and the existence of the morale of lending money and tools to one another with a mean of 3.04 is at the lowest level (Table 5). Of the villages examined, Tang-e-Shohan Sofla, with a mean of 3.90 has the most and Kamar Zard, with a mean of 3.31 has the least common norms and values. Moreover, it was found that Tang-e Shohan Sofla, which has the most common norms and values, is at the highest level in terms of social solidarity.

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Table 5. Prioritizing the terms of the component of common norms and values
(Source: Research findings, 2017)

Items	The effect (percentage)					Average
	Very low	Low	Average	High	Very high	
Forgiveness and generosity of the people of the village	0	6.9	30.9	53.1	9.1	3.65
Integrity in speech and behavior	0	11.1	37.7	48.3	2.9	3.43
Trustee of the villagers	0	5.1	33.1	53.1	8.6	3.65
Commitment to Proposals	0	6	26.3	56.3	11.4	3.73
The morale of dealing with social anomalies	0	4.6	26.9	57.4	11.1	3.75
The extent to which villagers are compatible with each other	0.03	1.1	2.11	60	16.6	3.91
The morale of lending money and tools to each other	2	29.1	33.11	34	1.7	3.04
The spirit of respect for the elderly	0	7.4	28	54.9	9.7	3.67
The spirit of respect for nature	0.06	6.9	33.4	54	5.1	3.56
Common norms and values						3.59

E. Social network component- Studying the items in connection with this component indicates that the settlement of village problems in communication between residents with a mean of 3.88 has the highest priority and membership in local associations with a mean of 1.98 has the lowest level. This translates into the fact that social networks in the population under study has not had much maturity and development, and while many current issues in the village are solved by communication between local people, local institutions or organizations have not been formed, or membership has not been welcomed (Table 6). Regarding the villages examined, Siyah Khor with a mean of 3.58 has the highest and Karim Haseleh Sofla the lowest components of social networks with a mean of 2.55.

Table 6. Prioritizing the components of social networks
(Source: Research findings, 2017)

Items	The effect (percentage)					Average
	Very low	Low	Average	High	Very high	
Membership in local associations and associations	30	50.9	10.6	8.4	0.03	1.98
Join Local Traditional Groups	2.6	12.9	27.4	51.4	5.7	3.45
The role of the Council and the Delegation in increasing the interaction between people and institutions	3.1	24.9	30.9	43.3	0.09	3.11

Table 6.

Items	The effect (percentage)					Average
	Very low	Low	Average	High	Very high	
Resolving village issues in interaction with the village council	1.7	28.9	33/7	34.6	1.1	3.05
Resolving village issues in communication between residents	0	2	21.4	62.9	13.7	3.88
Solving village issues in the interaction between relatives and friends	0.03	2.9	22	59.1	15.7	3.87
Social network						3.21

4.2. Social capital ranking

After handing out the questionnaires and data collection, positive indices reversed negative indices to avoid the wrong results. The villages examined were ranked based on social capital. Examining the components of social capital in the villages examined indicates that Siyah Khor with the score of 128.44 had the highest and the Tang-e Shohan Sofla with 126.94 was in the second place and Sheet Kamarzard with the score of 114.09 had the other ranks, respectively. Furthermore, Upper Kamareh Olia with 115.09, Karim Haseleh Sofla with 114.66 and Kamarzard with 114.09 were at lower ranks, respectively, with the range of changes between the highest and the lowest as 14.35 (Table 7).

Table 7. Ranking of villages in terms of social capital
(Source: Research findings, 2017)

Description / Village name	Score	SD	Rank	Description / Village name	Score	SD	Rank
Siyah khor	128.44	8.83	1	Sarab Shahini	121.42	8.61	12
Tang-e-Shohan Sofla	126.94	8.97	2	Shahini	121.30	10.50	13
Sheet Kamarzard	126.50	10.86	3	Dah kerisheh	121.26	8.64	14
Gorgi Mandarak	126.50	12.34	4	Hassan Abad	118.63	11.36	15
Bagheraabad Olia	126.21	10.74	5	Karim Haseleh Olia	118	8.33	16
Anjirak	126.89	8.45	6	Mohammad Ali Khani	117.54	7.48	17
Darkhor Hassan Abad	125.22	11.69	7	Lorini Ajudani	117.40	10.10	18
Tang-e-Shohan Olia	124.66	8.21	8	Bagher Abad Sofla	117.27	11.34	19
Dalou Hassan Abad	124.50	7.13	9	Kamreh Olia	115.09	9.74	20
Mandarak	122.50	8.23	10	Karim Haseleh Sofla	114.66	13.86	21
Farrohk Khani	122.16	11.53	11	Kamarzard	114.09	9.66	22

4.3. Leveling social capital

The villages examined were classified into three levels of social capital, medium social capital, and poor social capital in terms of social capital. The social capital variations are divided into the number of classes (3 classes) to specify the distance between classes, (Table 8).

Table 8. Villages in the scope of the study by the level of social capital
(Source: Research findings, 2017)

The level of social capital of the village	Village		The value of social capital index
	Frequency	Percentage	
Villages with high social capital	9	40.90	124-129
Villages with medium social capital	5	22.73	119-124
Villages with poor social capital	8	36.37	114-119
Total	22	100	-

Of the 22 villages studied, nine villages (40.9%) were considered as high social capital villages, 5 villages (22.73%) as villages with medium social capital and 8 villages (36.37%) as villages with poor social capital (Figure. 2).

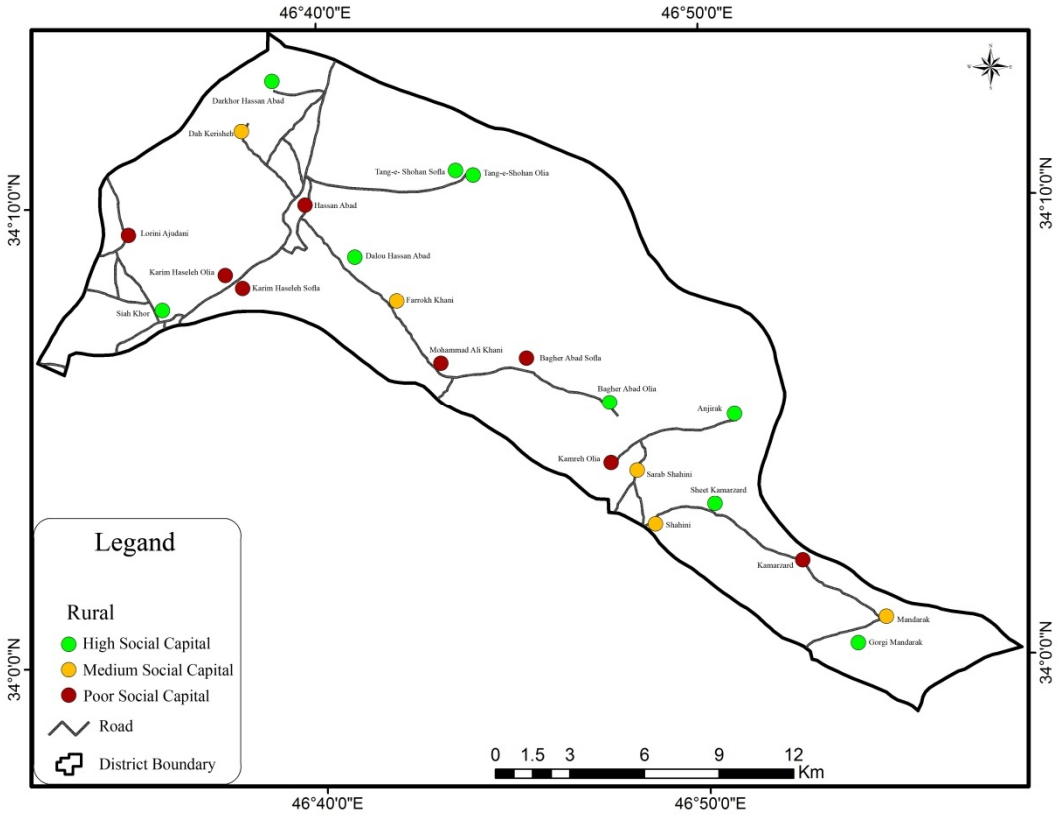

Figure 2. Spatial distribution of villages in Hassan Abad in terms of social capital
(Source: Research findings, 2017)

4.4. Analysis of the results

As already mentioned, one of the objectives of the study was to examine the difference between the studied villages in terms of social capital. In doing so, the villages were categorized based on population criteria, the people with university education, literacy rate, percentage of employees and distance from villages. Kruskal Wallis test was utilized, as the number of groups was more than three groups. The results showed a great difference in the social capital between population groups, academic education, literate people and percentage of employed in the 99% confidence level, whereas there were no significant differences in the distance from the main group. In other words, distance between villages and the main roads contained no effect on their social capital (Table 9).

Table 9. The difference in social capital of the villages studied by grouping
(Source: Research findings, 2017)

The value of the social capital index	Social capital		
	Chi square	Degree of freedom	Sig.
Population	51.081	2	0.000
University education	25.212	2	0.000
Percentage of literate people	10.970	2	0.004
Percentage of employees	40.790	2	0.000
Distance from main road	1.909	2	0.592

Moreover, the researchers strived to specify the value and direction of the relationship between the main parts of social capital. Spearman correlation test was used in this regard. The result were

indicative of a positive and significant relationship between the parts at a 99% confidence level and just the relationship between social solidarity and social network is at 95% confidence level. This means that if any of the components of social capital is strengthened, other components and, overall, social capital will be strengthened (Table 10).

Table 10. Correlation between components of social capital
Source: Research findings, 2017

The first variable	The second variable	Correlation coefficient	Sig.
Social trust	Social solidarity	0.657	0.000
	Social participation	0.664	0.000
	Common norms	0.594	0.000
	Social Networks	0.516	0.000
Social solidarity	Social participation	0.559	0.000
	Common norms	0.837	0.000
	Social Networks	0.136	0.011
Social participation	Common norms	0.301	0.000
	Social Networks	0.447	0.000
Common norms	Social Networks	0.152	0.004

5. Discussion and conclusion

Examination of the items connected with social trust showed that the respondents considered the trust in the neighbors was the highest priority and the trust in the district governing at the lowest level. This may be because, unfortunately, state institutions at the local level have failed in obtaining the trust of the people. Of the villages studied, Sheet Kamarzard had the highest and Upper Kamareh the lowest level of social trust. Examining social cohesion indicated that, according to respondents, the inverse of the disagreement ending in the physical involvement had the highest priority, and the focus on the common interests in decision-making is at the lowest level. Among the villages examined, Lower Tang-e Shohan possessed highest and the Hassan Abad the lowest level of social solidarity. Furthermore, examining the components of social participation indicated that due to the respondents, the material and spiritual participation in the ceremony of the villagers has the highest priority and participation in construction projects and maintenance of the building and facilities of the village the lowest level. According to this, one can conclude that despite the areas of participation especially in events like participation in the rituals and programs of villagers, the participation of the society in the basic cases including the adoption of collective decision or maintenance of the village building is low. In other words, participation is not seen in the main issues of rural development. Among the villages examined, Dalou Hassan Abad village has the highest social participation rate and Upper Kamareh the lowest level of social participation. Moreover, it was shown that of Upper Kamareh, with the lowest level of social trust, is also at the lowest level regarding social participation. Therefore, it appears that state institutions try to increase the social participation of villagers in carrying out construction projects and other cooperative activities and achieving sustainable development must work for strengthening and promoting social trust among the villagers. Examination of the items connected with norms and shared values was indicative of the fact that, according to respondents, the level of adjustment of the villages with each other received the highest priority and the existence of the morale of lending money and tools is at the lowest level. Of the villages examined, Lower Tang-e Shohan has the highest and Kamarzard the lowest usual norms and values. Furthermore, it was indicated that Lower Tang-e Shohan, which has the highest level of common norms and values, is at the highest level in terms of social solidarity too. Examining social network items also showed that respondents considered the solution of village problems in communication between residents is the highest priority and membership in associations is at the lowest level. This implies that social networks in the population under study

lacked maturity and development, and whereas numerous present problems are resolved in the village by communication between local people, local institutions or organizations have remained unaware, or membership has not been welcomed. Of the examined villages, Syah Khor is the most and the Lower Karim Haseleh has the least social networks. Field observations showed that local communities lacked in most of the villages surveyed. In general, Siyah Khor, Tang-e Shohan and Sheet Kamarzard ranked first to third in terms of social capital.

Upper Kamareh, Lower Karim Haseleh, and Kamarzard had the lowest ranks, respectively. Furthermore, the villages examined were classified into three levels of high social capital, medium social capital and poor social capital regarding social capital. According to this, of the 22 villages examined, nine villages (40.9%) were as high the villages with high social capital, 5 villages (22.73%) as villages with medium social capital and 8 villages (36.37%) as villages with poor social capital. Testing first hypothesis indicated a significant difference between the studied villages according to the population criteria, university education, literacy rate and percentage of employed people at a confidence level of 99%. However, there were no significant differences in the distance from the main road. Examination of the second hypothesis indicated a positive and significant relationship between social capital components at 99% confidence level and only the relationship between social solidarity and social networking was approved of at 95% confidence level. In general, the results were indicative of the fact that in some components of social capital like social participation, social trust, and social networks, related to the functioning of local institutions, the institutions have not had sufficient performance and planning to win the trust and participation of the people as well as create and strengthen social networks. Nonetheless, social solidarity and common values and norms as more the function of the ethnic and native characteristics of the villages have a better status relative to the other components and are in the first priority and second ranks in terms of the effect level.

Suggestions

1. Local authorities on a regular and continuous base in villages, holding reflection sessions with villagers on the problems of the villages, and specifying the plans and actions and presenting the performance report to the people
2. Polling the people and giving significance to the people's demands and prospective on the implementation of the programs and the priority of the projects to win the trust of the people
3. Holding community and public programs with cultural, artistic or sporting roles in a proper time
4. Strengthening and extending reliance on the national and religious values, particularly among the youth of the village, and increasing interactions and connections between residents and local authorities, and using this potential for education and empowerment, empathy and social solidarity of villagers.
5. Using indigenous and local norms and values, and the promotion of religious teachings stressing the social participation of people in the community, and educating and raising the awareness of villagers about the significance of their participation and its role in society
6. Strengthening common norms and values in the villages and enhancing them in workshops or religious ceremonies
7. Building and strengthening NGOs and different cooperatives and changing the attitudes of villagers towards collective actions and membership in local associations.

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سنجش سطح سرمایه اجتماعی سکونتگاه‌های روستایی (مطالعهٔ موردی: دهستان حسن آباد شهرستان اسلام آباد غرب)

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چکیده مبسوط

1. مقدمه

سرمایه اجتماعی نقش مهمی در توانمندسازی جوامع روستایی دارد و تلاشی برای تضمین توسعه پایدار روستایی است؛ تقویت آن باعث افزایش مشارکت و ارتباط فرد با افراد دیگر شده و این مشارکت و انسجام باعث پایین آمدن هزینه دستیابی به اهداف و برنامه‌های توسعه‌ای می‌شود. بنابراین با توجه به اینکه پیشرفت و توسعه پایدار، مستلزم حضور، اعتماد و مشارکت آحاد روستاییان در روند توسعه است و این امر امکان‌پذیر نیست، مگر آنکه روحیه مشارکت، اعتماد و همبستگی اجتماعی را به شکلی مدرن و در قالب تشکل‌های دولتی و غیر دولتی در روستا بالا برد. لذا برای افزایش سطح توسعه در روستاها و دستیابی به توسعه پایدار، استفاده و تقویت سرمایه اجتماعی ضروری می‌باشد.

2. مبانی نظری تحقیق

سرمایه اجتماعی جامعه شامل رسوم، روابط، نگرش و ارزش‌هاست که بر تعاملات بین مردم حاکم است و به توسعه اقتصادی و اجتماعی منجر شده، و عنصری مطلوب برای انجام همکاری‌های درون گروهی است که هرچه میزان آن بالاتر باشد دستیابی به اهداف گروه با هزینه کمتری انجام می‌گیرد. اگر در گروهی ویژگی‌هایی مانند اعتماد و هنجارهای مشوق مشارکت و سرمایه اجتماعی به اندازه کافی فراهم نباشد، هزینه‌های همکاری افزایش خواهد یافت و تحقق برنامه‌ها، پرهزینه و زمان‌بر خواهد بود. در مقابل، وجود سرمایه اجتماعی به میزان کافی و مناسب، سبب برقراری انسجام اجتماعی و اعتماد متقابل شده و هزینه‌های تعاملات و همکاری‌های گروهی کاهش می‌یابد و در نتیجه عملکرد گروه با هزینه کم و در زمان کمتر بهبود می‌یابد. مؤلفه‌های سرمایه اجتماعی نیز شامل: 1. مشارکت اجتماعی و عمل جمعی، 2. انسجام و همبستگی اجتماعی، 3. اعتماد اجتماعی، 4. هنجارها و ارزش‌های مشترک، 5. شبکه‌های اجتماعی می‌باشد.

3. روش تحقیق

روش تحقیق حاضر، کاربردی، کمی، پیمایشی است و به منظور گردآوری اطلاعات و شناسایی روستاهای هدف تحقیق از دو روش جمع آوری اطلاعات یعنی روش اسنادی و میدانی استفاده شده است. برای جمع‌آوری داده‌ها از سطح روستاهای مورد بررسی از روش میدانی و ابزار پرسشنامه استفاده شد. در این راستا پرسشنامه‌ای درقالب 5 مؤلفه که شامل 35 گویه می‌باشد طراحی گردید. لازم به ذکر است عملیات میدانی به روش پرسشگری مستقیم انجام گرفته است. در تحقیق حاضر، سطح تحلیل 22 روستای دهستان حسن‌آباد، بخش مرکزی اسلام‌آباد غرب و جامعه آماری پژوهش شامل 2399 خانوار با جمعیت 9596 نفر می‌باشد. روایی تحقیق با استفاده از نظر اساتید و کارشناسان دانشگاه مورد تأیید قرار گرفت. همچنین پایایی پرسش‌نامه با روش آلفای کرونباخ محاسبه و معادل 83/. می‌باشد. برای تعیین حجم نمونه از فرمول کوکران استفاده شده است. براین اساس حجم نمونه 331 خانوار برآورد شده است که برای پوشش دادن احتمال خطا، حجم نمونه را به 350 خانوار افزایش داده‌ایم. توزیع حجم نمونه در روستاهای مورد بررسی با روش انتساب متناسب می‌باشد. البته جهت پرهیز از

*. نویسندهٔ مسئول:
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خطا و امکان مقایسه روستاها، در روستاهای با جمعیت 15 خانوار و کمتر تمام‌شماری صورت گرفته است.

4. یافته‌های تحقیق

بررسی مؤلفه‌های سرمایه اجتماعی در روستاهای مورد بررسی نشان می‌دهد که روستاهای سیاه خور با امتیاز 128/44 در بالاترین رتبه، تنگ شوهان سفلی با امتیاز 126/94 در رتبه دوم و شیت کمرزرد با امتیاز126/50 در رتبه سوم قرار گرفتند. همچنین روستاهای کمره علیا با امتیاز 115/09، کریم حاصله سفلی با امتیاز 114/66 وکمرزرد با امتیاز 114/09 به ترتیب در پایین‌ترین رتبه‌ها قرار گرفته‌اند. از مجموع 22 روستای مورد بررسی 9 روستا (40/9 درصد) به عنوان روستاهای دارای سرمایه اجتماعی بالا، 5 روستا (22/73 درصد) به عنوان روستاهای دارای سرمایه اجتماعی متوسط و 8 روستا (36/37 درصد) به عنوان روستاهای دارای سرمایه اجتماعی ضعیف شناخته شده‌اند.به منظور سنجش تفاوت روستاهای مورد بررسی از نظر سرمایه اجتماعی، براساس معیارهای جمعیت، تعداد افراد دارای تحصیلات دانشگاهی، درصد افراد باسواد، درصد شاغلین و فاصله روستاها از مسیر اصلی گروهبندی شدند. نتایج گویای آن است که از نظر سرمایه اجتماعی بین گروه‌های جمعیت، تحصیلات دانشگاهی، درصد افراد باسواد و درصد شاغلین تفاوت معنادار در سطح اطمینان 99 درصد وجود دارد، درحالیکه در گروه فاصله از مسیر اصلی تفاوت معناداری مشاهده نشد. به بیان دیگر عامل فاصله روستاها از جاده اصلی تأثیری بر میزان سرمایه اجتماعی آنها نداشته است. همچنین بین مؤلفه‌های سرمایه اجتماعی ارتباط مثبت و معنادار در سطح اطمینان 99 درصد برقرار است و فقط ارتباط بین انسجام اجتماعی و شبکه‌های اجتماعی در سطح اطمینان 95 درصد می‌باشد.

5. بحث و نتیجه گیری

که نتایج بدست آمده نشان می‌دهد در برخی از مؤلفه‌های سرمایه اجتماعی همچون مشارکت اجتماعی، اعتماد اجتماعی و شبکه‌های اجتماعی که مرتبط با عملکرد نهادهای محلی می‌باشند، این نهادها عملکرد و برنامه‌ریزی کافی نداشته‌اند بطوریکه در جلب اعتماد و مشارکت مردم و همچنین ایجاد و تقویت شبکه‌های اجتماعی چندان موفق نبوده‌اند، در حالیکه مؤلفه‌های انسجام اجتماعی و ارزش‌ها و هنجارهای مشترک که بیشتر تابع خصوصیات و ویژگی‌های قومیتی و بومی روستاها هستند وضعیت بهتری نسبت به مؤلفه‌های دیگر دارند و از نظر میزان تأثیرگذاری در اولویت اول و دوم قرار دارند. پیشنهادات زیر برای تداوم و افزایش سرمایه اجتماعی در منطقه مورد مطالعه رائه می‌شود:

1. حضور مسئولین محلی به صورت دوره‌ای و مداوم در روستاها، برگزاری جلسات هم اندیشی با روستاییان پیرامون مشکلات و مسائل روستاها و شفاف سازی طرح‌ها و اقدامات انجام گرفته و ارائه گزارش عملکرد به مردم.
2. تقویت پایبندی به ارزش‌های ملی و مذهبی علی الخصوص در میان جوانان روستا و افزایش تعاملات و ارتباطات بین ساکنین و مسئولین محلی و نیز استفاده از این پتانسیل به منظور آموزش و ترویج، حس همدلی و انسجام اجتماعی روستاییان.
3. استفاده از هنجارها و ارزش‌های بومی و محلی و تقویت آنها، ترویج آموزه‌های دینی که بر مشارکت اجتماعی مردم در جامعه تأکید نموده‌اند و نیز آموزش و افزایش آگاهی روستاییان در خصوص اهمیت مشارکت و نقش آن در جامعه.
4. ایجاد و تقویت سازمان‌های مردم نهاد و تعاونی‌های مختلف و تغییر نگرش روستاییان در زمینه فعالیت‌های جمعی و عضویت در تشکل‌ها و انجمن‌های محلی.

کلیدواژه‌ها: سرمایه اجتماعی، سطح بندی سرمایه اجتماعی، رتبه‌بندی سرمایه اجتماعی، حسن آباد.

تشکر و قدرانی

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

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The Analysis of Environmental Sustainability for Rural Housing Using Fuzzy Interference Systems (Case Study: Rural Areas in Marivan County)

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Abstract
Purpose- Housing has been one of the basic needs of the human beings, and the settlements have also been considered as the basic needs in terms of human communities. In order to satisfy such needs appropriately, traditionally human beings have intended to supply such needs as dealing with their surrounding environment. The current research intends to define the indices of housing sustainability in order to investigate the sustainability of environment for rural housing in Marivan County.
Design/methodology/approach- The required data was collected using documentary methods and field studies together with questionnaires. First, the environmental variables of sustainable housing for rural areas were defined. Next, using hierarchical sampling method together with Cochran formula, 295 rural households were selected as the sample of the study. The tool for collecting the data was a questionnaire with an acceptable reliability endorsed using pre-test, data analysis, and the calculation of Cronbach's alpha coefficient. Finally, in order to analyze the data, fuzzy interference system (FIS) was used within the MATLAB software. For mixing the results obtained from measuring the elements of environmental sustainability, the gamma fuzzy was used together with FIS.
Findings- The results indicated that the environmental sustainability of rural housing in the current research included the values of 0.9, 0.7, and 0.5 for gamma fuzzy which respectively included 0.09, 0.22, and 0.52. This indicates that the environmental sustainability of rural housing is not desirable for the areas investigated in this study.
Research limitations/implications- The most important problem with the current research was that the household heads in the rural areas could not be easily accessed for data collection.
Practical implications- With respect to the results, it is recommended that the economic, cultural, and social conditions of the rural areas and the subsistence of their native residents should be in line with the climatic and geographical conditions of the areas.
Originality/value- The results of the current research can pave the way for studying the sustainability of the rural housing, especially in the area which has been studied.
Keywords- Rural housing, Environmental sustainability, FIS, Gamma fuzzy, Marivan County
Paper type- Scientific & Research.

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1. Introduction

Traditionally, housing has been considered as one of the most important factors of living for human beings. Having a secure shelter has also been regarded as one of the oldest wishes of the human beings, and they have managed to use different kinds of methods and technologies in order to enhance the quality and quantity of housing. The importance of housing contributed to new plans on housing. However, choosing correct plans has helped development in terms of housing in many countries (Afrakhteh & Havasi, 2011). Clearly, housing is fundamentally important in terms of progress for human beings. In its universal declaration of human rights, the United Nations contends that all individuals are entitled to achieve an appropriate standard level of living for their health and well-being. According to the UN, this appropriate standard for living includes food, clothing, housing, healthcare, and social services (Choguill, 2007). During all periods of human life, especially through the recent decades experiencing population growth with high speed, housing has been regarded as one of the most important issues in terms of social and economic issues. Therefore, having access to appropriate housing for all rural and urban households, especially for the poor groups and those who are faced with social damages, have been the most important challenges which the governments and policy makers experience. Brandt's (1987) final report demonstrates that housing is one of the key needs across the developing countries. The results indicate that almost 20% of the global population lack good housing. According to the estimations, probably more than half of the population of the developing countries lives in substandard housing, while either the governments of these countries have not tended to supply higher standardized housing for their people or they cannot afford to supply such houses (Hakimi et al., 2011).

The housing plans were mostly focused on cities and what has been written on rural housing generally considered the architectures of the rural housing. However, in Iran, a higher percentage of the population live across the villages.

On the other hand, with regard to the increasing urban population and the immigration of the rural individuals towards cities, it seems necessary that the policy makers and planners focus more on rural development. Rural housing, which is one of the most important needs of the villagers and their development, should be sublimed within different plans of national development as one of the special projects.

One of the problems which has attracted the attentions of many experts has been housing and its sustainable development together with the human development. For such strategy, optimal using of the sources should be regarded. One of the important points which have been concentrated through the documents of the second meeting on human settlement was the importance of sustainable settlement and supplying good housing for people toward their development. Then, sustainable rural housing could be regarded as one of the important indicators in terms of rural development and civilization. Therefore, identification of the features for rural housing together with methods for supplying them has been highlighted (Chaparli, 2007). In other words, sustainable housing refers to those houses which are appropriate in terms of economic issues, acceptable with regard to social issues, feasible in terms of technical and physical structures and adoptable to the environment (Charles, 2007). With regard to comprehensiveness of sustainable development, the basic condition for its emergence is the issue of sustainable development. Thus, the important point is that each of the individual parts should be equally considered. For instance, the quantitative items should not solely be regarded in terms of sustainable housing. However, all of the basic developments and issues as related with human beings, nature, culture, environment and their interactions should necessarily be investigated (Taghizadeh, 2001). One of the recommendations by the promotors and missionaries on sustainable development has been regarding ecology or stressing on technology and native methods or materials toward development. Also, the possibility of spiritual growth and perfection for human being should be provided. The sustainable housing plays more important role in terms of family sustainability, social and economic growth and enhancing security of the individuals, especially in terms of enhancing cultural values together with providing emotional tranquility of the family members (Asayesh, 1996). One of the

important approaches with regard to information on sustainable housing is to use the indicators of housing sustainability. These indicators demonstrate the qualitative and quantitative conditions of the rural housing together with improving housing plans for long term (Lotfi et al., 2009).

Therefore, here, investigation on identifying and defining factors and causes of environmental sustainability for rural housing has been done as a necessary issue. Also, some recommendations will be provided on modifying the methods together with improving the affairs. So, the current research intends to reach the following objectives:

- Evaluation and definition of the indicators for sustainable rural housing in different rural areas.
- Introduction of the level for environmental sustainability of the rural housing.
- According to these objectives, the current research also intended to answer the following questions:
- How is the level of sustainability for rural housing according to the indicators of environmental sustainability?
- In terms of the situations of sustainability for rural housing, which recommendations and solutions could be provided to improve them?

2. Research Theoretical Literature

2.1. Definitions and concepts

Housing is considered as a complex and extensive concept. It has various aspects, so a unique definition could not be provided. House is regarded as a physical place and as a shelter for satisfying the basic needs of the households in which, some of the basic needs including foods, resting and protection against weather conditions is supplied (Pourmohammad et al., 2007). While housing involves physical place, it also contains the residential setting which include all the necessary services and facilities in order to help families live in wellbeing together with having some plans on employment, education and health for the individuals. In fact, the definition and concept for "housing" is not generally related with a residential unit, but it involves the entire housing environment (Mokhber, 1983). In most cases, the most important factors influencing on individuals' satisfaction of housing in neighbors, include the conditions of housing and environment (Westaway, 2006).

The rural housing is a location where the biological methods, subsistence approaches and finally the forces influencing on environment and economic and social trends emerge (Saeidi, 1994). Rural housing is different from urban housing in various aspects. The most important aspects include the functions and patterns of rural housing against the urban houses. Unlike the urban houses, the rural houses mainly have living functions with different types of functions together with many living outcomes. These houses provide the rural residence with necessary setting in terms of living, work, product storing, and protection of cattle, information, communication and holding customs. Therefore, different functions of rural houses generally include three classes: living functions, productive, subsistence and economic functions and arrangement functions. Each of the functions demand their own faces. However, it should be noted that, in all of the cases, the functions of different spaces for rural houses totally differ from each other. For instance, the living room might have living function as its major performance. Together with some productive activities like carpet weaving are performed there. In this case, the function of the space includes a living-economic one.

In consequence, it should be acknowledged that development has been based on such aspects in balance together with providing special importance for environmental, social and economic aspects. For housing, establishing balance between residential needs of the households and the necessities in terms of social and economic developments require recognition of qualitative and quantitative aspects together with perceiving their flexible natures. Housing, in terms of social and economic development, is vitally important for employment, attracting extra productive capacity, increased value added and promoted economy basis (Chaparli, 2007). A systematic perspective on the rural houses and their structures with respect to those elements building the settlements and houses in order to better identify them contributes to formation of physical and rural development which vitally influence on housing (Gray, 2004).

The theme "sustainability, planning and deepening of stable locations" has recently been

regarded in architecture literature. In terms of theory, many concepts and thoughts have been provided by scientific and academic institutes (Pourmohammad et al., 2007). Many scholars believe that sustainability requires development of thinking together with a fundamental change in thinking and practice. However, few scholars went forward and didn't closely regarded the features of such developments. Sustainable housing doesn't mean the house will remain forever, but it means that materials, energy, water will help sustainability of human economy and its structures (White, 2002). The kind of housing which can satisfy the living needs of the current generation based on the effectiveness of energy sources and provides secure neighborhoods in terms of economic, cultural and ecological problems (Edwards & Turrent, 2000). So, sustainability is not solely linked with physical problems. However, it involves extensive, social, aesthetical and economic aspects which regard such problems as air quality, reducing chemical materials, coordination between housing and natural perspective, participation of the users in designing, housing management, variety, protection of the existing settlements instead of destroying them. One of the recommendations provided by the promoters and missionaries on sustainable development is ecology or stressing on the technology and materials with ecological methods for development (Taghizadeh, 2001).

Sustainable housing should have best interaction with its environmental bed while having less influence on environment. Interaction of housing with environmental bed is considered as one of the most important factors for protecting environment, sources and energy. Also, it should be corresponded with culture, methods, traditions and economic conditions of the residence.

In addition, sustainable housing should be built using ecological materials which are compatible with climate and could be recycled. Furthermore, using good technology, security and its standards, it could be improved (Mahmoudi & Nikghadam, 2008).

Sustainability is considered as a process which involves improvements in terms of sustainability. Sustainable housing should consider five areas: protection of natural sources (earth, energy, water), logical utilization of human made sources, protection of system and its reviving potentials, justice between production, human being and classifications, prediction of health, security and safety (Edwards & Turrent, 2000).

One of the important ways of being informed of housing condition for rural sustainability is to use housing indicators (Azizi, 2004). On the one hand, these indicators demonstrate the qualitative and quantitative features of the rural housing in each individual interval and on the other hand, they provide effective guideline for improving future plans. In fact, the indicators include the measurement tools for housing sustainability and its development together with calibrating its success and materialization of housing policies. Therefore, in addition to evaluating the situation, it is applied the formulating quantitative objectives for plans (Hekmatnia, 2006). These indicators could be divided in terms of their nature and theme. For nature, they are classified in two groups including qualitative and quantitative one. And for theme, they are classified into four parts including economic, social, physical and environmental ones.

Here, with respect to the indicators in terms of the experiences obtained in Iran and across the globe, according to the environmental conditions for housing and their residence at the study area, the factors and items for measuring environmental sustainability of rural housing have been provided within questionnaires on rural households which include a five level Likert scale "very low, low, a little, high, very high). Since the data was analyzed using FIS and within the MATLAB software, it should be noted that, with respect to work overload in terms of defining data bases, a twelve items fuzzy rule was developed in order to measure environmental sustainability of rural houses. Through four factors which they divided evenly (Table 2).

2.2. Research background:

According to research literature and the history on research problems, one of the main steps for starting a typical research is literature review, because the information from such investigation complements the results of the research. Many investigations have been done on rural housing. Table one summarizes some of the researches:

Table 1. a summary of background on researches for sustainability of rural housing
(Source: Research findings, 2017)

Row	Subject	Authors	Date	Results
1	Housing policy in Nigeria	Vinsinteg o et al	2001	The role of housing policies, housing access, housing infrastructures, construction regulations, construction materials and housing-related industries have been investigated by emphasizing on increasing the role of the private sector.
2	Upper roof, qualitative assessment of rural housing services in India	Gopta et al	2009	In a study conducted in the villages of India, they achieved the following results: rural housing in India faces many challenges, including lack of land, the poor rural population, and the inability to use good materials for housing and lack of awareness from up-to-date technologies in housing construction which requires more attention from the government and authorities.
3	Rapid recovery of rural areas against reducing land use policy in Chinese villages	Lee et al		This paper examines the reduction in land use policy adopted by the Chinese government. The results of this paper indicate that the reconstruction of rural housing in China is a hybrid process involving the reconstruction of housing in European countries, which is distinctly different from the political, social, and cultural fields of China.
4	Sustainable development of rural construction structures based on local identity	Sarfaraz et al	2013	MCDM is used as a new hybrid model in this research. First, SWARA is used for weight criteria, and then COPRAS is used to evaluate the five selected structures in the climatic conditions of these areas. The authors suggest that this research can be useful as a framework for use elsewhere around the world.
5	Study of sustainable housing indices in rural areas	Shayan et al	2014	The results of statistical analysis in SPSS show that five factors - amenities, economics, constructing power, productivity and environmental compatibility - can explain about 82% of variance of research variables. Considering these factors is essential in the planning of applicable housing.
6	Assessing sustainable housing development in a developing country	Yigitcanl ar et al	2015	The results show that policymakers, planners, development agencies, and researchers support further studies on local sustainability and emphasize the need for collective efforts and an effective process to achieve local sustainability and form sustainable settlement.
7	Sustainable city development and housing	Moham mad Taghizad eh	2001	Considering the basic issues related to human, nature, culture, environment, and their impact on each other for sustainable urban development and housing is necessary and put forward results for moving towards sustainable urban development and housing.
8	Sustainable Rural Housing Pattern in Gilan Plain	Adeli Gilani	2005	The sustainable pattern of rural housing in Gilan should be designed according to cultural, economic, social and natural factors.
9	Study of informal housing indices in Iran	Hatami nejhad et al	2006	Although the characteristics of informal settlements in Iran are lower than official settlements, they are better than other countries because of basic services.
10	Indicators and Components Essential in Rural Housing Planning and Policy-making in Iran	Lotfi et al	2009	Recognition and application of rural housing indices in the long term will transform rural housing, which will lead to the provision of a suitable and developed rural housing model in the country.
11	An analysis of the role of housing loan in rural development	Afrakhte h et al	2011	The results of this paper indicate that rural housing loan policy has not been successful, as it is not presented in the framework of systematic and comprehensive rural development planning in line with the objectives of empowerment.
12	The continuation of rural housing architecture with the motivation of sustainable rural development	Zandiyeh et al	2012	With industrial advances, population growth and the expansion of traffic between towns and villages, we are faced with the construction of contemporary rural buildings that subject to a variety of disorganizations in the design, selection of building systems, organs, and so on.

Table 1.

Row	Subject	Authors	Date	Results
13	Analysis and evaluation of housing sustainability indicators in rural areas	Barghi et al	2016	Five factors of amenities - welfare, economic, building strength, efficiency and environmental compatibility are able to explain about 72% of the variance of research variables and paying attention to these factors seems necessary in the planning of sustainable housing.
14	Rural housing sustainability based on mutual information analysis	Mohammadi-Yeganeh et al	2017	The results of the statistical analysis show that the social dimension is sustainable, physical and economic dimensions are somewhat sustainable conditions, and environmental and architecture dimensions are unsustainable. Also, the results of mutual information analysis method showed that Social dimension has the highest level of influence and impressionable among the indicators.

According to previous investigations, it could be said that a lot of research has been done on housing sustainability. But, for the villages at Marivan County, no research has yet been done. Finally, the current research is a complementary research for previous investigations while the author of the research sought to design appropriate indicators for environmental sustainability of rural housing and considering the degree of stability of the indicators in villages.

3. Research Methodology

3.1 Geographical Scope of the Research

Marivan County is located in Kurdistan province of Iran, 46º, 8’ eastern longitude and 33' northern latitude and height of 1476m from the sea level at western Kurdistan. According to Iran's latest political divisions, the county has been divided into three areas including Khav and Mirabad, Sarshiv and Markazi. Khav and Mirabad include a rural district which has gotten the same name. Sarshiv has been divided into villages including Sarshiv and Golchidar and Markazi (central area) has been divided into three villages including Zarivar, Sarkal and Komasi (figure 1).

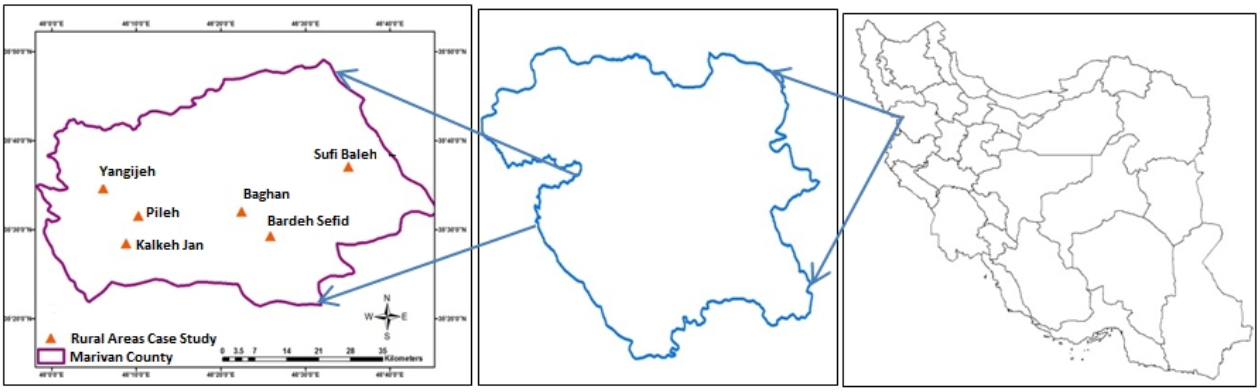

Figure 1. Spatial representation of the villages at current research
(Source: Research findings, 2017)

3.2. Methodology

In terms of objective, the current research uses an applied method because, in order to develop applied knowledge (rural development for housing sustainability of villages), clearly, the results can be used for planning. The dominant approach in terms of nature is survey which utilizes an analytical, descriptive method. However, the documentary and field observations have been used for collecting data. For description, the data and information have been obtained through using the documentary and field methods.

Therefore, the domestic and international sources including box, articles and thesis involved the desk research method. For field observation, direct observation and interview based on questionnaires completed by household heads, were considered for studying the villages. For

data analysis, fuzzy inference system (FIS) was used.

The statistical community of the research included the villages of Marivan county which were selected using a clustered method for the individual villages as the representatives of their respective villages (village Yangijeh from the village Khav and Mirabad, village Bardeh Sefid from the rural district of Komasi, village Pileh from the rural district of Sarkal and village Baghan from the rural district of Sarshiv, village Kalkeh Jan from the rural district of Zarivar and village Tazehabad Sufi Baleh from the rural district of Golchidar).

In order to determine the sample size, the Cochran formula was used and 295 household heads were obtained. For sampling, the randomly hierarchical method was applied. It means, according to the size of the households, they were randomly selected. It should be noted that total population of villages at Marivan County involves 59514 individuals (295 villages) of whom 1575 live in those villages selected as the sample of the current research. Finally, reliability of the questionnaire was measured using Cornbach alpha for which a value of 0.89 was obtained and this indicates reliability of the research tools.

Table 2. The villages of the study area and their selected samples
(Source: Statistics Centre of Iran, 2011)

Village name	Population number (person)	Number of household	Sample size
Yangijeh	385	80	66
Bardeh Sefid	333	70	59
Pileh	277	62	53
Baghan	252	61	53
Kalkeh Jan	194	42	37
Tazehabad Sufi Baleh	134	30	27
Sum	1575	345	295

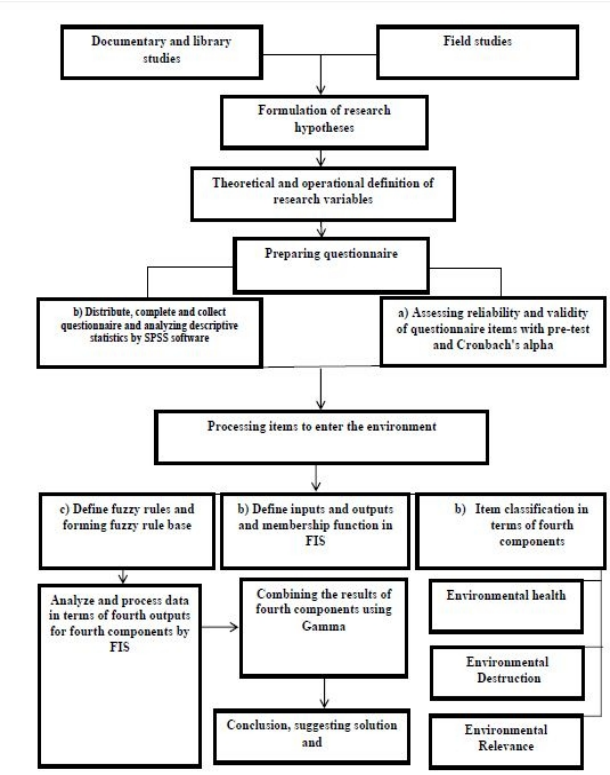

Figure 2. Research process
(Source: Research findings, 2017)

3.3. Variables and indicators of research

With respect to the indicators provided in terms of the Iranian and international experiences, the items and factors for evaluating and measuring environmental sustainability of rural housing were provided within questionnaires for rural households through a five points Likert scale (very low, low, a little, high and very high) with regarding the environmental conditions of the houses and residence at the area under study. Since the data was analyzed using FIS within MATLAB software, it should be noted that, with respect to overload in terms of defining the data base for twelve items fuzzy rules were designed in order to measure the environmental sustainability of rural housing with regarding four factors (table 3).

Table 3. Dimensions, factors and items of questionnaires provided to the households for measuring environmental sustainability of rural housing

(Source: Research findings, 2017)

Factor	Items	Item orientation	Number of items
Environmental destruction	To what extent did your housing construction cause the destruction of agricultural land and land use change?	-	3
	To what extent has your housing construction been eroded grasslands?		
	How much wood do you use to consume fuel (cooking, heating, etc.)?		
Environmental health	To what extent do you consider suitable sewage system (absorption well) in your housing?	+	3
	How satisfied are you with the health of your village passages?		
	How satisfied are you with the health of drinking water in the village?		
Environmental relevance(1)	How satisfied are you with the distance your home has with flood right of way?	+	3
	How satisfied are you with the slope of your home?		
	How satisfied are you with natural lightning and daylight illumination throughout the day?		
Environmental relevance(2)	To what extent your housing design and the type of materials used in it can cause to save energy?	+	3
	To what extent native materials have been used to build your home?		
	How satisfied are you with the calmness your home provides against crowd and noise?		

4. Research Findings

Data analyzing, measuring, and assessing environmental stability level of rural houses in the region under study were carried out using fussy inferential system (FIS) in Matlab. Finally, theoretical foundation results and field findings analysis of the study were summarized and recommendations toward improvement of environmental stability of rural houses and the houses in the region under study in particular were proposed. Since the study relies on FIS for data analyses, a short explanation about the system is due. Afterward the results of analyses are represented. Fuzzy sets were first introduced by Prof. Lotfizadeh (1965) for situations that more than one probability is expected. In definite sets, one member is either a member of the set or not. Therefore, the membership value is either 1 or 0. However, in fuzzy sets, each element may be assigned with any number between 0 and 1. Fuzzy logic can use indefinite functions “AND / OR” for illogical aspects of the variables and differences of fuzzy sets. In FIS, “IF and THEN” are used to combine knowledge base and connect input fuzzy variables and output variables (Ross, 2010, p 28). FIS is the most common type of fuzzy inferential method where each fuzzy rule is the minimum membership level for the condition represented by the rule. Only the regions covered by the rule are taken into account. Fuzzy inferential method was utilized here. The stages of the method is as follows: determining a set of fuzzy rules; converting inputs into fuzzy value using fuzzy membership functions; combining fuzzy inputs using the rules; combining outputs using the rules for developing output distribution; defuzzification of output distribution (into definite values). Following steps were followed to implement FIS:

1- Classification and defining the variables: As mentioned earlier, measuring environmental stability of rural houses in the regions was done based on rural family questionnaire and based on 12 statements designed based on Likert's five-point scale. Since data analyses were done using FIS in Matlab and given the large volume of analysis work throughout defining fuzzy rules base, the 12 statements designed to measures environmental stability of the rural houses were categorized into 4 elements (Table 3).
2-Memberships function type was determined and the range of the values was limited to Likert's five-point scale (1-5): Each statement was ranked from -1 to +6 based on triangle members function and membership level was categorized into good, moderate, and bad (poor) categories. (Figure 3)

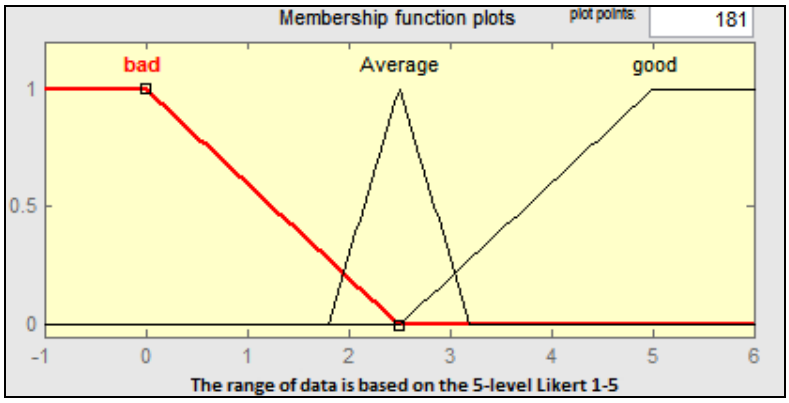

Figure 3. An example triangle fuzzy membership function for the research elements
(Source: Research findings, 2017)

A notable point at this stage is the lack of correlation between the elements of environmental stability measure. That is, there is a direct and positive relationship between the four elements of study and the three elements of environmental health, environmental relevance (1), and environmental relevance (2) based on the questionnaire designed based on Likert's five-point scale (1= very low, 2= low, 3 = relatively, 4= high; very high = 5). However, the elements of environmental destruction were negative and inverse. Therefore, the definition of values range and the triple modes (good, average, and bad) in FIS for this element is as follows (fig.4):

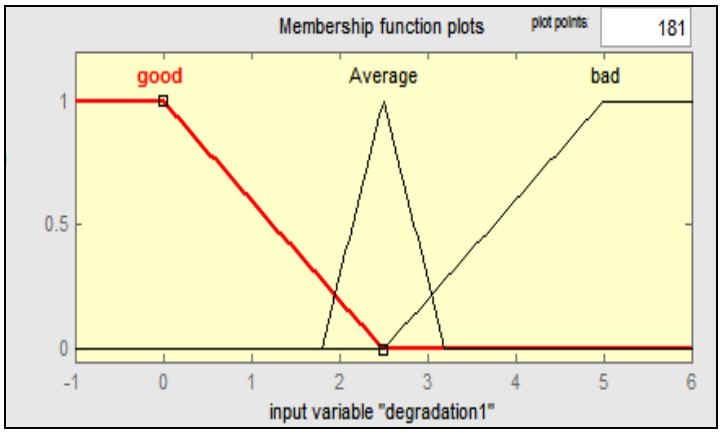

Figure 4. An example of triangle fuzzy membership function for environmental destruction element
(Source: Research findings, 2017)

3- Defining fuzzy rules and developing fuzzy rules base: At this stage and given the large number of possible combination for the statements of each element and based on If-Then rule, the rules were defined and a fuzzy rule base was created. Taking into account that each element contains three statements, and given the number of permutation in the triple combination of the statements and the elements of the system at none mode, 55 rules were defined for each element and for the four elements of environmental, environmental destruction, environmental health, environmental relevance (1) and environmental relevance (2), totally 220 fuzzy rules were defined. An example of the fuzzy rule base is shown in figures 5 and 6.

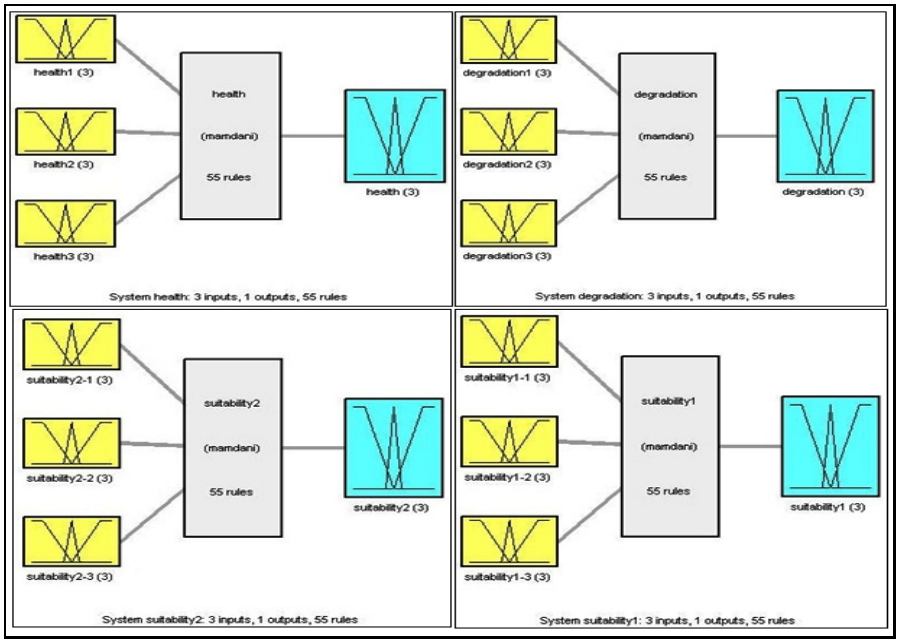

Figure 5. A general schematic view of inputs, outputs and number of rules defined in FIS
(Source: Research findings, 2017)

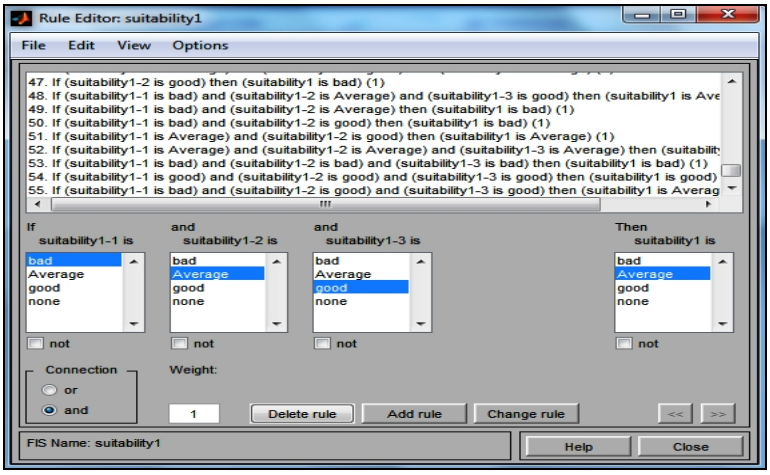

Figure 6. A schematic view of inserting rules to create fuzzy rules base in MATLAB
(Source: Research findings, 2017)

4- Combining the obtained outputs for each one of the fuzzy rules and assessment of the four elements: The obtained results from data assessment based on fuzzy rules base for each statement and the mean score of 295 questionnaires for each statement and each element are illustrated in Table 4.

Table 4. Membership rank of the four elements of rural house environmental stability
(Source: Research findings, 2017)

Membership rank of the four elements of rural house environmental stability			
destruction	**Environmental health**	**Relevance**	**Relevance**
0/27	0/31	0/35	0/37

5- Combining the results of analyzing the four elements using fuzzy GAMA: Since the membership values were combined using AND operant, which combines the sets, the minimum membership value for the elements are extracted. Minimum function and overlapping were also used by the operant and the equivalent of Intersect was defined (eq. 1). Consequently, to have more logical results, fuzzy GAMA operant was used, which is defined as in equation 2.

$$\mu_c(x) = \min \{\mu_1(x), \mu_2(x), \ldots, \mu_n(x)\} \quad (1)$$

$$\mu\text{combination} = (\text{fuzzy algebraic sum})^{y} * (\text{fuzzy algebraic product})^{1-y} \quad (2)$$

Therefore, fuzzy algebra multiplication and fuzzy algebra sum were used to combined the results for AND operant. Fuzzy multiplication is as follows:

$$\mu = \prod_{i=i}^{i=n} \mu_i \quad (3)$$

Where, μi represents membership value of ith element. All the obtained values were multiplied. Due to the nature of values between 0 and 1 – i.e. membership level of the element of fuzzy set- the operator makes the small figures converge toward 0. Thus, fewer number of pixels are categorized in very good class. Therefore, the operator is featured with high sensitivity in positioning. That is:

= 0.011 × (environmental fitness1 × 0.370) × (environmental fitness2 × 0/352) × (environmental health × 0/313) × (environmental destruction × 0/273)

Fuzzy sum operant is defined as follows.

$$\mu = 1 - \prod_{i=1}^{i=n} (1 - \mu_i) \quad (4)$$

Where, μi stands for membership value of the statement of ith element. The operator computes the addition of multiplied addition of all sets.
Therefore, the output, despite the fuzzy algebraic multiplication, increases the value of pixels toward 1. Consequently, more pixels are categorized in "very good" class. The final values are increased, which means the factors amplify each other and combining the results has an incremental effect. Therefore, the operator is less sensitive to positioning.

((1 -) + (1 - 0/313) + (1 - 0/352) + (1 - 0/370))
1 -0/273

1 - (0/727 × 0/687 × 0/648 × 0/630) = -0/796

Finally and as noted, fuzzy GAMA value is obtained through multiplying fuzzy sum by fuzzy algebraic sum. Here, 0.5, 0.7, and 0.9 are taken as the values of fuzzy GAMA and the obtained results are listed below.

$$\mu \text{ Combination} = (\text{xsum})^{0/7} * (\text{xprod})^{1-0/7} = 0/22$$
$$\mu \text{ Combination} = (\text{xsum})^{0/9} * (\text{xprod})^{1-0/9} = 0/52$$

$$\mu \text{ Combination} = (\text{xsum})^{0/5} * (\text{xprod})^{1-0/5} = 0/09$$

- In order to measure environmental sustainability of rural houses in villages Kalkeh Jan, Bardeh Sefid, Tazehabad Sufi Baleh, Yangijeh, Baghan and Pileh in Marivan county, such factors as environmental destruction, environmental health and environmental fitness were used as according with the appropriate method for analyzing the results. For combination of the results from

these factors measured by FIS, Gamma Fuzzy was applied. The results indicated that the environmental sustainability of the rural houses, in terms of Gamma Fuzzy values of 0.5, 0.7 and 0.9 are 0.09, 0.22 and 0.52, respectively. This demonstrates that the environmental sustainability of the rural houses has not been desirable. The results on instability of rural houses are consistent with those obtained by Gopta et al (2009) and Mohammadi Yeganeh et al (2017). The results showed that the instability was mostly occurred due to environmental destruction so that the rural houses were not built according to their surrounding environment. This contributed to destruction of farm lands and changes in land use. Therefore, in order to improve the situation with regarding the results from measuring the factors of environmental sustainability of the rural houses including destruction, environmental health and fitness, some guidelines and recommendations have been provided**:**

- The rural housing is subjected to subsistence, economic, cultural and social situations of the native people and is accorded with the climatic and geographical situations of the region. Due to closeness to Marivan county, this has less been seen in villages Yangijeh and Kalkeh Jan as compared to other villages**.**
- A well-developed sewage system should be established for the residential units in the villages simultaneously when rebuilding and reinforcement is done **.**
- With respect to the results indicating that housing plays a vital role in terms of producing extra additional materials in villages and the produced garbage materials aren't collected, recycle bins should be provided in appropriate places. Also, these garbage materials are collected by garbage trucks, especially in villages Kalkeh Jan, Yangijeh and Baghan which have lower health conditions as compared with other villages**.**
- Application of ecological facilities, tools and materials for building rural houses **.**
- Application of people's active participation for implementing and managing construction of housing units and rural buildings
- Formulation and development of construction rules and regulations for updating living conditions according to the culture and climate of the rural area
- Providing the villagers, researchers, designers and constructors with patterns for objective operation. The patterns should be presented in such a manner that they are not complementary uniform when modifying the design process and the villagers shouldn't be forced to follow a similar architectural plan**.**
- Given the fact that the villages Tazehabad Sufi Baleh and Bardeh Sefid are susceptible to damages due to landslide and flood, strong materials should be used for building the rural houses**.**
- Good designing and planning for villages located at inappropriate beds and removing physical problems in terms of paths, good distribution of services and improving health conditions for villagers
- Promotion and education of safety and retrofitting for rural houses**.**
- Promotion and education of providing health on rural areas through producing healthy houses (enhancement of health level in rural houses which have been studied).

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تحلیل پایداری محیطی مسکن روستایی با استفاده از روش استنتاج فازی (مطالعهٔ موردی: نواحی روستایی شهرستان مریوان)

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چکیده مبسوط

1. مقدمه

یکی از مسائلی که به شدت توجه همگان را به خود معطوف داشته، مسکن و توسعه پایدار آن و همگام با آن توسعه انسانی است. مسکن پایدار از نقش با اهمیت‌تری در ثبات خانواده، رشد اقتصادی و اجتماعی و بالا بردن ضریب ایمنی افراد و خصوصا ارتقای فرهنگی و آرامش روحی اعضای خانواده دارد و در کل سیستم نیز تاثیر می گذارد. یکی از راههای مهم آگاهی از وضعیت مسکن پایدار استفاده از شاخص های پایداری مسکن می باشد. این شاخص ها بیانگر وضعیت کمی و کیفی مسکن روستایی از یک طرف و بهبود بخشی برنامه ریزی مسکن از سوی دیگر برای یک افق بلند مدت است. لذا انجام پژوهش در خصوص شناسایی و تبیین عوامل و دلایل پایداری محیطی مسکن روستایی در محدوده مورد مطالعه و ارائه پیشنهاداتی در این بخش با هدف اصلاح روشها و بهبود امور بعنوان یک ضرورت مطرح است. بنابراین ما در این مقاله سعی داریم به اهداف زیر دست یابیم:

ارزیابی و تبیین شاخصها و نماگرهای مسکن روستایی پایدار در نواحی مختلف روستایی؛

شناسایی سطح پایداری محیطی مساکن روستایی؛

و متناظر با این اهداف، ما در این تحقیق به دنبال پاسخگویی به این سوألات هستیم:

پایداری مساکن روستایی در روستاهای مورد مطالعه بر اساس شاخص‌های پایداری محیطی در چه سطحی است؟

با توجه به وضعیت پایداری مساکن روستایی چه پیشنهادات و راهکارهایی برای بهبود آن می‌توان ارائه کرد؟

2. روش تحقیق

تحقیق حاضر بر مبنای هدف از نوع تحقیقات کاربردی می‌باشد زیرا به منظور توسعه دانش کاربردی (توسعه روستایی از طریق پایداری مسکن روستاها) می‌باشد، بدون تردید نتایج حاصله از آن می‌تواند در برنامه‌ریزی‌ها قابل استفاده باشد. جامعه آماری این تحقیق روستاهای شهرستان مریوان می باشد که به صورت تصادفی ساده تعداد 6 به عنوان نمونه تحقیق انتخاب گردید. برای تعیین حجم نمونه افراد نیز از فرمول کوکران استفاده شد که تعداد نمونه سرپرستان خانوار 295 بدست آمد و برای نمونه برداری از روش طبقه‌بندی تصادفی استفاده شد. یعنی براساس میزان جمعیت (تعداد خانوار) و به صورت تصادفی ساده انتخاب شدند. لازم بدست بذکر است که پایایی پرسشنامه به روش آلفای کورنباخ، 0/89 که نشان از قابل اطمینان بودن ابزار تحقیق می باشد.

3. یافته‌های تحقیق

در این تحقیق با استفاده از روش استنتاج فازی(FIS) در محیط نرم-افزار Matlab به تحلیل داده‌ها و سنجش و ارزیابی سطح پایداری محیطی مساکن روستایی در محدوده مورد مطالعه پرداخته شده

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است. مراحل و نتایج روش استنتاج فازی این تحقیق به این شرح می‌باشد:

1) دسته‌بندی و تعریف متغیرها: از آنجا که تحلیل داده‌ها به روش استنتاج فازی و در محیط Matlab صورت می‌گیرد و با توجه به بالا بودن حجم کار در مرحله تعریف پایگاه قواعد فازی 12 گویه طراحی شده بود در نتیجه جهت سنجش پایداری محیطی مسکن روستایی 4 مولفه به صورت همگن تقسیم‌بندی شده است.

2) تعیین نوع تابع عضویت و تعریف دامنه‌ی مقادیر بر اساس طیف پنج سطحی لیکرت (از 1 تا 5): در این مرحله برای هر یک از گویه-های تحقیق دامنه‌ای از 1- تا 6+ در قالب تابع عضویت مثلثی تعیین شده و درجه عضویت نیز با سه حالت خوب، متوسط و بد(ضعیف) دسته‌بندی شده است.

3) تعریف قوانین فازی و تشکیل پایگاه قواعد فازی: در این مرحله با توجه به تعداد حالات ترکیبی ممکن برای گویه‌های هر یک از مولفه-ها و بر مبنای قاعده «اگر – آن گاه» (if-then) اقدام به تعریف قوانین و تشکیل پایگاه قواعد فازی شد که با توجه به اینکه هر مولفه حاوی 3 گویه بود نهایتاً با توجه به تعداد جایگشت ممکن در ترکیب سه گانه‌ی این گویه‌ها و محدودیت سیستم در حالت none (پوچ) 55 قانون برای هر مولفه تعریف شد که در مجموع برای مولفه‌های چهارگانه‌ی محیطی، تخریب محیطی، بهداشت محیطی، تناسب محیطی (1) و تناسب محیطی (2)، 220 قانون فازی تعریف شده است.

4) ترکیب خروجی‌های حاصل از هر یک از قوانین فازی و ارزیابی مولفه‌های چهارگانه: در این مرحله نتایج حاصل از ارزیابی داده‌ها بر مبنای پایگاه قواعد فازی که در مراحل قبل تشکیل شده بود برای هر گویه محاسبه شد و میانگین حاصل از 295 پرسشنامه برای هر گویه و نهایتاً هر مولفه محاسبه گردید. بگونه ای که این مقدار برای تخریب محیطی، بهداشت محیطی، تناسب محیطی (1) و تناسب محیطی (2) به ترتیب 0/273، 0/313، 0/370 و 0/352 به دست آمده است.

5) ترکیب نتایج حاصل از تحلیل مولفه‌های چهارگانه با استفاده از گامای فازی: از آنجا که ما برای ترکیب مقادیر عضویت از عملگر «و» فازی استفاده شده و این عملگر اشتراک مجموعه‌هاست. بدین معنی که حداقل درجه عضویت اعضا را استخراج می کند و از تابع مینیمم در همپوشانی استفاده می‌کند و معادل اشتراک (Intersect) تعریف می‌گردد. نتایج این مرحله هم که از طریق ضرب نتایج حاصل از ضرب جمع فازی در جمع جبر فازی بر اساس رابطه‌ای مربوطه به دست می آید نشان می دهد که گامای فازی به ترتیب 0/09، 0/22 و 0/52 می‌باشد که این امر بیانگر وضعیت نامطلوب پایداری محیطی مساکن روستایی در این منطقه بوده است.

4. بحث و نتیجه‌گیری

در این تحقیق برای سنجش پایداری محیطی مسکن روستایی در روستاهای کلکجان، برده سفید، تازه آباد صوفی بله، ینگیجه، باغان و پیله در شهرستان مریوان واقع در استان کردستان، بنا به اقتضای روشی که برای تحلیل نتایج مورد استفاده قرار گرفت از مولفه‌های تخریب محیطی، بهداشت محیطی و تناسب محیطی استفاده شد. برای ترکیب نتایج حاصل از سنجش این مولفه‌ها توسط مدل استنتاج فازی نیز از gamma fuzzy استفاده شد. نتایج تحقیق بیانگر آن است که وضعیت پایداری محیطی مساکن روستایی منطقه مورد مطالعه بر اساس ضرایب 0/5، 0/7 و 0/9 گامای فازی به ترتیب 0/09، 0/22 و 0/52 می‌باشد که این امر بیانگر وضعیت نامطلوب پایداری محیطی مساکن روستایی در این منطقه بوده است؛ به ویژه از لحاظ تخریب محیطی که ساخت مساکن روستایی منطقه همسو و هماهنگ با محیط زیست پیرامون خود نبوده و منجر به از بین رفتن مراتع، اراضی کشاورزی و تغییر کاربری این اراضی شده است و در ادامه نیز جهت بهبود این وضعیت با توجه به نتایج سنجش مولفه-های پایداری محیطی مسکن روستایی یعنی تخریب، بهداشت و تناسب محیطی، راهکارها و پیشنهاداتی ارائه شده است.

واژگان کلیدی: مسکن روستایی، پایداری محیطی، استنتاج فازی(FIS)، گامای فازی، شهرستان مریوان.

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The Gender Analysis of the Saffron Production Process in Rural Areas (Case Study: Torbat-e-Jam and Bakherz Counties)

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Abstract
Purpose- Gender analysis is a sort of methodology offering a comprehensive image of the contribution and role of women and men in the economy of a community. In this exploration, it has been endeavored to investigate the role and contribution of women in producing and profiting from the financial benefits of saffron as an essential and exportable economic product.
Design/methodology/approach- For this purpose, 253 saffron producers in 9 villages of the cities of Torbat-e-Jam and Bakherz were studied as a statistical sample using descriptive-analytic research method, including a questionnaire and a semi-organized interview. Data were analyzed by T-test, MANOVA, Duncan and Fisher test using SPSS software and Rural Participatory Appraisal (PRA) research.
Finding- The outcomes of the study exhibited that there is a significant difference between the participation of family members in the studied area during different phases of production (planting, harvesting, cropping, marketing, and sales). Moreover, the inferential findings revealed that although the men's participation ratio of only 24% is significantly higher than women's participation in the production of saffron, the benefit rate of the gained saffron production profit for the men (i.e. 74/16%,) is significantly higher than the benefit rate for women (i.e. 25/84%). The Rural Participatory Appraisal method also revealed that there is a significant difference between the physical participation and saffron income between males and females. In other words, men possess almost all the financial benefits of saffron production; in fact, women are deprived of the sources that can help them be empowered in economic and social areas. Of course, rural women in the study area did not express dissatisfaction with this issue, and they believed that this income would be well spent for the whole family.
Keywords: Gender approach, Saffron (production), Rural women, Torbat-e-Jam and Bakherz Counties.
Paper type- Scientific & Research.

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1. Introduction

Separating the women' tasks from the men's task and their participation rate in doing each everyday life activities displays that gender is considered as an essential variable in the analysis and investigation of role, responsibility, limitation, opportunity, income, cost, and the benefits of agriculture Khani, 2006). The survey of the economic situation of societies suggests that in societies where women have more active participation in the national and rural economy, the development process has emerged and increased more quickly. Indeed, nowadays considering the role of women as half of the human resources in societies is not only one goal of social and economic development in each country, it is also a useful instrument in the realization of other goals of development. In other words, women have a grave and determinant responsibility for accelerating the process of sustainable development and the change of a society. For this reason, countries that are on the path to effective development must pay particular attention to this issue (Alizadeh, 2010).

A look at the literature shows that since the early 1970s, "the role of women in agricultural and rural development had been investigated by many organizations and planners of development affairs across the world and the developing countries". However, there are not any accurate statistics concerning this. As it has repeatedly been observed, women's activities are abandoned from the statistics of labor force and national income are not included in the national income of countries on a regular basis due to various reasons of methodology, work performance related problems, economic activities' problems, and the neglect of women's work in statistical information collection methods (Barghi, Ghanbari, Hajjarian, & Mohammadi, 2011). However, according to the UN statistics, the value of home affairs done without pay is between 10% and 35% of the gross domestic product worldwide (Azizi & Azar Kamand, 2010).

According to the available information, about 43 percent of the agricultural labor force are women across the world and in the developing countries. Of course, this is different among countries and inside them, depending on the age and social class of women. For example, the share of women's labor force in the agricultural sector ranges from about 20 percent in Latin America to more than 50 percent in East and Southeast Asia, and Sub-Saharan Africa. The fact is that if women's activities have not taken into account in economic affairs, living expenses will be increased dramatically (Sojasi Qeidari & Ismaili, 2014).

In Iran, the participation level of rural women in various economic, social and cultural activities in different regions of the country is also different due to the cultural characteristics of the regions, the type of land use system, composition, the household size, activity type, the natural characteristics of the region, and the economic, social, and cultural factors (Ghadiri Masoum, Baghebani, & Ghanian, 2012). Studies reveal that the central and western regions of Iran have the lowest female participation rate in the workforce, while the northern areas of the country, which their livelihood mainly depends on agriculture, have the highest rate of female participation in such a manner that women's employment rate in the agricultural sector in Gilan Province and Mazandaran Province are 29/7% and 15/5%, respectively (Dadvar Khani, 1996). Of course, the quality of job opportunities is low in most rural areas, and wherever the skills and abilities level of women are lower, they also receive weak position jobs with lower wages (Resolutation Council 2010).

However, the role and contribution of women in economic activities in general and in agricultural activities in particular, has continued to be a natural and constant phenomenon in all countries of the world, including Iran. What is the origin idea of paying attention to this role and the emphasis on determining the role and place of women in this economic development process? Studies show that this issue is rooted in feministic thoughts. Feminism is "the partiality of the political and social equality of women and men and is referred to as advocates of women's rights in the West" (Karami & Mahboubi, 2013). The leaders of this movement believe in the inequality between men and women, and it consider the root of despotic ruling women in their moral and economic dependence on men. In this group' view, economic independence is a factor in the self-sufficiency of women. Also, a group of feminists point out maternal skills as a limitation of the women chance for economic independence and equality with men in the public domain and believe that unpaid work at home and maternal

duty has led to their social inequality (Zafranchi, 2005).

Regarding this issue, this paper has attempted to examine the role of women in producing and benefiting from the financial benefits of saffron as an essential and export economic product. Further, it has been attempted to investigate the extent of the injustice and inequality feeling of this group of women and the necessity of the specific planning to develop equality in the share-taking of the financial benefits of saffron by quantitative and qualitative research methodology. The study area of this research is the villages of Torbat Jam and Bakherz; these two cities are among the crucial areas of saffron cultivation in Khorasan Razavi Province. With this in mind, this research investigates the role of women in various stages of saffron production, including planting, harvesting, processing, and selling of saffron, as well as the extent to which they are benefited from the financial benefits of sales.

2. Research Theoretical Literature

The term gender is a social concept that includes behaviors, social thoughts, and roles that the dominant culture of every society is entrusted the two sexes of men and women with. Attention to gender, specifically about women, began with the work of Esther Bezorph (1980). He noted the differences in characteristics of biological, roles as well as the different experiences of men and women in development planning. The United Nations also called the decade of the 1970s the Women and Development and called on all countries to pay attention to the role and place of women in development-related planning (Alirezanejad & Banihashem, 2012).

Thus, the concept of gender developed into developmental content five decades ago, followed by different approaches to achieving gender balance in the world.

Table 1. Approaches to Promoting Women's Situation from the 1970s onwards

(Source: Compilation of the author, 2017.)

approach	decade	view	goal
Women in Development (Separate but equal)	1970	Emphasize on the role of women's reproduction	Women apart from men
Gender and development	1980	Women's as a collection of human resources of a country	Analysis of Women's Participation and Their work classification
The institutionalized approach	1990	The value-belief –based view on gender	The introduction of the gender topic into the core of all institutions.
Women's empowerment	1995	Fair control of Sources	enhancing the ability of self-reliance

Since the early 1970s, the first attempts to promote the status of women began with a separate but equal approach known as Women in Development. This approach emphasizes the role of women reproduction, and the purpose of this view is to separate women from men (Women's Studies Center of the University of Tehran, 2002). From the late 1980s, following the critiques concerning the attitude of women in development, gender and development view was recognized globally (Fakourian, 2000), according to which the subjugation of the women's status and the discrimination against them become meaningful by their lack of participation in development programs (Varzgar, 2002).

In this perspective, women are realized in the human resources set of the country, and in order to improve their situation, integrant and gender-sensitive plans and programs are considered regarding the relationship between women and men.

Another viewpoint that has evolved over the gender and development perspective is the institutionalist view. This viewpoint considers the views, values, beliefs, methods, and pillars of government organizations of the society as continuous institutions and wants to introduce the issue of gender in the heart of all the institutions and thought and value systems of the community (Women Studies Center of University of Tehran, 2002).

Women's empowerment approach which has been suggested since around 1995 does not regard women not just as a human factor in economic growth but instead, has the goal to promote self-reliance skill and reasonable control of resources (Shadi Talab, 1995). Empowering women means expanding the control of poor women on all economic processes, and not just doing some productive affairs. This view calls for growing inequality in the five dimensions of welfare, access, awareness, participation, and control (Women's Research Center of Al-Zahra University, 2002). The empowerment theory emphasizes the empowerment of women through the redistribution of power in the family and different communities. Hence, the development regards the empowerment as a method to improve social conditions and achieve gender equality (Khani, 2007).

Gender analysis is a methodology that illustrates the overall picture of the role and part of women and men in a society in question. In this method, information is collected based on gender segregation of individuals as an analysis unit. The primary assumption of the attitude to gender analysis is that necessarily all family members do not partake in all the resources obtained by the whole family (Varzgar, 2002).

Gender analysis addresses questions such as who does what; who owns what; who decides; who benefits from the result of the decisions, and who is a loser. Gender analysis addresses the division way of power, responsibility, and right (Norwegian Development Cooperation Representative, 1999).

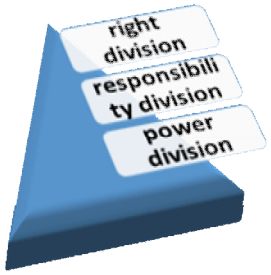

Figure 1. Gender Analysis Pyramid
(Source: Research findings, 2017)

The background of domestic and foreign research on the role of women in the rural economy (Table 2) shows that many studies have been done in this area, some of which has been presented in this section.

Table 2. The background of domestic and foreign research on the role of women in the rural economy
(Source: Research findings using available resources, 2017.)

author	Article topic	result
Lahsayi Zadeh (1996)	The Role of Women in the Rural Economy	The part of women in the agricultural sector's labor force is very high, but since their work is mostly unpaid in the framework of family, agricultural added value by them is not properly calculated.
Lahsayi Zadeh, Jahangiri, Touri (2003)	Investigation of the Economic Participation of Rural Women in Fars Province	There is a relationship between the rural women participation and their employment with the level of education and age
Dadvar khani (2006)	Rural Development and Challenges of Women's Employment, coastal area of Gilan Province	Among the factors affecting women's employment, family income, social class, literacy and geographical isolation, has had the highest effect.
Fatemeh Paseban, 2006	Economic and Social Factors Affecting the Employment of Rural Women in Iran	There is a direct relationship between rural women's employment, development and the share of government expenditures of GDP and the negative relationship between the early stages of development, the ratio of marriage to divorce, the number of born children and household expenses.
Bouzar Jamhari, Shayan Sadeghi (2010)	.explanation of the rural women participation in Agricultural Activities of East Azerbaijan	Women have high participation in cultivation and harvest
Peyman Pourrajab, Mohammadi, Tajik (2011)	Personality traits and motivations of self-employment women in Kandovan village	Risk factors, central control center, the need for success, creativity and challenge taking of the women are higher than the average. Further, the most important reasons for these people to start a business, have been to help unemployment elimination of the society, promote social status promotion and getting rid of personal unemployment.

Table 2.

author	Article topic	result
Ghadiri Masoum, Baghiani, Ghanian (2012)	Comparative Study of Barriers to Women's Participation in Samaleh and Saleyeh villages in Khouzestan Province	Barriers to women's participation in the two villages in question (Arabic and Lori speaking) have been mostly social and cultural.
Ghanbari, Hajjarian, Ansari and Kayani (2012)	Investigating the Factors Affecting the Participation and Employment of Rural Women	As education increases, rural women's employment is likely to increase, and the most critical obstacles to women's participation, have been marital status, male intimidation, and lack of professional training.
Mirlatifi, Bandani, Shahraky (2013)	.Investigating the role of women's hidden work in the welfare level of rural household in Hamoun	The average monetary value of women's hidden work, in this city, has been estimated at 740 thousand tomans a month.
Roshannia-Khademi-Kordi-Solhi Fam-Asl (2015)	Investigating the Role of Rural Women in their Development, Obstacles, and Limits.	In our country, cultural problems are rooted in stereotyped thoughts and low economic power of rural women, and the government and NGOs should adopt policies that, in addition to paying attention to the role of women in the crops production, increase their access to resources, financial resources, Technology, product marketing and promotion
Azahari (2008)	Indonesian Women: The Role of Women in the Agricultural Development	The results of this study indicate that women's role in rural development has been ignored, and if women' are provided the situation of access to production factors, they can play a role as one of the critical partners in the development process.

The World Food and Agriculture Organization (FAO), which has done most activities of all concerning the gender analysis of rural affairs, has, in some rural areas, gathered gender-sensitive statistics in the agriculture area. This data is not only useful for quantitative and qualitative analysis of gender relations but also results in the empowerment of rural women and better support of development programs. In general, since 1990, women's presence in the agriculture sector has been highlighted in many rural studies. In this research, scholars have outlined the presence of women in the agricultural sector as follows:

Alston believes that despite the processes of rebuilding the agricultural and rural sector, gender relations in the fields still has remained due to adherence to the patriarchal heritage and manly role in the agricultural profession.

In Little and Panelli 's research, rural women have been identified as farmers, not housewives and spouses (Little & Panelli, 2003).

With the socio-economic rehabilitation of rural areas in the Clark and Meerburg research, connecting to extra income through diversifying domestic and external productions of the farm, an arena was provided for women's activities in the agricultural sector and, subsequently, many entrepreneurial initiatives were introduced to the rural economy (Clark, 2009).

Anthopoulou showed that, following the socio-economic changes of rural areas in which farmer's households have turned to diversification and multiplicity of their income source, rural women had created a business in their domestic farms and a small-scale consisted mainly of food producing activities, traditional and local (Tegegne, 2012).

Mark Antoni has pointed out that the diversification and multi-activity of the agricultural household economy structure do not just end in the women work on the farm, and it may be about out-of-field activities, and in particular at home (Mark Antoni, 2012). In line with this study, Selfa and his colleagues in 2015 showed that in such a situation, it would be more critical to meet what is acceptable as a social and cultural affair, hardworking and accompanying a man, rather than improving the household income level (Selfa, Lario & Burnham, 2015).

3. Research Methodology

3.1 Geographical Scope of the Research

The study area in this enquiry is the villages of two cities of Torbat-e-Jam and Bakherz in southeastern Khorasan Razavi province, where is one of the crucial areas of saffron cultivation in this province. According to the public population and housing census of 2016, the population of Torbat e Jam, in this year, amounted to 267671

people, out of which 49/4 percent have resided in urban areas and 50/6 percent in villages. The population of the city of Bakhrez was 54615 in 2016, of which 16/6% have resided in urban and 83/4% in rural areas (Iran Statistics center webpage, 2017). Accordingly, the city can be considered an entirely rural area. Regarding the research topic, the statistical population of this study has been all saffron farmers, living in the villages of Torbat-e-Jam and Bakherz. According to field surveys, many farmers in the region are involved with cultivating saffron and are increasing every year, but unfortunately, accurate statistics are not available about this.

According to the Cochran formula, the number of sample individuals in this study is about 252 at a 7% error level. The total number of 9 villages in the region has been randomly selected, and the research questionnaires were completed for them.

3. 2. Methodology

To carry out this research, a quantitative and qualitative research method was used simultaneously to discover more realities. For this purpose, a descriptive and library research method was used to gain the initial information. Further, a questionnaire was prepared for households of the saffron farmer to help identify the part of different gender and age groups at different stages of the production and sale of saffron. However, since statistics, numbers, and averages may not cover many of the realities of the community, the qualitative technique, the Participatory rural appraisal (PRA), was also used to complete the statistical results of the research questionnaires. For this purpose, an interview with a group of about 15 women from saffron farmers, from the village of Jaghoutin, one of the villages in the city of Torbat e Jam, whose people are involved with saffron farming, was conducted, using a semi-organized interview technique, an interview with key people, and gender analysis, to examine in depth the contribution of different age and gender groups in the process of cultivating saffron and also their benefit' s rate from the financial benefits of the process. The results of the implementation of these techniques have been presented in the paper's content analysis section.

It is worth noting that the approach employed in the preparation of the questionnaire and the conduct of the qualitative research manner has been the gender analysis approach. Gender analysis is a methodology that illustrates the full image of the part and role of women and men in the society in question. The primary assumption of the approach to gender analysis is that necessarily all family members do not partake in all the resources obtained by the whole family (Varzgar, 2002, 89). Gender analysis addresses questions such as who does what; who owns what; who decides; who benefits from the result of the decisions, and who is a loser. In fact, gender analysis addresses the division method of power, responsibility and right.

The SPSS software and T-test, MANOVA and Duncan's ranking have been employed for statistical analysis of the results of the questionnaires.

4. Research Findings

4. 1. Descriptive Findings:

Of the 252 surveyed sample people, 95% had been married, 45% of households, have less than four members, and 35% of the sample participants, saffron farmers, have 6 and more members. Regarding education, 16% were illiterate, 52% had primary and secondary education, and the remainder had a diploma or higher education. Regarding age, 83% of the research sample individuals were at the age group of fewer than 59 years old.

According to the interviews, saffron cultivation in Torbat e Jam and Bakherz has been started in the region since 2007, about ten years ago, and is expanding every year. The common cultivar of sample saffron farmers participated in the research, is about 0/75 hectares. The dispersion of area under cultivation of saffron is high among the subjects and is more than one hectare. Based on this, the minimum cultivated area of saffron has been 2 square meters and the maximum area of about 6 hectares. 84 percent of the sample people are the owner of lands dedicated to saffron cultivation, and 71 percent owns consumed water.

The share of income from saffron cultivation in the total income of the participants in the research is about 52% on average. Of course, the standard deviation of this variable (42) is relatively high, which is justifiable considering the difference in lands under saffron cultivation.

Of the total number of saffron farmers involved in the investigation, 17% of them sell saffron as a flower, and 81% of those sell their products in kilograms after drying, 2% did not answer this question.; But according to interviews, none of

these people pack their product. Also, due to the financial problems of saffron farmers, about 45% of them sell their product in the first month after harvesting. It is worth noting that, on average, 28/3 percent of the revenue from saffron is spent on required expenditures (comprising fertilizer, poison, worker wages, etc.).

4.1.1. Participation of different groups in the process of producing saffron by gender dissociation

One of the objectives of this study was to determine the participation rate of women and men in the process of saffron production in the study area. For this purpose, the process of saffron production, through an investigation, was classified into five stages: cultivation, producing process, harvest, processing, marketing and sales, and based on this, the questionnaires were prepared. Then, each saffron farmer, the participants in the study, were asked to identify the number of participants of the family or workers in each activity by gender dissociation. The derived results from this review have been presented in this section.

The first stage in the saffron production is the cultivation stage, which generally includes: Leveling, bridging and plowing the land, planting saffron corm and irrigation. At this stage, the labor force participation of women in planting saffron corm has generally been recorded at 36%, but in other activities, women's participation is insufficient. In total, the average female participation at the cultivation stage has been assessed at 21%, and the male participation is 79%.

It is worth noting that today many of the phases of the saffron corm cultivation are carried out by the tractor, and thus the participation of women has decreased significantly in this field.

The second stage of saffron production is producing process. This stage, as observed in table 3, includes irrigation, Charshakh zani, weed picking, Fertilizing the land. Based on the results, most of the activities in this stage, including irrigation, feeding and fertilizing the earth, are carried out by men, and only in the weeding step which is done by hand, women have contributed about 32%. The average participation of women in the stage of producing process was about 11%, and the male participation rate was 89%.

The third step is the harvesting stage, which includes: picking a saffron flower, wiping flowers, and distributing flowers to clean. Women's participation rate at this stage in picking flowers was 51/5%, in clearing 62/2%, and in distributing flowers to clean 23/9%. Based on this, the average female participation in the harvesting stage was 55 percent, and the male participation rate was 45 percent.

The fourth phase is the saffron processing. The processing of this product is carried out only in the form of drying, and no further work is done on it. Family members generally do this activity and so daily-paid workers do not have a role to play. The participation of women and men in saffron drying has been 49% and 51%, respectively.

The last step is the packaging, marketing, and selling an of saffron, which may be sold as flowers or in dried form. This is done more by men of the family, and primarily by the head of the household. The participation rate for women and men at this stage has been 24% and 76%, respectively.

Table 3. Participation in the stage of production of saffron by gender disunion
(Source: The Research findings, 2017)

Stage	Activities	Man of family	Woman of family	Daughter of family	Son of family	Male worker	Female worker	Participation rate	
								women	Men
Planting	Leveling, bridging and plowing the land	32.4	2.6	2.3	23	39.1	0.6	21	79
	Planting saffron corm	22.2	10.9	7	17.7	24.1	17.9		
Production process	Land Irrigation	53.8	1.8	1.3	27.1	15.6	0.5	11	89
	Charshakhzani	33.3	0.6	0.6	25.5	39.1	0.8		
	weed gathering	26.3	13.6	6.0	19.0	22.5	12.6		
	Fertilizing the land	41.3	2.1	1.3	28.3	25.7	1.3		
harvest	Flowers picking	19.9	19.3	12.4	15.2	13.4	19.8	55	45
	Clearing the flowers	13.5	23.4	14.3	14.5	9.8	24.5		
	Distribute flowers to be cleaned	49.6	14.6	4.5	23.6	2.9	4.8		
processing	Drying saffron	35.1	42.9	14.8	6.7	0.0	0.4	58	42
Marketing & Selling	Packaging saffron	30.9	28.7	17.0	12.8	5.3	5.3	24	76
	Sell ing Flowers to Buyers	69.5	6.0	2.0	21.5	1.0	0.0		
	Selling dried Saffron	71.0	9.8	3.5	12.9	0.2	0.8		

Up to this stage, the rate of participation of each gender group in different stages of saffron cultivation has been presented based on the quantitative method and the results of the questionnaires analysis. However, in general, the part of each family and working group in the production of saffron has been presented in table 4. Based on this, the man of the family (head) and male workers in total with 57% and daughters and the woman of the family with a total of 14 % have had the highest and lowest participation in saffron production, respectively.

Table 4. The participation rate of family members and assisting staffs in the process of saffron Production
(Source: The Research findings, 2017)

participation rate	average	Standard deviation
man of the family	0.29	0.16
woman of the family	0.10	0.07
Daughters of the family	0.04	0.05
Sons of the family	0.15	0.14
Female workers	0.28	0.16
male workers	0.14	0.08

4.1.2. The benefits rate of saffron profits distinguished by gender

Another objective in gender analysis is to examine the position of two genders access to the interests associated with saffron. Based on the findings of the study, which is displayed in table 5, on average, 74/16 percent of the revenue from the production and sale of saffron is assigned to the man of the family.

Table 5. Family members' interests in saffron production
(Source: The Research findings, 2017)

Member of family	Number	Minimum score	Maximum rating	Average	Standard deviation
man	225	10	100	74.16	24.45
woman	100	10	90	26.55	18.35
Daughters	51	5	30	14.84	6.50
boys	62	5	50	19.08	11.43

4. 2. Inferential Findings:

One of the issues that are always important in gender analysis is the assumption that the participation rate of different sex groups (male and female) is different in the production process. To test this hypothesis, a T-test was employed to compare the mean of two independent samples.
The results of this test in table 6 indicate that according to the amount of obtained t and P-value, there is a significant difference between the participation rate of men (man of family, sons and male worker) and women (spouse, daughters and female workers), because the value of the obtained P-value (0/000) is less than 0/05. Accordingly, the men participation rate (0/24) has been significantly higher than women participation (0/094) in saffron production.

Table 6. Comparison of the Participation Rate of Men and Women in Saffron Production Process
(Source: The Research findings, 2017)

Sexutal	Descriptive statistics			Test result		
	Number	Average	Standard deviation	Test Statistic	Freedom degree	P-value
Famale	756	0.24	0.17	21.82	1094.82	0.000
Male	756	0.094	0.08			

In the preceding section, the participation rate of women and men in saffron production was tested in general. One-way ANOVA (variance analysis) test was used to determine if the participation rate of these people in different stages of saffron production is also varied. The results of this test have been offered in table 7. Accordingly, regarding the statistics of Fisher's (357.428) and P-value (0.0000), at 95% probability level, there is a significant difference between the participation rate of women and men in different phases of saffron production (planting, harvesting, processing, marketing, and sales).

Table 7. Comparison of men and women participation in saffron production by production stages' separation
(Source: The Research findings, 2017.)

Steps to produce saffron	Descriptive statistics			Test result		
	Number	Average	St.d	DF	Amount f	P-value
had	252	0.1260	0.06142	1115.4	375.428	0.000
harvesting	249	0.1177	0.06756			
planting	248	0.1223	0.06024			
marketing	221	0.2488	0.01012			
processing	150	0.2455	0.01953			

In addition to reviewing the significance of the difference in the participation rate of individuals in saffron production process in general and by the production stage separation, at this phase, the difference in the participation rate of different groups involved in the saffron production (including: man of family, spouse, girls and boys of the family and male and female workers) have been tested using one-way ANOVA. The outcomes of this test in table 8 indicate that according to Fisher's (178/590) and P-value (0.000), there is a significant difference between the participation rate of the different groups involved in the saffron production process with 95% probability.

Table 8. Comparison of the participation percentage of different working groups in the process of saffron production

(Source: The Research findings, 2017)

Groups	Descriptive statistics			Test result		
	Number	Average	St.d	DF	Amount f	P-value
man	252	0.29	0.16	1506.5	178.590	0.000
woman	252	0.10	0.07			
girls	252	0.04	0.05			
boys	252	0.15	0.14			
Male workers	252	0.28	0.16			

Duncan's ranking test has been applied to determine the rank of each of the participating groups in saffron production. The results of this test in table 9 mark that man of family (father) and male workers have the most significant part in saffron production, after them the boys of family and female workers in one group, followed by the spouses and the daughters of the family have the lowest participation rate in the saffron production process.

Table 9. Ranking of Participation Rate in Saffron Production Process with Duncan Test

(Source: The Research findings, 2017)

Group	Number	Subset for alpha = 0.05			
		1	2	3	4
daughters	252	0.04155			
spouse	252		0.09551		
female workers	252			0.14363	
boys	252			0.14906	
Male workers	252				0.27685
Man of family	252				0.29340

Descriptive findings specify that there is a difference between the benefit level of women and men of the family from the financial profits of saffron. In this section, the significance of this difference has been examined by t-test to compare the two independent samples statistically. The results have been presented in table 10. Accordingly, regarding the statistics amount of t (17/238) and P-value (0.000), there is a significant difference between the financial benefit of men (father and sons of the family) and women (wife and daughters) from the profits of saffron production. Thus, according to the computing means the men's share is more than women's share of the saffron' financial benefits.

Table 10. Comparison of male and female benefits rate of the product

(Source: The Research findings, 2017)

Gender	Descriptive statistics			Test result		
	Number	Average	St.d	DF	Amount f	P-value
Man	287	62.26	31.80	17.238	435.815	0.000
Woman	151	22.60	16.35			

4.3. Content analysis:

As outlined in the research methodology, this research has been carried out through the quantitative and qualitative research method. In the previous sections, the results of the statistical analysis of the research questionnaire were presented. In this section, the results of the qualitative research method, obtained by some of the methods of the Rural Participatory Appraisal (PRA) including interviewing techniques with informed individuals, semi-Organized interview and gender analysis, have been presented and an attempt has been made to identify the contribution of different age and sex groups in the process of producing saffron (planting, harvesting, and processing) more precisely by elaborate study. For this purpose, it was holding a meeting with about 15 women from the village of Yaghoutin in Torbat-e-Jam, and, in a semi-organized interview, they were asked to identify the part of each different age and gender groups as a percentage

(comprising girls, women, boys, and men of the family) in the process of producing saffron (including planting, processing, harvesting, and selling) by a marker on the circle type shapes that had already been arranged.

By means of this technique, firstly, result in that the shares be visually visible and comparable for everyone, including literate and illiterate, and, secondly, the possibility of concluding was more likely to be achieved faster. Finally, to ensure the obtained results of the women's group, the figures drawn up by this group were reviewed by another group of men saffron farmers in the village. Wherever men did not agree with the women group's views, new figures were drawn up, and the shares were determined in percentage terms. The results of this study are offered below.

According to participating analysts in the research, the planting stage includes: furrowing the land, setting up an entrance to control the amount of water entering the land, buying corm and planting it. Accordingly, if the cultivation of saffron corms is carried out by a tractor, one hectare of land will require a day and about five workforces. One is a tractor driver and the rest, most of whom are boys, are set up behind the tractor, and when the tractor digs lands, they direct the saffron corm into the ground, and the device covers it again. However, if the planting stage of saffron corm is traditionally done with hands, for planting a hectare of land, about ten people will be required to work for eight days. After cultivating saffron corms, the land yields up to 7 years of production and does not require re-cultivation. It is worth noting that, in recent years, the planting of saffron corm is mostly done by the tractor unless the land is small.

The force used during the planting stage is mostly male (50% of men and 30% of boys), women and girls usually help men in the stage of saffron corm washing and its manual planting. The part of women at this stage is about 15%, and girls' 5% have been announced. There was no difference between the views of the group of men and women in this regard.

According to the interviews, the processing stage includes irrigation of land in two stages, charshakh zani of land, fertilization and weed picking. According to both men and women' view, all activities, 100%, at this stage, are done by men. The activities of this phase should be repeated every year. The time required for these tasks is usually about one day per hectare performed by two men.

The harvesting step comprises: picking flowers, distributing flowers to be cleaned, wiping the flower of the saffron and drying it. This stage is one of the longest stages in the production process of saffron, which is nearly all family members participate in it. According to interviews with the key informed people, the time required to pick flowers per hectare is different, depending on how many years the land is cultivated. Accordingly, in the first and second years of land cultivation, about five workforces are needed for eight workdays; in the third to fifth year, which is the peak of land productivity, about 20 workforces are required for 12 to 15 work days. In the sixth and seventh year, the amount of land productivity is reduced again. At this time, about 8 to 10 people will be needed for ten work days to pick flowers.

The results of interviews with women and men about the part of different age and sex groups at the saffron harvesting stage were investigated in two steps of flower picking and wiping and drying distinctly. The results of flower picking show that the women's group believes that the share of women and girls in this stage is about 83% and the share of men and boys is 17%. However, for men participating in the study, the male participation rate at the saffron flower picking stage is 8% higher than that of women. Therefore,

women's participation rate at this stage is 75%, and men's share is about 25%. Based on this, the views of these two groups are slightly different from each other, and each of them has claimed a more significant share in the stage of picking up the flower of saffron for themselves.

The next step is to remove the flower of the saffron and get ride of their stigma and finally drying. The results of the interview with the two groups indicate that the views of both groups on the sharing rate of different age and sex groups are the same at this stage so that the share of women's participation in the removal and drying of saffron has been announced 70% and men's share 30%. Of course, their view of the share of girls, women, men, and boys was precisely the opposite of each other, but the original matter and the overall share have not had any difference.

Lastly, the partakers in the research were asked to state the share of different groups in the whole process of producing saffron, counting planting, processing, and harvesting. According to the interview, in the total production process of saffron, which lasts about 20 to 25 days, based on both groups, the share of women is 40%, girls 20%, men 30 % and boys 10%. In other words, the part of women in the saffron production has stated 60%, and men 40%, and both groups have consensus on this.

Thus, overall, according to interviews with the qualitative method, men have a leading role in saffron planting and growing; of course, these steps are concise and usually take about two days. Women have the most significant share in the harvesting of saffron, which is the longest stage in the saffron production. This step, as stated, lasts for about 8 to 15 days and varies according to the year of saffron cultivation.

Taken together, according to the duration of each activity, the proportion of women in saffron production seems to be much higher than that of men. However, the results of the interview only show a 60% share of participation for women. Possibly this is because the two groups give more importance to the two steps of cultivating and processing, in which the participation rate of men is higher at this stage.

However, the most critical matter is to determine the part of each age and gender groups from the financial benefits of saffron production. Interviews conducted with women, in particular, indicated that men generally make sales of saffron, and usually in kilogram after flowers are dried. However, women were not upset about this, and they believed that revenues gained from saffron production by men are spent on family needs, and so women did not ask for a specific share.

5. Discussion and conclusion

- Comparison of the outcomes gained by quantitative method, through completing the questionnaires and the results' analysis using the SPSS software, with the findings of the qualitative method, through semi-structured interview on the participation rate of women in different phases of the saffron production process (table 10) indicates that in the qualitative method, only the difference between the views of the men and women was of participation rate and the stage of flower picking. The provided percentages by the groups differed by 8%. On this basis, it can be detailed that the views of the two groups of women and men participating in the semi-organized interview in the analysis of the participation rate of different age and gender groups in the saffron production process are almost the same, and the disagreement is very low in this regard.
- Nevertheless, the comparison of the results from the quantitative and qualitative method indicates that the results obtained at the planting stage are approximately the same, but differ in other stages, in particular at the harvesting stage, with each other. Field observations and interviews with the key people specify that the results from the qualitative study are closer to reality. Consequently, between 70% and 80% of the work in the harvesting stage (picking, cleaning and drying the flowers), which takes the longest time in the process of producing saffron, is done by women (women and girls).
- The results of the statistical analysis of the research questionnaires as well as the outcomes of semi-organized interviews of women designate that men have the most role in selling the saffron product and gaining its financial paybacks. Interviews indicate that women and girls are not dissatisfied with this situation and believe that the father of the family spend this income to meet the needs and expenses of the family, and ultimately they advantage from that. Consequently, women and girls feel no need to define their financial share in saffron production.

- The results of this study indicate that the existence of morale of generosity and self-sacrifice among rural women, their constant aid and assistance in agricultural activities in general and the production of saffron in particular, are characteristic of women in the rural areas under study. Hence, this morale has led them not to have any financial claim about their services, of course, according to interviews, they believe that men for the family spend these returns. Based on this, it can be stated that the results of this study confirm the results of the research by Selfa et al. in 2015, which had specified that for women, the social and cultural effects of their efforts, in terms of hardworking and accompanying men has been more important than improving their income level (Selfa et al., 2015, 63).

It is worth noting that part of rural women and girls active in the agricultural sector are confronted with problems such as men's polygamy, divorce, death or illness of a spouse, and so are the head of the household and suffer from many problems regarding their lives. Therefore, it is recommended that researchers who in the future want to analyze gender in the production of agricultural products, pay attention to this particular group of women.

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تحلیل فرآیند تولید محصول زعفران در نواحی روستایی با رویکرد جنسیتی (مطالعهٔ موردی: شهرستان‌های تربت جام و باخرز)

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چکیده مبسوط

1. مقدمه

بی عدالتی جنسیتی در طراحی و اجرای برنامه های توسعه ی نواحی روستایی باعث شد تا توجه به بحث مهم تحلیل جنسیتی جلب شود. در این راستا پژوهش حاضر ارزیابی وضعیت نظام های زعفران کاری شهرستان های تربت جام و باخرز را به لحاظ تحلیل جنسیتی و نقش زنان روستایی در تولید این محصول و منافع حاصل از آن، مورد بررسی قرار داده است.

واژه جنسیت یک مفهوم اجتماعی است که شامل رفتارها، نقش‌های اجتماعی و اندیشه‌های اجتماعی است که فرهنگ حاکم بر هر جامعه به عهده دو جنس زن و مرد می‌گذارد. در این پژوهش، تحلیل جنسیتی شامل تحلیل کلیه ی فعالیت ها و نقش های زنان و مردان در فرآیند تولید (کاشت، داشت و برداشت) زعفران و نیز تحلیل وضعیت زنان و مردان از نظر منافع مرتبط با این فعالیت است.

2. مبانی نظری تحقیق

مفهوم جنسیت، پنج دهه پیش به محتوای توسعه راه یافت و به دنبال آن رویکردهای متفاوت برای دستیابی به توازن جنسیتی در جهان مطرح گردید. تحلیل جنسیتی نوعی روش شناسی است که تصویر جامعی از سهم و نقش زنان و مردان را در جامعه مورد نظر به نمایش می گذارد. در این اطلاعات مبتنی بر تفکیک جنسیت افراد به عنوان واحد تحلیل گردآوری می شوند. فرض اصلی رهیافت تحلیل جنسیتی این است که لزوما" همه ی اعضای خانواده به صورت برابری در کلیه منابع به دست آمده توسط کل خانواده سهیم نیستند. تحلیل جنسیتی به سوال هایی مانند چه کسی چه کار می‌کند؛ چه کسی مالک چیست؛ چه کسی تصمیم می گیرد، چه کسی از نتیجه تصمیم ها بهره مند می شود، و چه کسی بازنده است پاسخ می گوید. تحلیل جنسیتی به شیوه تقسیم قدرت، مسئولیت و حق می پردازد.

3. روش تحقیق

جامعه آماری این پژوهش روستاهای شهرستان های تربت جام و باخرز می باشند. این شهرستان ها در جنوب شرقی استان خراسان رضوی واقع شده اند و از مناطق مهم کشت زعفران در این استان هستند. برای انجام این تحقیق به طور هم زمان از روش تحقیق کمّی و کیفی بهره گرفته شد تا بتوانیم واقعیت های بیشتری را کشف نماییم. بدین منظور، برای کسب اطلاعات اولیه از روش تحقیق توصیفی و کتابخانه ای استفاده گردید، هم چنین پرسشنامه ای برای خانوارهای زعفران کار تهیه و حدود 252 پرسشنامه از زعفران کاران در جامعه نمونه تکمیل گردید. تا به کمک آن سهم گروه های مختلف جنسی و سنی در مراحل مختلف تولید و فروش زعفران مشخص شود. داده ها با آزمون های T-TEST، MANOVA و دانکن با نرم افزار SPSS مورد آنالیز قرار گرفت. جهت تعیین سهم و نقش زنان و مردان از متغیرهای مشارکت فیزیکی اعضای خانواده بهره بردار و کارگران و متغیر میزان بهره‌مندی از منافع حاصله از تولید، استفاده شد.

4. یافته‌های تحقیق

یکی از اهداف این پژوهش تعیین میزان مشارکت فیزیکی زنان و مردان در فرآیند تولید زعفران (شامل کاشت، داشت، برداشت، فرآوری و بازاریابی) می‌باشد.

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یافته ها نشان می‌دهد میانگین مشارکت زنان در امور کاشت امتیاز 0/16 از 1 را به خود اختصاص داده در حالی که این رقم برای مردان 0/84 است. در مرحله داشت سهم زنان در جمع آوری علف های هرز 32/2 درصد می باشد. میانگین مشارکت زنان در امور داشت امتیاز 0/12 از 1 را به خود اختصاص داده در حالی که این رقم برای مردان 0/88 است. میانگین مشارکت زنان در امور برداشت امتیاز 0/55 از 1 می باشد که این رقم برای مردان 0/45 است. میانگین مشارکت زنان در امور فرآوری 0/49 از 1 و در بازاریابی 0/15 می باشد که این رقم برای مردان به ترتیب 0/51 و 0/85 بوده است. به‌طور متوسط میزان مشارکت زنان موجود در نمونه در فرایند تولید زعفران 0/28 از سقف یک امتیاز است که بیشترین میزان مشارکت برحسب معیار فوق در مرحله برداشت با 0/55 و فرآوری با 0/49 مشاهده شده است. در مرحله داشت و بازاریابی مشاهده شده که زنان به ترتیب با 0/12 و 0/15 درصد کمترین مشارکت را دارا بوده اند. در وجین کردن و هرس گیاهان، زنان از نیروهای اصلی به حساب می آیند و بالاخره در مرحله برداشت، تقریبا می توان گفت نقش زنان در چیدن گل زعفران تعیین کننده است. هدف دیگر پژوهش، بررسی وضعیت دسترسی دو جنس به منافع مرتبط با زعفران است. بر اساس یافته ها ی پژوهش مشاهده می گردد به طور متوسط مرد خانواده 74/16 درصد درآمد حاصل از تولید و فروش زعفران را به خود اختصاص می‌دهد.

5. بحث و نتیجه گیری

بین میزان مشارکت مردان (مرد خانواده، پسران خانواده و کارگران مرد) و زنان (همسر، دختران خانواده و کارگران زن) تفاوت معنی‌داری وجود دارد. میزان مشارکت مردان (0/24) به طور معنی‌داری از میزان مشارکت زنان در تولید زعفران (0/094) بیشتر بوده است. بین میزان بهره‌مندی مردان) و زنان تفاوت معنی‌داری وجود دارد. یافته های استنباطی نشان گر وجود اختلاف معنادار بین مشارکت و درآمد حاصل از زعفران در بین دو جنس است. علاوه بر این میزان دسترسی مردان به منابع خارج بسیار بیش تر از زنان روستایی می باشد. نتیجه تحلیل جنسیتی محصول زعفران این دو شهرستان نیز نشان داد که هرم قدرت تصمیم گیری از سرپرست خانواده یعنی مردان و پسران شروع و به زن و دختران خانواده ختم می شود، یعنی مردان بیش ترین حق تصمیم گیری را دارند. بعد از آنان، پسران خانواده و در پایان زنان (مادر) و دختران خانواده قرار دارند. در جامعه مورد پژوهش مشاهده گردید که هنوز زنان روستایی با اندک معلومات کسب شده از خانواده و محیط محدود و بسته ی زندگی خود، به کشاورزی با شیوه ی سنتی اشتغال دارند، در حالی که با حجم کشاورزی در شهرستان های تربت جام و باخرز حکم می کند که خود از آموزش های حرفه ای اولیه و تکمیلی برخوردار باشند.

کلیدواژه‌ها: رویکرد جنسیتی، محصول زعفران، زنان روستایی، شهرستان‌های تربت‌جام و باخرز.

تشکر و قدرانی

پژوهش حاضر خروجی طرح پژوهشی با عنوان "*تحلیل جنسیتی فرآیند تولید زعفران (مطالعه ی موردی: روستاهای شهرستان‌های تربت جام و باخرز)*" و بدین وسیله از دانشگاه پیام نور که هزینهٔ اجرای این طرح پژوهشی را تأمین کرد، قدردانی می‌کنیم.

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Assessing the Stability of Farming System in Rural Production Cooperatives in Isfahan Province and the Effective Strategies to Achieve it

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Abstract

Purpose- Rural production cooperatives (RPCs) play an important role in sustainable development in rural areas by considering three principles: domination, possession, and agency in the agriculture sector. The purposes of this study are to measure the stability of RPCs and presenting effective strategies to achieve it from the managers' view point.

Design/methodology/approach- The present study is a mixed-research method using analytic-descriptive method, including two different questionnaires. One questionnaire aiming at prioritizing and measuring the stability of the RPCs was prepared and presented to the members of RPCs. Stability was measured with 24 indices in three economic, social, and environmental dimensions using Shannon Entropy technique, according which the cooperatives were prioritized. The other questionnaire was prepared to present the best approach to achieve sustainable development from the view point of the managing directors and the board of directors. The best strategy was adopted using SWOT and ANP analysis.

Findings- Regarding the sustainable development, the findings of the study indicated that among rural production cooperatives in Isfahan, 12 cooperatives were unstable, 8 cooperatives were semi-stable, and 8 cooperatives were stable; this type of farming system is semi-stable. Developmental strategy (SO) was adopted as the best strategy to achieve sustainability, and the focus was on endogenous development through reinforcing internal strengths to obtain external opportunities. It includes promoting self-reliance through increasing members' participation in cooperative, empowering the staff and members (i.e. the experienced managing director and the staff with required specialty and expert holding promotional classes), using multilevel, multi-sectorial, multi-cluster, collaborative, and holistic approaches to manage the RPCs, and promoting systems based on collaborative team work.

Practical Implications- In rural sustainable development planning, sustainable farming systems must be considered as the focal core of any development plan. Since a big part of farming system in rural areas is devoted to smallholdings, promoting cooperation culture by the rural development planners can prepare the ground for empowering the villagers to obtain sustainable development .

Originally/value: For the first time in Iran, the current research attempted to present functional strategies for RPCs development using a mixed-method design.

Keywords- Sustainable development, rural production cooperative, measuring sustainability, exploitation system.
Paper type- Scientific & Research.

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1. Introduction

The basic requirement of using sustainable resources is to observe the capacity of natural resources. Measuring and analyzing stability is in fact the determination of this capacity. Analyzing stability is a reasonable basis and criterion for determining environmental standards which control the way of exploiting the resources. Analyzing stability determines the criteria and the amount of distance between the primary and stable condition and the current state of an environmental phenomenon. In analyzing stability resources' capacity and economic sustainability as to the relation with the production requirement of concern must be controlled and analyzed at the same time. Measuring stability is complicated and includes complicated interactions among technology, environment, and society (Amini Faskhoudi & Nouri, 2011). Because of stability in agriculture is a function of internal and external ecologic, economic and social factors, its changes in agricultural structures will be effective. The growing procedure of land distribution to small parts as a result of inheritance law, decreased efficiency of lands, human force, and investment in agriculture sector which are the negative consequences of land reform, thus the strategy of establishing RPCs is on the state agenda. The main task of RPCs was to prevent the villagers from immigrating to the cities and creating a balance between the development of rural and city areas. They introduced an efficient tool for rural development following the comprehensive development plans in the country. Despite the above issues, since RPCs and commercial and industrial corporations have been introduced as the best type of farming system, but because of the lack of defined strategy in development, they are not at a good level regarding rural and agricultural sector. Presently, the issue of stability of farming systems is one of the main and most important issues in farming system in the structural aspect; and hardware arrangements without defining the structural and software changes, frames will not have a favorable result. Farming systems are social organizations including several interweaved components allowing for producing farming products by a unit management and identity. Presently, there are 1369 RPCs with 402177 members and 3191507 hectares of member land (Central organization of rural cooperative, 2015).

Isfahan Province has 444474 hectares of farming land and 174120 farmers whose average farm land size is about 2.4 hectares. Almost the 89% of farming lands belongs to the smallholding farming system which their land size is below 5 hectares, and the 58.6% of lands are below 1 hectare. This has led to the management of farming organizations to become weak and consequently investment in infrastructures will not be economic and the efficiency of rare sources like water, soil, machinery and natural sources will be low. It is a big barrier to rural sustainable development especially under the conditions of crisis in general management. Therefore, the need for achieving a sustainable farming system has been considered by government as one of the strategic goals of rural development. Hence, this province has been leading in organizing and forming RPCs. Presently, there are 28 active RPCs in 13 towns in this province founded in two decades. The 13% of the farmers are the members of the cooperatives, including the 8% of the lands all over the country and the 28% of the lands in the province (Ministry of Jahad Keshavarzi, 2012). The main goal of the present study is thus to measure sustainability in the RPCs farming system in Isfahan Province and analyze the factors affecting the achievement of these cooperatives with regard to the sustainable development.

2. Research Theoretical Literature

The society is sustainable only if both human and ecosystem conditions are satisfactory or in the process of being improved. According to this definition, a system is sustainable when farmers and system members use the environment in a way that utilizes the proper capacity to cause less harm to the environment. One of the most important components of every utilization system is the method of production, which is considered as sustainable agriculture. This concept consists of managing the utilization of agricultural ecosystems through which biodiversity, productivity, and reproductive capacity are preserved. Under these conditions, ecosystems can, currently and in the future, carry out their social, economic, and environmental functions at the local, regional, and national level and do not cause harm to other ecosystems. Hence, any

farming system includes economic, social, and environmental dimensions (Sadatipour, 2009).
Economic sustainability emphasizes maintaining or improving economic conditions. This concept suggests the production stability, increased productivity, diversification, sustainable employment, and the adequate income of villagers. The social sustainability of farming system expresses the independence, equality, and improvement of the living conditions of farmers in each system of utilization. When a system of utilization is accepted in the interaction with the social environment, it can be considered sustainable. Achieving this goal involves "the development of equality, increasing human capital (literacy, occupational skills and health), social capital, expanding partnerships, helping with poverty alleviation, empowering and improving the quality of life" (Asadi & Mahdiei, 2009). One of the important elements of social sustainability is the amount of social capital among its members. According to Pantam (2001), this view suggests that the features and elements of the social system (trust between individuals, social norms, mutual interaction, and social networks) make coordination between individuals of a community for achieving mutual benefit possible. He divides social capital into two forms of capital: in-group and out-group. In-group capital, he believes, refers to the intra-group cohesion and the elimination of strangers, whereas out-group social capital refers to the relationship of different groups with each other (Ahmadi Firoozjani et al., 2007).The most important sustainability aspect based on the goals of the Brant-Land Commission is environmental. This is because the sustainable development paradigm was formed in support of the environment. Sadatipour (2009) believes this concept suggests the adaptation and/or the ecological health of the system, which involves maintaining or not destroying the ecosystem's vital forces. The results of research have shown that reducing the use of fertilizers, performing crop rotation, using organic fertilizers and herbal remnants in soil fertilization, and the low use of chemical fertilizer are all essential for the environmental sustainability of farming systems. In this case, researchers have also attempted to introduce effective models to measure sustainability (Zhen & Routray, 2003). Lack of a comprehensive definition of sustainable agriculture (Gafsi et al., 2006), natural, technical and social conditions (Von Wiren & Lehr, 2001), and also the introduction of a comprehensive and precise methodology has made it difficult to measure this concept. In general, there is no comprehensive method for measuring the stability of all systems, but the technique that is common to all methods is the use of sustainability indices. Hence, an overall assessment of sustainability should take its environmental, economic and social dimensions into account (Becker, 1997; Van Calker, Berentsen, Giesen & Huirne, 2006). Sustainability measurement involves identifying important attitudes and finding a single standard for welfare that can guide them into a hybrid sustainability scale. Many researchers have simultaneously taken advantage of economic, social and environmental indicators for measuring farming systems stability (see for example, Zhen & Routray, 2003; Van Calker, et al., 2006; Sydrovych & Wossink, 2008; Castodeli & Bechini, 2010; Binder, Feola & Steinberger., 2010).
Conducted studies on accessing RPCs or agricultural cooperatives to sustainable development are described below:
Prneetvatakul, Janekarnkij, Potchansin & Prayoonwong (2011) stated the effects of social participation of members on economic participation, government financial assistance, as well as the advice and oversight of beneficiary government organizations. Briscoe (2010) assessed the role of trainings for members and the dynamic leadership by the board of directors. Alexander (2009) states that collectivism spirit, level of education and relevance of education with RPCs activity, management history, and collaborative membership are of essence. John (2008) insist on the degree of cooperation between organizations and institutions, revision with cooperative companies, strengthening effective functional coherence between members and RPCs, also Krishnaraji (2005) insist on enhancing members' participation in education, and enhancing members' participation in RPCs affairs, Lawson (2000) refers to the technical information of members and staff, existence of an efficient organizational structure, outlined as the effective factors on the achievement of companies for sustainability.

3. Research Methodology

3.1 Geographical Scope of the Research

The geographic area of this research is Isfahan Province, and the statistical population includes 28 active rural cooperative enterprises whose geographical locations are shown in Figure 1.

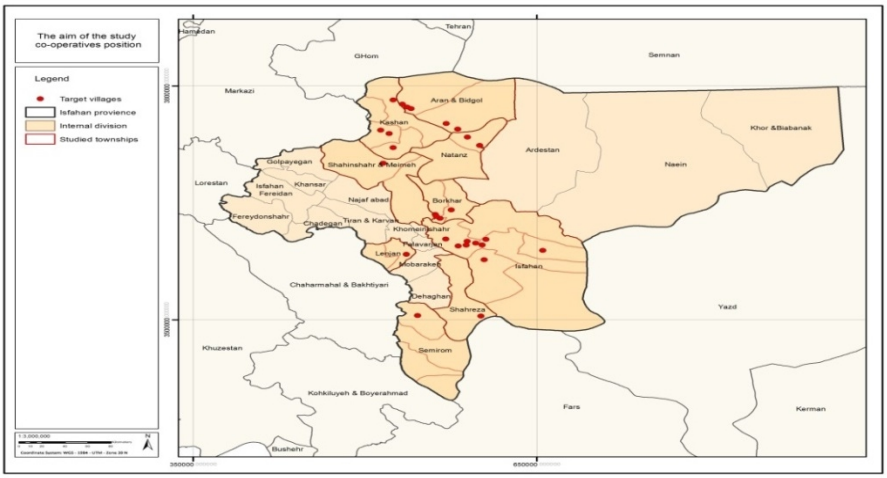

Figure1.Location of RPCs in Isfahan Province
(Source: Research Finding, 2017)

The required data is collected at the level of all RPCs, managers (N=28), and all the board of directors (N=140) for the combined analysis. To collect the stability of the cooperatives, there was no information from the 17362 utilities of the cooperatives of rural production due to the wide range of statistical population. The sample size was calculated using the Cochran Formula and the appropriate assignment method of sample size from each company. Then, a random sampling method was used to select the users.

Table 1. Number of selected samples from farming units
(Source: Research Finding, 2017)

Name of Townships	Number of RPCs	Number of farmers	Number of samples	Name of Townships	Number of RPCs	Number of farmers	Number of samples
Aran and Bidgol	2	1458	30	Shahreza	1	300	6
Isfahan	6	5998	123	Kashan	3	1971	40
Borkhar	4	1215	25	Golpayegan	1	242	6
Semirum	2	1756	36	Lenjan	2	1880	39
Shahinshahr	3	1611	33	Mobarakeh	2	576	12
Natanz	2	355	7	Total	28	17362	357

3.2. Methodology

This research is a quantitative and qualitative research. In terms of its purpose, it is an applied research; it is also a descriptive (non-experimental) according to the method of data collection (research design), which conducted in a cross-sectional manner. The data needed for this study were collected by documentary and field survey (questionnaire and interview). Two types of documentary and field studies were used to collect the data. Data analysis was done in descriptive and inferential sections. Descriptive statistics were used for categorizing the subjects in terms of different traits and describing the statistical population. In order to assess the stability of economic, social and environmental factors affecting the sustainability of farming system, a general index of sustainability was made. In this research, Shannon Entropy method was used to analyze the collected data. Entropy in information theory is a measure of uncertainty expressed by probability distribution. To use the entropy method, the following steps are

implemented (Azar & Rajabzadeh, 2012). The steps of this method include four steps as follows:
First in order to study sustainability of RPCs farming system, the economic, social and environmental indices were examined. The method of Shannon entropy was used in this study to analyze the gathered data. In information theory, entropy is a measure of uncertainty expressed by the probability distribution. D decision matrix with m and n option index (or measure) is as follows:

$$(1)\ D = \begin{array}{c} \\ A_1 \\ \\ \\ A_2 \end{array} \begin{array}{c} \begin{array}{cccc} X_1 & X_2 & & X_n \end{array} \\ \begin{bmatrix} r_{11} & r_{12} & \cdots & r_{1n} \\ r_{21} & r_{22} & \cdots & r_{2n} \\ & & \cdot & \\ & & \cdot & \\ & & \cdot & \\ r_{m1} & r_{m2} & \cdots & r_{mn} \end{bmatrix} \end{array}$$

The following steps are taken to use the entropy. The entropy method consists of 4 steps as follows:
Step one: Calculating the entropy of a probability distribution:
The value P_{ij} for the index j in the above matrix is calculated as follows:

$$(2)\ P_{ij} = \frac{r_{ij}}{\sum_{i=1}^{m} r_{ij}} \quad , j = 1,2,\dots,n \quad , \forall_{ij}$$

Step two: Calculating the entropy value:
The value of entropy (E_j) is calculated as follows:

$$(3)\ E_j = -K \sum_{i=1}^{m} P_{ij} * \ln P_{ij} \quad , \forall_j$$

K is a constant which preserves the value E_j between zero and one and is obtained from the following equation:

$$(4)\ K = \frac{1}{\ln(m)}$$

Step three: Calculating the degree of deviation:
The degree of deviation (d_j) is determined as follows:

$$(5)\ d_j = 1 - E_j \quad , \forall_j$$

It should be noted that the degree of deviation indicates how much useful data the corresponding index (j) provides for of decision-maker in order to make a decision. The more the calculated values of the indices are close together, the more they indicate that the opponent choices are not much different in terms of this index, and the role of the index is reduced in decision-making accordingly.
Step four: Calculating the importance of the weight of criteria:
Finally, the importance of the weight of criteria is calculated as follows:

$$(5)\ W_j = \frac{d_j}{\sum_{j=1}^{n} d_j} \quad , \forall_j$$

According to Prescott-Allen sustainability classification, the sustainability of the common characteristics for studied farming systems is defined as unsustainable, semi-sustainable, and sustainable or acceptable at 0-0.4, 0.4-0.6, 0.6-1, respectively (Roknodineeftekhri & Agayarihir, 2006).
The weight of each of the indices was calculated by the entropy method. The economic, social, and environmental dimensions were prioritized and ranked by the method of Shannon entropy; it was determined by the weight of each of these indices from the perspective of RPCs in Isfahan Province.
In the second part of the combination method, qualitative content analysis and strategic SWOT technology were used to formulate an effective strategy for the access of RPCs to sustainability. In this part of research along with other qualitative research, first the appropriate methods such as in-depth interviews, group discussion, and in fact a combination of these items with a general question followed by a partial question for data collection requirements in qualitative research were used. Then, in the quantitative part of research, network analysis (ANP) was adopted to analyze and rank the four strategies of SO, ST, WO and WT. Data analysis also started with the collection of data in qualitative research at the same time. During the process of data analysis, the units of analysis were identified first. In the present study, the entire text of each interview was considered as the unit of analysis. Subsequently, the semantic units identified that the terms and sentences contained different aspects of the concept. Then, coding was done in two open and axial ways in which semantic units were compressed and converted into code. At an open coding level, the line was retrieved into data lines and each of the concepts was extracted in one of the SWOT analysis factors (strengths, weaknesses, opportunities, and threats). Then, using pivot coding, the primary codes derived from open coding were reduced to class. At this stage, the encoded data was compared and presented as clusters or categories fitting together. Then each level was compared with other classes to ensure that the classes were distinct from one another. In the next step, SWOT matrix was formed using cross-cluster of four factors,

strengths, weaknesses, opportunities and threats. These strategies (SO, ST, WO and WT) were determined from four factors of SWOT analysis (Wheelen & Hunger 2012).

4. Research Findings

4.1. Sustainability assessment of RPCs farming system:

In this section, key and effective indicators of the sustainability status of RPCs were studied, including the 24 indicators of three groups, namely economic, social, and environmental factors. First, the indicators are made scale free and become standardized through fuzzy method, and by considering the standardized and numerical values of the stability indicators, their stability status is assessed in the RPCs farming system. The results are shown in Table 2.

Table 2. Stability status of indicators in RPCs by Std. mean
(Source: Research Finding, 2017)

Sustainability Dimension	Index	Mean	Std Mean	Status of sustainability
Economic	Average of yield per area(ton/hec)	12.47	0.405	Semi-stable
	Percentage of insured lands to total land	27.5	0.403	Semi-stable
	Rate of governmental credit use (R/hec)	111244300	0.698	stable
	Farm income(R/hec)	7054828	0.401	Semi-stable
	Average of farm costs	3097909	0.402	Semi-stable
Social	Agricultural population density(person/hec)	38.571	0.569	Semi-stable
	Availability level of social facilities	3	0.399	unstable
	Exploiters' job satisfaction level	2.428	0.501	Semi-stable
	Participation in agricultural and rural activities	2.625	0.403	Semi-stable
	Membership in local communities	2.571	0.496	Semi-stable
	Accessibility to informative channels and resources	3.892	0.399	unstable
	Technical knowledge level	3.857	0.726	stable
Environmental	Conservative tillage	40.416	0.794	stable
	Land areas under crop rotation	41.521	0.652	stable
	Level land area	28.89473	0.802	stable
	Land area under new method of irrigation(hec)	21.59090	0.915	stable
	Land area under cultivated modified crop varieties	45.037	0.601	stable
	Non-arable land area in last 5 years*	0.95	0.398	unstable
	Burning wheat residuals (stubble & straw)*	0.92	0.399	unstable
	Using wheat residuals to graze livestock	33.636	0.399	unstable
	Consumption level of nitrate fertilizers*	0.223	0.405	Semi-stable
	Consumption level of phosphate fertilizers*	0.208	0.588	Semi-stable
	Consumption level of herbicides	0.117	0.398	unstable
	Consumption level of green manner	4568.4	0.497	Semi-stable

4.2. Reverse Index

As shown in Table 2, in term of standard deviation, Land area under new method of irrigation is the most stable index, while non-arable land area in last 5 years is the most unstable index in RPCs farming system. Six indicators are stable, 11 indicators are semi-stable and five other indicators are unstable. All in all, this farming system is stable in 29 percent of indicators, 46 percent semi-stable, and 25 percent unstable**.** Social dimension indicators based on the Likert scale were ranked in five levels (from very high, high, medium, low, and none, from one to five). The amount of combined index for RPCs is calculated and the results are presented in Table 3.

Table 3. Calculation of the sustainability of RPCs
(Source: Research Finding, 2017)

Index	Mean	Standard Deviation	Min.	Max.	Sustainability Status
Combined Index	0.504	0.297	0.105	1.349	Semi-stable
Standardized combined Index	0.420	0.238	0	1	Semi-stable

The mean and the standard deviation for the sustainability of RPCs are 0.504 and 0.297, respectively. These results indicates that this type of farming system is Semi-sustainable based on Prescott-Allen's sustainability level ranking. Also, this farming system is Semi-sustainable according to the standardized combined index. In addition, the rate of sustainability for each of sustainability dimensions of RPCs farming system is calculated as shown in Table 4

.

Table 4. Calculation of the sustainability of RPCs in three dimensions
(Source: Research Finding, 2017)

Dimensions	Mean	Standard Mean	Sustainability Status
Economic	2428423.8	0.481	Semi-stable
Social	8.135	0.559	Semi-stable
Environmental	398.312	0.392	unstable

As shown in Table 4, based on the average of the indices after eliminating the difference in scale, the RPCs farming system, the economic index is become unstable, the social index is become semi-stable and the environment is in unstable situation. As shown in Table 5, 12 RPCs are unstable, 8 RPCs are semi stable, and the rest of them are stable.

Table 5. Ranking RPCs farming system from stability status
(Source: Research Finding, 2017)

Name of RPCs	RPCs		Rank of RPCs	Name of RPCs	RPCs		Rank of RPCs
	Composit index	Sus.Status			Composit index	Sus.Status	
Argerodasht	1.35	stable	1	Dehkaram	0.46	Semi-stable	15
Kavir	1.06	stable	2	Zarinkesht	0.41	Semi-stable	16
Zarkesht	0.90	stable	3	Etehadfami	0.39	unstable	17
Galeagosheh	0.89	stable	4	Kosheh	0.37	unstable	18
Khazrakesht	0.77	stable	5	Kabirkamo	0.34	unstable	19
Zayandehroud	0.78	stable	6	Meshkat	0.32	unstable	20
Esfahanak	0.65	stable	7	Sonboleh	0.30	unstable	21
Sepahan	0.61	stable	8	Kohandasht	0.28	unstable	22
Amirkabir	0.57	Semi-stable	9	Golestanecedeh	0.22	unstable	23
Emamali	0.56	Semi-stable	10	Hossienabad	0.21	unstable	24
Algadir	0.54	Semi-stable	11	Emamjavad	0.19	unstable	25
Keshtkaran	0.54	Semi-stable	12	Barzok	0.16	unstable	26
Bersian	0.52	Semi-stable	13	Tangechaedeh	0.13	unstable	27
Hormozabad	o.48	Semi-stable	14	Golestan	0.10	unstable	28

4.3. Strategic analysis of factors influencing the success of rural production cooperatives in achieving stability

The results in Table 6 showed a qualitative content analysis, and the open and axial coding of the questionnaires and interviews run with executives indicate the factors as strengths, weaknesses, opportunity and threat

Table6. The Matrix SWOT Sub-factors
(Source: Research Finding, 2017)

Strengths	Weaknesses
S1. Economic participation	W1. Lack of awareness and knowledge about (RPC)s
S2. Member empowerment	W2. Insufficient appropriate infrastructure
S3. Using agricultural new methods	W3. Low level of board member education
S4. Member social participation	W4. Lack of expertise in the field of agriculture
S5. Existence of an educated and experienced managers	W5. (RPC)s´ dependence on state grants

Table 6.

Opportunities	**Threats**
O1. State grants to (RPC)s O2. Supervision of state organizations O3. monitoring and technical advice represented by Ministry of Agriculture O4. Low existence of directions to regulate and support the activities	T1. High interest bank rate T2. Reduction of state aid to (RPC)s T3. Weakness of the union of (RPC)s for supporting them T4. Establishing rival societies at the rural level

In order to have a better coordination, the codified data were compared with each other in each category of SWOT factors, by integrating similar items; the classical encoding was devised with new concepts during coding. Totally, according to the findings of this research, with respect to many indicators, including five factors as strengths, four factors as weaknesses, five factors as opportunities, and four factors as threats. These indicators were based on the viewpoint of senior executives (board of directors and director managers) of 28 RPCs are the members of these RPCs. Senior executives are elected by members in a general assembly. For the purpose of encouraging the participation of farmers, applying the intersection of the internal factors including the strengths and weaknesses and the external factors including the opportunities and threats, this SWOT matrix was devised. The SWOT and network analysis models have been integrated to enhance the efficiency of the strategic planning process and to innovate the research methodology. Accordingly, the steps of the merger in the strategic planning process are described below

1) The required information was collected through questionnaires and interviews. Questionnaires applied for identifying strengths and weaknesses as a result of internal analysis and opportunities and threats as a result of external analysis and ranking the importance of sub -factors, would allow organizations to introduce strategies that rely on strengths to reduce the perceived weaknesses, apply identified opportunities and devise a plan to reduce or eliminate the impact of the external threats. In this method, the ranking of all SWOT factors in the form of a Paired Comparison Questionnaire by applying the nine Scale of Thomas Saaty, by 10 experts in Rural Cooperative Organization, RPCs were Ranked and prioritized.

2) The importance of each SWOT factors is determined by calculating the weight matrix w1, while considering the situation where there is no internal independence among the SWOT factors. All of these factors are obtained via questionnaires and compared pairwise (Table 7) with respect to the geometric mean. The numbers in Table 7 indicate the relative importance of the SWOT factors obtained from pair-wise comparison in the questionnaire. The relative importance was calculated according to the nine quantity chart purpose suggested by Thomas Saaty (Ahmadi, 2007).

Table 7. SWOT pairwise comparison matrix

(Source: Research Finding, 2017)

SWOT Factors	**S**	**W**	**O**	**T**	W_1
S	1.0000	3.8817	0.8958	1.7095	0.3536
W	0.2576	1.0000	0.4308	1.0781	0.1346
O	1.1164	2.3212	1.0000	2.5520	0.3583
T	0.5850	0.9275	0.3918	1.0000	0.1534

The consistency ratio (IR) is determined using an equation. If it is less than 0.10, the result is accurate and there is no need for adjustments in the comparison or recalculation of the weights. If the IR is greater than 0.10, the results should be re-analyzed, and the reasons for the inconsistencies should be determined and then removed via partial repetition of the pairwise comparison (Azar & Rajabzadeh, 2012).

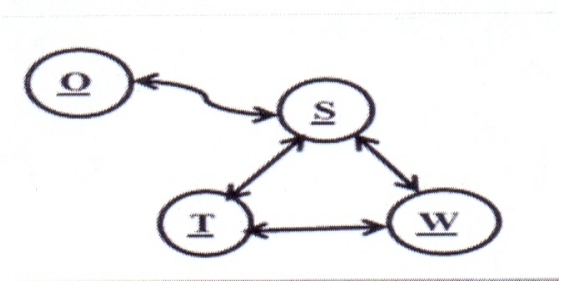

Figure 2. Internal interdependence of SWOT factors
(Source: Azar & Rajabzadeh, 2012)

3) The calculation of the W2: At this stage, we need to determine the weight of sub-factors by specifying the relationships between the SWOT factors. Inner dependence matrix of SWOT factors, through a scheme of internal interdependence is shown in Figure 2. Interdependencies between the main factors are determined by examining the effect of each factor on another one using the pairwise matrices. The interdependence between the main SWOT factors after analyzing the RPCs' internal and external environment is shown in Figure 2.
By placing the vectors of each table (W_{2j}), the matrix W_2 is formed. This matrix indicates the relative importance of the SWOT factors in situations where there is interdependence between them. This matrix is shown in Table 8.

Table8. pairwise comparison matrix is interdependent matrix of SWOT factors
(Source: Research Finding, 2017)

Strengths	S	W	O	T
S	1.0000	0.3011	0.4725	0
W	0.2907	1.0000	0.5275	0
O	0.4213	0.6989	1.0000	0
T	0.2880	0	0	1.0000

4) Determining the priority of SWOT factors by considering their dependence: At this stage, using two matrices W1 (relative importance of the factors obtained in the second stage) and W2 (relative importance obtained from the third stage) and multiplying these two matrices in each of them has internal preferences of SWOT factors.
5) Determining the degree of relative importance of sub factors of SWOT: At this stage, the relative importance of SWOT sub-factors is obtained using the combination of matrix comparison of experts. These matrices are used for the following factors: strengths, weaknesses, opportunities, and threats.
6) Determination degree of importance of sub factors of SWOT: At this stage, the total weights of the sub factors are obtained through weight multiplication, the main factors ($W_{normalize}$) in the relative weights of the sub-factors ($W_{Sub\ Factors}$). The results are presented in Table 9.

Table9. Final Priority of each SWOT sub factors
(Source: Research Finding, 2017)

SWOT Factors	Weight of Factors	Sub factor of SWOT	Weight of Sub Factors	Total priority of sub factors
Strengthens	0.3051	S1	0.092	0.0283
		S2	0.146	0.0448
		S3	0.124	0.0380
		S4	0.202	0.0618
		S5	0.131	0.0401

Table 9.

SWOT Factors	Weight of Factors	Sub factor of SWOT	Weight of Sub Factors	Total priority of sub factors
Weaknesses	0.2309	W1	0.1686	0.0389
		W2	0.1118	0.0358
		W3	0.1282	0.0296
		W4	0.1435	0.0331
		W5	0.1227	0.0283
Opportunities	0.3257	O1	0.2177	0.0710
		O2	0.1933	0.0630
		O3	0.1738	0.0566
		O4	0.2091	0.0681
Threats	0.1382	T1	0.1952	0.0270
		T2	0.2168	0.0300
		T3	0.1740	0.0241
		T4	0.1737	0.0240

After the priority of the following SWOT factors was determined, the following factors accounting for the highest priority in the formulation of strategies were used. The weights of the sub-factors multiplied by the weights of the factors were considered as the total priority of the sub-factors. The sub-factors are introduced in Table 6 and ranked according to their total priority in Table 10.

Table10. Ranking of SWOT sub- factors

(Source: Research Finding, 2017)

SWOT Factors	SWOT Sub- factors	Rank
Strengthen	S4. member social participation	1
	S2. Member empowerment	2
	S5. Existence of an educated and experienced managers	3
	S3. Using agricultural new methods	4
	S1. Economic participation	5
Weaknesses	W1. Lack of awareness and knowledge about (RPC)s	1
	W2. Lack of expertise in the field of agriculture	2
	W4 Insufficient appropriate infrastructure	3
	W3. Low level of education for board of directors	4
	W5. Dependence of RPCs on state grants	5
Opportunities	O1. State grants for RPCs	1
	O4. Low directions to regulate and support activities	2
	O2. Supervision by state organizations	3
	O3. Monitoring and technical advice from the Ministry of Agriculture	4
Threats	T2. Reduction of state aid to (RPC)s	1
	T1. High interest bank rate	2
	T3. Weakness of the union of (RPC)s for supporting RPCs	3
	T4. Establishing rival societies at the rural level	4

After identifying the priority of each of the SWOT sub-factors, it can be used in the formulation of strategies through the factors with the highest priority.

7) Determining the importance of strategic options according to each of these steps: Based on the prioritization of the SWOT sub-factors, the strategies are first developed, and then the strategy priority was calculated with respect to each of the sub-factors of the SWOT using the paired comparison matrix. Strategies are shown in Table 11.

Table11. Final SWOT Strategic Matrix for Success of RPCs in Iran
(Source: Research Finding, 2017)

External Factors		
SWOT matrix	Opportunities(O) $O_1,O_2,O_3…O_7$	Threats(T) $T_1,T_2,T_3…T_7$
Strengths **S_1** **S_2** **S_3** **…** **S_7**	SO Maxi-Maxi strategy SO_1. Promoting socio- economic participation and applying multi-level, multi-sectorial, participatory. SO_2. Holistic approaches for RPCs management, and - improving relationships with governmental organizations SO_3. Employment of skilled staff by supervision of state organizations.	ST Maxi-Mini strategy ST_1. Increase member social participation by individual and working empowerment by RPCs for achieving sustainable development Skilled director managers and hardworking staff in RPCs. ST_2. Holistic planning and organization with the participation of the members, Regarding continuous state grants. ST_3. Human and non-human resources should be available and leveraged.
Internal Factors		
Weaknesses **W_1** **W_2** **W_3** **…** **W_7**	WO Mini-Maxi strategy WO_1. Empowering, members, the board of directors by applying scientific and professional in-service educational courses, and being more active with the state regarding technical consultancy. WO_2. Adopting appropriate measures in order to be eligible for financial aid. WO_3. Being more active with the state regarding technical consultancy	WT Mini-Mini strategy WT_1. Increasing member social participation by human capital empowerment that can help member economic participation for supply cash in order to decrease public dependence. WT_2. Strengthening the relation between the RPCs and state organizations to increase technical aid, support for quality development of the RPCs, and modernization of equipment

8) To ranking the strategies applying the opinion of senior managers and pairwise comparisons among options with respect to the sub-factors where the degree of importance to the strategy to each of the sub-factors is determined. For this purpose, a 18 × 4 matrix is devised. The weight of each of the following strategies is shown in the order of S1 to S5, W1 to W5, O1 to O4, and T1 to T4. Table 11 indicates 11 main strategies for sustainable development of RPCs based on interactions between SWOT sub-factors formulated by the senior executives. They identified three SO, ST and WO, and two WT strategies based on the previously identified sub-factors.

In this study, to determine the best strategy, the strategies were ranked by integrating the results of the SWOT matrix consisting of 24 sub-factors in the ANP model as follows: (1) offensive or development strategy (SO) had a score of 0.3243 final priority; (2) competitive or diversity strategies (ST) had a score of 0.3023; (3) conservative strategy (WO) had a score of 0.1909; and (4) defensive strategy (WT) had a score of 0.1825.

$$W_{\text{strategies}} = \begin{bmatrix} W_{SO} \\ W_{ST} \\ W_{WO} \\ W_{WT} \end{bmatrix} = W4 \times \mathrm{W}_{\text{SWOTsub-factors}} = \begin{bmatrix} 0.3243 \\ 0.3023 \\ 0.1909 \\ 0.1825 \end{bmatrix}$$

The final priorities of the strategies are shown in Table 12. They indicate that SO1 (0.1560), ST_2 (0.1490), and WO_1 are the three best SWOT strategies, whereas ST_3 (0.0123) is the weakest SWOT strategies for RPCs sustainable development. It seems that adopting these strategies can play an important role in sustainable development of rural cooperatives and societies. When we employed conventional SWOT methodology, the three most important strategies were SO1, ST2 andWO_1, while the senior executive team believed that the results of ANP-SWOT were closer to the reality of Iran's cooperatives.

Table12. Priorities of the adopted Strategies
(Source: Research Finding, 2017)

Group of Strategies	Strategies	Weight	Ranking
SO (0.3243)	SO1	0.1560	1
	SO2	0.1330	4
	SO3	0.0353	9
ST (0.3023)	ST1	0.1320	5
	ST2	0.1490	2
	ST3	0.0213	11
WO (0.1909)	WO1	0.1410	3
	WO2	0.0407	8
	WO3	0.0295	10
WT (0.1825)	WT1	0.0900	7
	WT2	0.0925	6

5. Discussion and Conclusion

Achieving sustainable development in the third millennium is not only an essential requirement, but also an immediate goal that the cooperative can play an important role in from different aspects. In the RPCs farming systems, the results show that 12 RPCs are in unstable situation, 8 RPCs are in semi-sustainable status, and the 8 remaining companies are in the stable situation. These cooperatives are unstable from environmental and economic dimensions and semi-stable from social dimensions. The increased use of nitrogen fertilizers, phosphates, and agricultural pesticides has led to the environmental instability of this type of farming systems. Furthermore, the internal and external factors affecting the sustainability of RPCs are determined (strengths, weaknesses, opportunities, and threats) in this study.

The results obtained from the strategic analysis indicate five factors as strengths, five factors as weaknesses, four factors as opportunity, and four factors as a threat. Based on the results of ranking strengths, the social participation of cooperative members with a score of 0.0618 was identified as the first priority. These results are in line with the findings by Brisco (2010) and Alexander (2009) who believe that member participation is an important factor influencing achievement in sustainability. Member empowerment through conducting extension classes with a general score of 0.0448 is another important strength in this research. This result is in line with the studies by John (2008), Alexander (2009), and Krishnaraj (2005). It should be noted that along with the positive aspects of the organization that sustains, there are also some negative aspects. The lack of awareness of members of RPCs with a score of 0.0389 was identified as negative aspect, which supports the findings of Lawson's (2006) research. Lack of expertise in the field of agriculture with score of 0.0358 is the second priority. In addition to the positive and negative internal factors, there are also a number of positive and negative external factors in which this group of factors has been identified and ranked. The most important external opportunities respectively include: (1) State grants for the development and purchase of agricultural equipment with a score of 0.0710; (2) Low directions of regulating and supporting activities with a score of 0.0681; (3) Supervision of state organizations with score of 0.0630; (4) Monitoring and technical advice represented by the Ministry of agriculture with a score of 0.0566 are identified as the most important external opportunities, which supports the findings of Prneetvatakul's (2011) research. On the other hand, the most important external threats respectively include: (1) Reduction of state aid to RPCs with a score of 0.0300; (2) High interest bank rate with a score of 0.0270, (3) Weakness of the union of RPCs for supporting RPCs with a score of 0.0241; and (4) Establishing rival societies at the rural level with a score of 0.0240. The result is in line with the studies by Saadati (2009) and Khajehshahkoei, (2011).

According to the results obtained by adopting the SWOT factors and their combination regarding the priority in higher ranking SWOT matrix in this study, the following four strategies are proposed:

1. Offensive or development strategy (SO): Promoting self-reliance through increased participation in RPCs, promoting member talent, applying multi-level, multi-sectorial,

participatory, and holistic approaches for RPCs management, and improving relationships with governmental and non-governmental organizations (government grants).

2. Competitive or diversity strategy (ST): Increasing members' social participation by member empowerment in RPCs in order to achieve sustainable development.

3. Conservatively or reload strategy (WO): Empowering, members, the board of directors, and directing manager, by applying scientific and professional in-service educational courses, adopting appropriate measures in order to be eligible for financial aid, and being more active as to state technical consultancy.

4. Defensive strategy (WT): Increasing member social participation by human capital empowering that can assist members' economic participation for financial resources in order to decrease state dependency.

In this study, to determine the best strategy, the strategies were ranked by integrating the results of the SWOT matrix consisting of 18 sub-factors in the ANP model in the following: (1) offensive or development strategy (SO) with a score of 0.3243 final priority; (2) competitive or diversity strategies (ST) with a score of 0.3023; (3) conservative strategy (WO) with a score of .01909; and (4) defensive strategy (WT) with a score of 0.1825. The offensive strategy is the best strategy; that is, RPCs can be sustained by applying their internal strengths and external opportunities. The offensive or development strategy (SO) being the top strategy does not significantly affect other strategies; the three other strategies can apply as complementary and alternative ones.

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سنجش پایداری نظام بهره‌برداری تعاونی‌های تولید روستایی و ارائه راهبردهای موثر بر دستیابی به آن در استان اصفهان

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چکیده مبسوط

1. مقدمه

از آن جا که پایداری در کشاورزی خود تابعی از عوامل اکولوژیکی و اقتصادی و اجتماعی داخلی و خارجی است، از این رو تغییرات آن در ساختارهای کشاورزی نیز تاثیرگذار خواهد بود. روند رو به رشد تقطیع اراضی به قطعات کوچک در نتیجه قانون ارث، کاهش بهره وری اراضی، آب، نیروی انسانی و سرمایه در بخش کشاورزی که از پیامد های منفی اصلاحات اراضی دهه‌ی 1340 بوده، راهبرد ایجاد تعاونی‌های تولید روستایی در دستور کار دولت بود. رسالت اصلی تعاونی‌های تولید روستایی جلوگیری از مهاجرت بی‌رویه روستائیان به شهرها و برقراری توازن بین توسعه مناطق روستایی و شهری و استفاده بهینه از منابع آب و خاک تعریف شده است. در حال حاضر در استان اصفهان در حال حاضر، 55 تعاونی تولید روستایی در13 شهرستان این استان فعالیت می کنند که بطور عمده در دو دهه اخیر تاسیس شده اند. از مجموع تعاونی های تولید کشور 13 درصد کشاورزان عضو تعاونی ها هستند و 8 درصد اراضی در کشور و 28 درصد در استان اصفهان تحت پوشش تعاونی های تولید کشور در این استان قرار دارند. لذا هدف اصلی این تحقیق سنجش پایداری نظام بهره‌برداری تعاونی تولید روستایی و تحلیل استراتژیک عوامل موثر بر دستیابی تعاونی به توسعه پایدار در استان اصفهان است.

2. مبانی نظری تحقیق

یک جامعه در صورتی پایدار است که در آن هم شرایط انسانی و هم وضعیت اکوسیستم رضایت بخش یا در حال بهبود باشد. بر اساس این تعریف یک نظام بهره‌برداری هنگامی پایدار است که کشاورزان و اعضای آن نظام به شکلی از محیط زیست استفاده کنند که ضمن استفاده از ظرفیت مناسب تولید، آسیب کمتری به محیط زیست وارد نماید. از مهم‌ترین اجزاء هر نظام بهره‌برداری، شیوه و روش تولید محصول می‌باشد که تحت عنوان کشاورزی پایدار قلمداد می‌شود. پایداری اقتصادی بر حفظ یا ارتقای شرایط اقتصادی تاکید دارد.. پایداری اجتماعی نظام بهره‌برداری بیان‌گر استقلال، برابری و بهبود شرایط زندگی کشاورزان هر نظام بهره‌برداری می‌باشد. دستیابی به این هدف مستلزم سرمایه اجتماعی، گسترش مشارکت، کمک به فقرزدایی، توانمندسازی و بهبود کیفیت زندگی است. مهم‌ترین بعد پایداری بر اساس اهداف کمیسیون برانتلند بعد زیست محیطی می‌باشد. این بدان علت است که پارادایم توسعه پایدار فی‌نفسه در حمایت از محیط زیست شکل گرفت. این مفهوم از نظر به معنای سازگاری یا سلامت اکولوژیک است.

پژوهش‌گران سعی در معرفی مدل‌های اثر بخش به منظور سنجش پایداری نمودند. به طور کلی روش جامع و مانعی در خصوص سنجش پایداری کلیه سیستم‌ها وجود ندارد اما تکنیکی که در بین کلیه روش‌ها مشترک است به کارگیری شاخص‌های پایداری می‌باشد.. از این رو یک ارزیابی همه جانبه پایداری، باید ابعاد زیست محیطی، اقتصادی و اجتماعی آن را در نظر بگیرد. سنجش پایداری شامل تعیین نگرش‌های مهم و یافتن یک استاندارد یگانه برای رفاه است که می‌تواند آن‌ها را به درون یک مقیاس پایداری ترکیبی هدایت نماید. محققان بسیاری در سنجش پایداری نظام‌های بهره برداری از مولفه‌های اقتصادی، اجتماعی و زیست محیطی به صورت هم زمان بهره برده‌اند.

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3. روش تحقیق

پژوهش حاضر از جمله پژوهش‌های ترکیبی(کمی و کیفی) به شمار می‌رود. بر اساس هدف، جـز تحقیقـات کـاربردی، بـر اسـاس نحـوه گردآوری داده ها (طرح تحقیـق)، توصـیفی (غیـر آزمایشـی) و از دسته‌ی تحقیقات پیمایشی می‌باشد. اطلاعات مورد نیاز این پژوهش به صورت اسنادی و میدانی جمع‌آوری گردیـد. بـه منظـور بررسـی وضعیت پایداری عوامل اقتصادی، اجتماعی و زیست محیطی موثر بر پایداری نظام بهره‌برداری شاخص کلی پایداری ساخته می شود. در این تحقیق برای تحلیل اطلاعـات گـرآوری شـده از روش آنتروپـی شانون استفاده شد. از روش ترکیبی، تحلیل محتوای کیفـی و فـن SWOT راهبردی جهت تدوین راهبرد موثر بر دسـتیابی تعـاونی-های تولید روستایی به پایداری استفاده شد. قلمرو جغرافیایی ایـن تحقیق استان اصفهان بوده و جامعه آماری شامل 28 شرکت تعاونی تولید روستایی فعال می‌باشد.

4. یافته‌های تحقیق

نتایج بدست آمده نشان می‌دهد. همنین در ایـن مطالعـه مشـخص گردید عوامل موثر بر پایداری شرکت‌های تعاونی، تحت تاثیر عوامل درونی و بیرونی (نقاط قـوت، نقـاط ضـعف، فرصـت‌هـا و تهدیـدها) مختلفی قرار دارد. نتایج نشان داد که5 طبقه به عنوان نقاط قوت،5 طبقه به عنوان نقاط ضعف، 4 طبقه به عنوان فرصت و 4 طبقـه بـه عنوان تهدید مشخص گردید. بر اساس نتایج بدست آمـده از رتبـه-بندی نقاط قوت، مشارکت اجتماعی و همفکری اعضـای تعـاونی بـه عنوان اولویت اول شناخته شـد. در کنـار جنبـه‌هـای مثبـت درون سازمانی که باعث پایداری می‌شوند، برخی جنبه‌های درونـی منفـی هم وجود دارد. عدم آگاهی و شناخت اعضا از شرکت است علاوه بـر عوامل درونی مثبت و منفی یک دسته عوامل بیرونی مثبت و منفـی نیز وجود دارد که در این پژوهش این دسته عوامل شناسایی و رتبه-بندی شده‌اند. اعطای کمک بلاعـوض دولـت بـه عنـوان مهـم‌تـرین فرصت بیرونی شناخته شدند. همچنـین کـاهش کمـک دولـت بـه شرکت در سنوات اخیـر بـه عنـوان مهـم‌تـرین تهدیـدهای بیرونـی شناخته شدند.

5. بحث و نتیجه‌گیری

در نظام بهره‌برداری تعاونی تولید، 12 شرکت در وضعیت ناپایدار، 8 تعاونی در وضعیت نیمـه پایـدار و 8 شـرکت باقیمانـده در وضـعیت پایدار قرار دارند. این تعاونی‌ها، از بعد اقتصادی در وضعیت ناپایـدار، اجتماعی در وضـعیت نیمـه پایـدار و زیسـت محیطـی در وضـعیت ناپایدار قرار دارد با توجه به نتایج این تحقیق، راهبردهای چهارگانـه راهبرد توسعه‌ای، راهبرد رقابتی،راهبرد بازنگری و راهبرد تـدافعی جهت ارتقای سطح پایداری شرکت‌هـا شناسـایی شـده اسـت. لـذا افزایش مشارکت اجتماعی اعضا از طریق توانمندسازی سرمایه‌هـای انسانی می‌تواند بسترسـاز مشـارکت اقتصـادی اعضـا جهـت تـامین نقدینگی شرکت به منظور کاهش وابستگی به دولت گردد.

کلمات کلیدی: توسعه پایـدار، تعـاونی تولیـد روسـتایی، سـنجش پایداری، نظام بهره‌برداری.

تشکر و قدردانی- پژوهش حاصل حامی مـالی نداشـته و حاصـل فعالیت علمی نویسندگان است.

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The Analysis of Obstacles to the Capacity Development of Gardening Exploitation in Rural Areas (Case Study: Padena Olya Dehestan of Semirom County)

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Abstract
Purpose- The aim of this study is to identify and prioritize the obstacles to capacity development in gardening exploitations of the villages of Padena Olya in Semirom County.
Design/methodology/approach- The present study has been done with causal -descriptive research method and the data has been completed using questionnaire and interview tools. In addition, 273 samples were chosen (using Cochran formula) from the family farming of Padena Olya Village as the statistical population and it has been completed by the random sampling method. Data analysis is done using both quantitative method, including descriptive and inferential statistics (path analysis and structural equation modeling using Amos Graphic software), and qualitative method, including Atlas software.
Findings- The analysis of qualitative findings based on semi-structured interviews and focus groups showed that the main obstacles related to capacity development are of social, economic, and environmental dimensions. Data coding based on the grounded theory also showed the most important obstacles in marketing categories, the environmental obstacles, the obstacles of participation, also and educational and promotional obstacles. Finally, the quantitative data analysis using structural equation modeling, in addition to the obstacles presented in the qualitative model, has estimated production capacities and empowerment as mediating variables in the final model of capacity development obstacles in the study area. The economic obstacles with 0.33 and environmental obstacles with 0.17 have the greatest effect on the lack of capacity development of the exploitations in the study area, respectively.
Research limitations/implications - They include the lack of cooperation of relevant organizations in the presentation of information, as well as the low interest of operators to participate in the interview and cooperation to collect the qualitative data which led to an increase in the duration of attendance within the study area, held more group sessions, and thus slowed down the process of study.
Practical implications- We propose a plan for increasing government support to gardener in various affaires, such as increasing the share of insurance premiums. It is also advisable to attempt to determine the fair price or the guarantee purchase of the gardeners' products and create cooperatives to manage the sales and marketing of the product to remove the brokers and dealers.
Originality/value- The present study stresses the capacity development process of horticulture through identifying and analyzing the effects of obstacles and capacity building and empowerment of farmers. This research explores the hidden variables and the barriers to capacity development in gardening exploitations.
Keywords- Capacity building, Empowerment, Gardening exploitation, Isfahan Province.
Paper type- Scientific & Research.

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1. Introduction

Horticulture as one of the activities of the agricultural sector plays an important role in creating employment, revenue generating and economic development in rural areas (Nouri Zamanabadi & Amini, 2007). In line with horticultural development, other rural economic sectors also grow faster and increase their weight in the rural economy (Alavizadeh & MirLotfi, 2013).

Considering its nature and the positive aspects, Horticultural activity, in the case of proper management of sustainable agricultural development, is better than agriculture. In pursuit of sustainable development, it has the benefits such as providing food and biological facilities, storage and supplying the needs of other plants, cultivation of crops in shelter, protection of soil and green cover, freshen the air, increasing atmospheric precipitation and lower consumption of chemicals (Fathi, 2012). This can contribute to achieve sustainable development goals, such as acquiring economic independence, improving farmers' situation, preventing migration, increasing the welfare of the rural community, self-sufficiency and production of food required by farmers, increasing production to achieve food exports, creating welfare, rural credibility and attraction, the promotion of historical and cultural values, natural perspectives, and finally the creation of individual ecosystems in rural areas (Antriyandarti, 2012). The development of horticulture activities, increasing its income and efficiency of horticultural activities depends on empowerment, increasing capacity development and building opportunities; but the realization of the development of this sector in different regions faces with many obstacles and problems that these obstacles can be classified in three categories: environmental, economic and social factors. The economic obstacles affecting the development of horticultural activities include the lack of a comprehensive marketing and marketing system for the supply and distribution, storage and export of products, the lack of conversion and complementary industries, the absence of supportive systems, the lack of qualitative diversity of products, lack of opportunities for job and income sources, vulnerability to market fluctuations and the change of product prices, the lack of utilization of new methods of exploitation, and also the lack of access to institutions.

From the environmental dimensions, there are some constraints, such as climate fluctuations, droughts, severe limitation of water resources, frostbite of crops and vulnerability to natural hazards including floods, environmental pollution, the lack of development of new irrigation practices and the lack of protection of water resources. From the social dimensions, there are also some constraints, such as the low level of technical knowledge and the awareness of farmers, the lack of attention to indigenous knowledge, the illiteracy of some farmers, the high age of exploiters, hidden unemployment, the lack of proper welfare, migration and the lack of willingness to stay at the village, and the lack of promotion activities.

Semirom County is one of the main poles of horticulture in Isfahan Province, which has many capacities and talents in this field. Having suitable climate and fertile soil, abundant manpower, and other features, this county can have the best performance in horticulture.

Despite the empowerments and capabilities of Semirom County, the city has not been able to utilize its facilities and capacities for horticulture development for various reasons, including the severe vulnerability of the region's economy to environmental conditions, and the climate fluctuations such as frostbite and drought, product fluctuations and market constraints, and high fluctuation of prices, the lack of modern infrastructure of development for horticultural crops such as lack of packaging facilities, the lack of warehouses and refrigerators, the lack of conversion and complementary industries to complete the cycle of production, and the creation of added-value products. Also, the coincidence of extensive imports of agricultural crops with the high volume of production in some production periods, and its limited export, lack of supportive system, lack of necessity training, lack of promotion activities and lack of labor force during harvesting caused the planning process of horticulture development in this region cannot reflect the real capacities of this sector in the economic structure of rural areas.

Therefore, in this research, we are trying to identify and investigate the problems i.e. what are the obstacles in gardening exploitations of

Padana, Semirom? Which of the following deterrent factors have the greatest impact on capacity development?

2. Research Theoretical Literature

The ability of a country to pursue a sustainable development path is largely determined by the capacity of its people and institutions as well as its geographical and ecological conditions. In particular, capacity building involves human, scientific, technological, and institutional capabilities and resources. In connection with sustainable development within local governments, efforts to develop sustainable capacity building within existing institutional structures can be considered as actions for forming the government's structure to meet the needs and demands of sustainable development or actions for creating the capacities in partnership with civil society (Evans, Jowz, Sandbick, & Theobald, 2013).

In general, the sustainable development strategy manages both natural and human resources as well as financial and physical resources to increase wealth in the long run. Sustained development is opposed to any policy or practice that endangers the interests of subsequent generations (Zargham & Hajji, 2010). Sustainable development requires a holistic view of environmental, social and economic development policies and the integration of these three dimensions. In the theoretical explanation of the concept of sustainable development, which emphasizes the interaction of the three dimensions of economic, social and environmental development, approaches such as conservationism, environmentalism and socialism have been formed. The ultimate goals of economic development are to achieve sustainable economic growth, maximize benefits, protect and recycle resources, and reduce waste. These goals make sense in social development by satisfying needs and increasing self-reliance. (Arlemalm & Sandberg, 2011).

On the other hand, the empowerment and capacity building of human environments is also a new form of participatory, decentralized, institutionalized development according to the sustainable development approach (Warm, 2010). In addition, farmers empowering as a new approach of intrinsic motivation of agricultural activities in rural areas is to liberalize the forces of the farmers as well as to provide opportunities for the development of talents, their abilities and competencies (Byham, 1991).

Building capacity as complementary to other ideas that has been implicit in development thinking in the last four decades and still plays an important role in the development process. These concepts include institutionalization, institutional development, human resource development, administrative and managerial development, and institutional strengthening (Ghasemi Viry, 2012).

The ability of rural exploiters to grow effective and efficient use of existing resources and effective control over the forces shaping the agricultural activity system. Agricultural planning addresses the issues of production and supply of agricultural products and tries to improve farmers' economic performance in addition to meeting the nutritional needs of the community and environmental issues (Zare Shahabadi, Zare Shahabadi, Samimi and Khorasani, 2010). The success of this strategy depends on the two components of investment in the production process and the improvement of the market mechanism (Khosrobeigy, Shayan, Anabestani, and Bozarjmehri 2014).

In general, there are five perspectives can be considered based on the modernization, exploitation and conservation of resources, location and dissemination, the use of high-level institutions and the theory of innovation in relation to the development of operational capacities, which are based on value-oriented, pragmatic and goal-oriented approaches. The theory of innovation helps to explain and select the optimal method of the agricultural and technical inputs of a community. The transformation of structure in agriculture reflects the response to natural resources and the growth of demand for products and changes in inputs that lead to changes in natural resources and technology (Hosseini and Sharifzadeh, 2015)

The combination of factors and inputs and investment in gardening exploitations should be defined in terms of innovation and in an optimal way. So that production capacities include water, soil, capital and human resources are investigated, and the obstacles of developing these capacities are identified to provide the necessary solutions to solve the problems.

In the meantime, the role of horticulture and gardening exploitations are remarkable in the

development of rural areas. Iran has been ranked among the top 10 producing countries in the field of horticulture production. Intelligent intervention and strategic planning, both comprehensive and realistic, are associated with exploitation gardening and horticulture, in accordance with the conditions of each region, that will be able, while releasing communities especially villagers, to provide the grounds and areas that will contribute to the development of these areas and thus the country (Fathi, Nuri and Seddisi, 2012, p. 199)

Weinberger and Thomas (2007) concluded that the development agency should focus more on horticulture research and development, because it can provide a good ground to reduce poverty by increasing income and creating employment opportunities. Because horticulture can provide a good ground to reduce poverty by increasing income and creating employment opportunity.

The employment opportunities can provide a suitable basis for poverty alleviation. In this regard, recognizing priority areas, improving the genetic status of plants, and producing commercial seeds are considered as effective factors.

Yasouri (2007) divided the factors affecting the low productivity of rural production into two categories: internal and external causes. He concluded that these factors t prevent from the formation of capital in rural areas. In a study on the development of rural economy on the horticulture axis in the Baghbahadoran in the city of Lenjan, Fathi (2008) showed that horticulture has an important role in the development of rural economics in the region. In a study by Maertens (2009), it was concluded that the export of horticulture products and agricultural industrialization in small crops have been beneficial to rural households through increased investment, as well as employment opportunities. Also, the acquisition of non-specialized careers in export agricultural industries helped reduce the pressure put on the farmers. In his field studies on (education and empowerment), Vroom (2010) found that the factors in agricultural empowerment included increasing self-awareness, the fair distribution of power and wealth, social status, freedom, fair access to resources and opportunity, the rational use of input and its correct cropping, the use and application of new agricultural techniques, the improvement of the quality of work, the promotion of resource allocation, and the effective production methods.

In Argentina, Hancer (2010) studied the program of agricultural credits by comparing two empowerment and empowerment groups and found that farmers' adaptation to the changing conditions of the environment and the favorable environment are the factors involved in the empowerment of farmers. Parsaei (2011) investigated the role of horticulture in the rural economy development of Esfarjan District of Shahreza. Results showed that horticultural activities have a significant role in the development of the rural economy of Esfarjan District. The main problems which hinder the development of horticultural activities had been investigated and some solultions for these problems had been addressed.

Hansen and Duveskog (2012) in their study " The Empowerment Route to Well-being: An Analysis of Farmer Field Schools in East Africa" also found that the most important impact of this approach to empower farmers is due to its impact on creating new capacity in the locals for choices and decisions that enhance agricultural innovation, access to services and market access. The results of the research were done by Yeganeh and Nabati (2013), on analyzing the obstacles of agricultural development in rural areas, showed that structural factors in the rural district were the most important obstacle to agricultural development. cultural, environmental and marketing factors were placed in the next priority. Dolinska and D' aquino (2016) focused on research on key interactions, and learning between farmers and other players. Not only collective knowledge, but also the production and re-production of discourses and the presentation of a framework for the implementation of a person can both prevent from innovation or be the sponsor of it.

3. Research Methodology

3.1 Geographical Scope of the Research

The study area is located in the village of Padena Oliya in Semirom, Isfahan province. The city of Semirom has an area of 5224 square kilometer located between 51° and east 34' longitude, and 31° and north 25' latitude. According to the 2016 census, the city has a population of 128.55 with 3759 households distributed in 26 villages (Statistics Center of Iran, 2016), a total of 1770

households are rural gardeners. Horticulture has been dedicated to the production of apples, accounting for about 90% of the region and household's income. According to the statistics, about 83.64% of the income of natural products and 78.09% of the total agricultural products of the village is allocated to the apple trees (Agricultural Jahad of Semirom, 2016)

Simple random sampling method was employed to determine sample size due to the wide range of statistical population. Selected sample size is selected to be the minimum sample size in the communities that can be categorized based on the personal estimation methodology of the researcher of 12 villages (50% of the villages) (Hafezniya, 2014, p. 136)

Also, in the selection of sample villages, it has been tried to select the sample villages from active villages in the field of gardening exploitations. In addition, in the selection of these villages the accuracy is taken to be highly diverse, variety and random in terms of spatial distribution. Totally, 842 gardeners have been studied as a statistical population.

Finally, using the Cochran formula, 273 questionnaires and according to the relative share of each village have been distributed among exploited households. The table (1) and Figure (1) show the specifications and positions of the twelve selected villages in the study area.

Table1. Introduction to studied villages

(Source: The General Population and Housing Census, 2016)

Village's Name	Horticulture	Number of sample
Bideh	136	44
Barand	71	23
Shahid	101	33
Kifteh	143	46
Sarbaz	67	22
Nourabad	47	15
Dourhan	44	14
Valadkhani	37	12
DehBozorg	37	12
Noghl	55	18
Bazargah	55	18
Pahloushekan	49	16
Sum	842	273

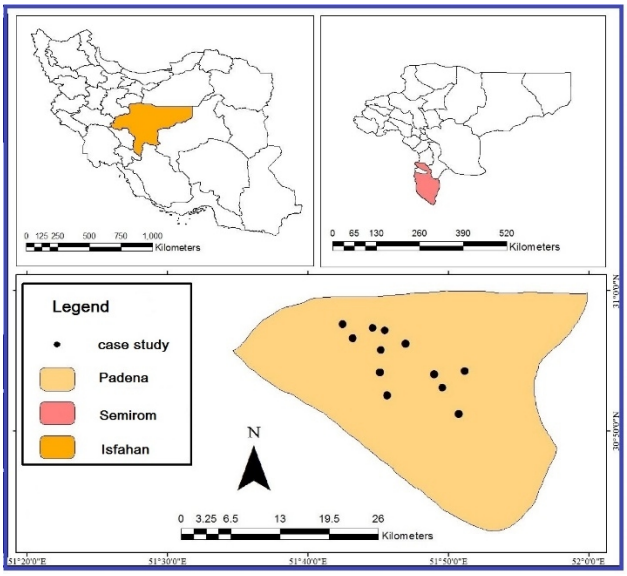

Figure 1. Geographical Location

(Source: Provincial Government of Isfahan, 2016)

3.2. Methodology

This study is a descriptive-casual research and based on purpose is exploratory and applied research. In order to collect data have been used library and field methods such as questionnaire, semi - structured interview and collaborative observation.

The research method has been done in combination of qualitative and quantitative methods. In a qualitative method, with the formation of focus groups, interview sessions and discussion are conducted in similar and consistent among the group members. Selection of participants for interview was done in the theoretical sampling method.

In this way, Information sources such as interview and observation were among examples that complete the theory created in the research process. Also, the theoretical saturation of the data and determination of sampling adequacy are carried out through continuous data comparison and continue to replicate the data and the end of classification. Finally, based on the grounded theory method after each interview, first the open coding stage, the extraction of concepts and the formation of categories has been carried out so that in the next stage it is possible to develop the generated categories or use the new categories to complete the previous categories. The formed categories were developed with axial coding procedure and classified in three categories of economic, social and environmental obstacles that were analyzed in the qualitative data analysis software (Atlas).

3.3. Variables and research indicators

Research variables, in addition to demographic and productive-agricultural characteristics of the household, include items for indexing and operationalizing independent and dependent variables.

These variables mainly focus on investigating the earnings, product pricing, marketing and distribution services, promotional services and training for beneficiaries, government support, the level of technical knowledge and beneficiary awareness, resource management, and willingness to use gardening exploitations in the future. In order to ensure validity, the questionnaire has been approved by experts in the sciences related to the topic of research. The validity coefficient of the questionnaire has also shown a relatively high reliability in the process of operating the independent and dependent variables on the basis of pre-test of Cronbach's alpha.

The analysis of relationship between variables and the identification of each factor on the research dependent scale (capacity development of gardening exploitations) has been analyzed with the statistical approach of path analysis and structural equation modeling in AMOS software as latent and observed variables. In Table (2) the variables and research indicators are analyzed as follows: social, economic and environmental dimensions.

Table 2. Variables and research indicators
(Source: Research Findings, 2017)

Dimension	Competent	index
Economic	preoccupation & income	Income, livelihood diversification, savings and cash investment Satisfaction with income and occupation
	Marketing	Pricing products Market fluctuations Production cost Value-added Product diversity Distance from market Product transportation Facilities and technology of product maintenance
	Services and Facilities	Financial and credit services of banks Guarantying for buying products Government supports Status and conditions of insurances

Table 2.

Dimension	Competent	index
Social	Teaching	The education level of exploiter Technical knowledge level and attention to indigenous knowledge Participate in educational and promotional classes Access and contact with promoters and experts
	participation	Empathy and intimacy Coherence and communication with each other Doing group works Activity in routine agricultural affairs Consulting in affairs
	Place attachment	Immigration and leaving the village The desire for agricultural employment by the children willingness to live in the village
Environmental	Land resources	Water resources status Quality and quantity of water Land user changes Erosion and gradient of the earth Soil Salinity Spatial dispersal and being driblet of gardens
	Hazards	Drought, Herbal diseases, Climate change, Dusts
	Compatibility with the environment	Use of pesticides Irrigation practices Status of exploitation of natural resources Use and store atmospheric weather

4. Research Findings

4.1. Statistical description and characteristics of respondents' exploitation

According to the scope of the study, the respondents were male. Their average age is nearly 51 years old (from the age of 25 to over 55) of which 8% are illiterate, 38.2% have elementary education, 14.9% have secondary education, 22% were graduated with a diploma and 16 % of them had a bachelor 's and higher education. The main source of income and employment of 64 % of respondents was horticulture, 16 % had a free job and rest had horticulture alongside their second job, such as such as employees or laborers. On average, the respondents had 25 year experience in horticulture.

4.2. Conceptualization and classification of qualitative data by Grounded theory

The interview questions were originally outlined in an open and comprehensive manner and have been gradually developed during the research process and focused more on the core issues. The data from focus groups are encoded with three procedures, in the first step; the formation of concepts and categories is addressed through open coding. In the next step, it was possible to expand the categories and even create new categories related to the previous categories.

The extraction of each concept of data is based on the topic given each data. Some of the concepts extracted from primary raw data include the lack of livelihood diversification, higher production costs, the high share of intermediaries, lack of cooperatives associated with products ' marketing, the lack of guaranteeing the product purchase, and the lack of conversion and complementary industries in the village.

Given the high volume of data, after coding all the concepts are compared and the concepts that are matched to each other in terms of meaning and semantically have given the formation of a category. In this way, the data obtained from each interview determines the type of questions in the next interview. Questions that contributed to the development of this research were: Who? When? Where? What? How? And how much?

So, the related categories were also grouped together and formed a wider set which four categories are defined as the main categories that include other subcategories (Azkia, Zaree and Imani, 2008).

These categories, which are considered as the most important obstacles to the capacity

development dimensions of gardening exploitations, are: Obstacles to marketing, environmental damage, lack of water resources and lack of network promotion services. In the axial coding of the data, as shown in Table 3, each category contains subcategories.

Finally, the classified concepts are processed in the qualitative data analysis software and, as Figure 2 shows, the obstacles to capacity development in the study area are grouped into three main categories: economic, social and environmental obstacles associated with each group.

Table 3. Broad classes and subcategories derived from concepts
(Source: Research Findings, 2017)

Wide Classes	Subclasses
Obstacles to Pricing	High production cost, involvement of intermediates in the process of Pricing, low share of gardener form sales, the high share of intermediaries, involvement of intermediaries, Price fluctuations, lack of cooperative for product marketing (mainly apples)
Distribution and packaging	Lack of proper market, lack of guarantee to buy Product, lack of conversion and complementary industries, low quality of stored products, lack of refrigerator, transportation costs, distance from the market, inadequate packing, inability of product competition (mainly apples) with other products
Lack of Facilities	Lack of government supports, lack of access to inputs, high cost of inputs for exploiter
Obstacles to participation	Migration, Unwillingness to work in the village, Lack of desire to continue work by children
Educational and promotional obstacles	Low level of technical knowledge, lack of promotional and training classes, lack of access to experts and promoters
Environmental obstacles	Distribution of gardens, small gardens, dusts, droughts and climate change, herbal diseases, lack of water resources, lack of storage atmospheric precipitation and lack of water resources protection

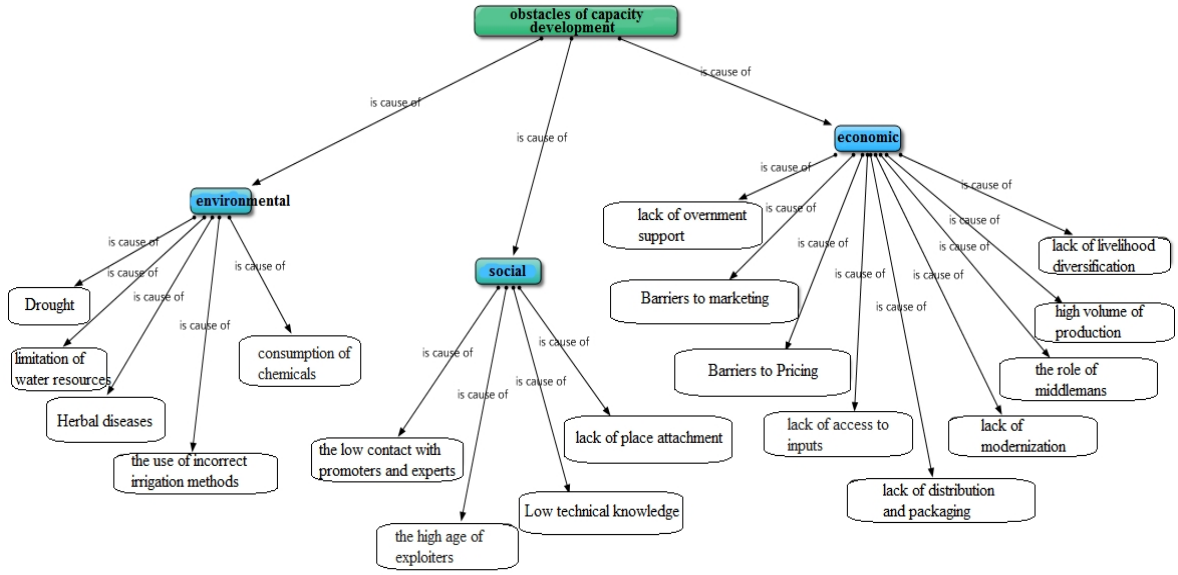

Figure 2. Obstacles to capacity development of gardening exploitations in Atlas software output
(Source: Research Findings, 2017)

4.3. Modeling of capacity development obstacles in gardening exploitations in the study area

The study of correlation relations and the effects of the observed and latent variables were modeled using AMOS graphic software. In Figure 3, the path analysis of the observed components such as economic, social, environmental obstacles, empowerment obstacles and non-expansion of production capacities are presented.

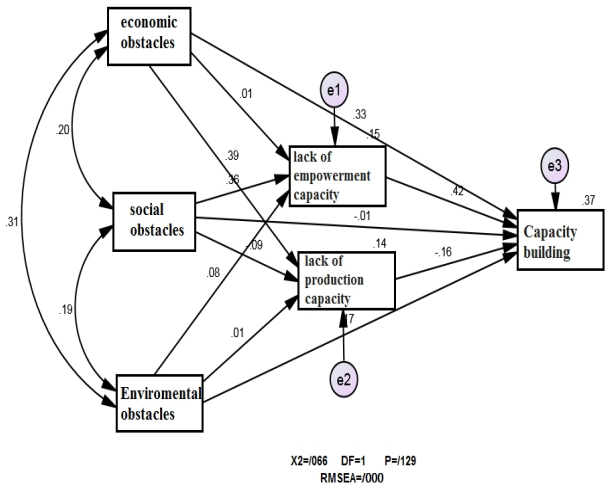

Figure 3. Path analysis model for capacity development obstacles within the study area
(Source: Research Findings, 2017)

Table 4. Goodness of Fit Index
(Source: Research Findings, 2017)

Indicator ID	Goodness of Fit Indexes	Research Model	Decision making criterion
CIMN	Chi-Square	0/066	-
P	P-value	0/129	>0/05
DF	Degrees of freedom	1	-
CIMN/DF	Chi-Square/ Degrees of freedom	0/066	<3-2
GFI	Goodness of-Fit-Index	0/95	>0/9
CFI	Comparative fit Index	0/98	>0/95
NFI	Normed fit Index	0/98	>0/9
RMSEA	Root Mean Square Error of Approximation	0/000	<0/05
PRATIO	Parsimony ratio	0/067	1-0

The presented data in Table 4 shows the Goodness of Fit Index**es** relative to the proposed criteria**.** As we observe, the developed model is estimated by favorable and valid goodness of fit index**es.** The high level of coverage of 0.05 confirmed the significance of chi-square**.**
Also, the other value of fit indices (comparative fit, goodness of fit and norm fit) is also close to one and thus confirms proper fitness of the model (Hooper, Kaflan & Moulen, 2008, p. 56). Estimation levels and impact coefficients of components (total impact, direct effects, and indirect requirements) are presented in Table 5. The existence of positive coefficients indicates the direct relationship of independent variables on the dependent variables. In other words, each increment unit in each of the independent variables increases the dependent variables. The proposed regression model shows that the economic obstacles with the total coefficient of 0/267 have the greatest impact in explaining the lack of capacity development.

Table 5. coefficients of total, direct and indirect effects of variables
(Source: Research Findings, 2017)

Observed variables	Total effect	Direct effect	Indirect effect
Economic obstacles	0/267	0/326	-0/059
Social obstacles	0/153	-0/013	0/165
Environmental obstacles	0/206	0/174	0/032

Structural equation modeling approach is based on all calculations and estimates into the matrix of variance and the covariance between the observed variables and their decomposition.

Table 6 also shows the variance and covariance values of the research model paths. Apart from social obstacles in production capacities and capacity development, all regression weights between the parameters of the measurement and structural equation model are greater than zero at the confidence level of 90 % or more. This indicates the existence of significant relationship between the observed variables and in other words, the explanation of the variance of obstacles affecting the lack of capacity development

As it is evident, the design of model paths is influenced by the impact of indicators between the lack of empowerment capacity and the lack of production capacity and the impact of economic, social and environmental obstacles.

The data show that each unit increase in the economic and environmental obstacles, respectively, how much increase in the lack of capacity development results in gardening exploitations.

Table 6. Estimating the standardized coefficients between the parameters of the measurement model for measuring the impact of obstacles

(Source: Research Findings, 2017)

Variables and Components		Regression Weight	Standard Error	Critical Ratio	Significant Level
Economic obstacles	empowerment	0/009	0/103	2/157	0/04
	Production capacities	0/386	0/139	6/393	***
	Capacity development	0/326	0/071	5/868	***
Social obstacles	empowerment	0/357	0/071	6/095	***
	Production capacities	-0/092	0/097	1/565	0/118
	Capacity development	-0/013	0/049	0/239	0/811
Environmental obstacles	empowerment	0/08	0/086	1/975	0/187
	Production capacities	0/007	0/117	2/117	0/04
	Capacity development	0/174	0/056	8/023	***

Given that the validity structure, other than two, in all directions is more than 1/96, it can be inferred that the covariance of the paths is significant at 0.05. The test statistic, or the critical ratio that is obtained by dividing the coefficient estimation on the criterion error, has a standard normal distribution with a significant level of 0.05. Thus, the null hypothesis of the coefficients is rejected on the specified error level and therefore all the path coefficients are significant (except for the three paths).

Standard errors of coefficient estimation or standard error indicate how much of the independent variables are effective in explaining the dependent variable or the capacity development of a garden. Criterion error of coefficient estimation or standard error indicate shows how much independent variables influence the explanation of the dependent variable, or the capacity development of gardening exploitations.

Given that the error criterion is smaller, the independent variable is more effective and in the presented model, the criterion error in most of the coefficient estimates is less than 0.1. This is one of the impacts of any barrier in the lack of capacity development.

5. Discussion and Conclusion

In general, the rural development process is a multilateral category that many variables are effective in this process. The sustainability of development in rural areas is very close to agriculture and its subdivisions, particularly agriculture and horticulture.

In the studied area, horticulture activity has a significant role in development with regard to existing empowerments. Given that in recent years the conservation and development of gardens has been encountered with some problems in this area and it increased the vulnerability of the gardens, thus, it has created negative consequences.

In line with the research question to discovery and identify the main obstacles to capacity development, the results show that, in general, the

obstacles to the development of gardening exploitations can be considered in three categories: economic, social and environmental factors.

According to the results of structural equation modeling, the most influential factor is economic obstacles and among the economic obstacles, the greatest impact is related to the product marketing section which in this section, dealers and brokers, high production costs and low gardener share of product sales is the most important obstacles in this sector. The results are consistent with the results of Fathi, Nouri and Taghdisi (2012). Also lack of governmental support and dissatisfaction with payment of insurance damages is the most important obstacles to access to services and facilities. Moradi, Heydari, Azizi and Yaghoubi (2011) have also achieved same results in their study.

In the social dimension, the most important obstacles to the low level of technical knowledge and productive skills of operators were the lack of experts and promoters which is consistent with the results of Alston's research (2007), which has shown that in developing countries, promotion and training are the key elements in promoting the exploitation in agricultural sub-sectors.

In the environmental dimension, drought and insufficient water resources are considered as the most important obstacles to farmers. The data obtained are consistent with the results of Yeganeh and Nabati research (2013). Also the lack of new irrigation methods has also been indirectly effective in the category of social obstacles in the development of horticulture capacity. Although, the use of incorrect irrigation methods in the short term have satisfied gardeners and have even discovered the efficiency of gardener's crop but in the long time, by removing soil and water resources, as the empirical model of the study shows, it has led to the strengthening of environmental obstacles with direct impact on natural resources.

Finally, based on the results of structural equation modeling among the main obstacles, economic obstacles with 33 percent have the greatest effect on the lack of capacity development of the existing explanations in the study area. Then, environmental obstacles have the highest impact on capacity development reduction with %17. In other words, we can infer that with each unit increasing economic obstacles, we face /033 negative effect on the capacity development of the gardening exploitations. Also, with each unit increase in environmental obstacles, including water resources shortages, which is more pronounced, we can expect a 0/17 reduction of capacity development in the gardening exploitations. Social obstacles also indirectly affected 15%.

Empowerment and production capacities as two mediating variables are able to reduce or increase the impact of economic, environmental and social obstacles to capacity development of gardening exploitations. As the empirical model of this study has shown that social obstacles have had 0/36 direct effect on empowerment of society. Also, the status of production capacities, such as quantity and quality, or diversity of produced crops, is considered as a mediating factor which also influences social, economic and environmental factors and thus improves the development of the gardening exploitations or is as a barrier to development. If the results of the model show that the decrease in product quantities and the low diversity of products has had a reverse effect on capacity development. So that the lower the production rate is, in general the possibility of developing and improving the capacity of gardening exploitations is greater.

According to the results of qualitative and quantitative studies and some research in the study area, there are obstacles and problems in the gardening exploitations which through its promotion and improvement, it can be increased empowerment, capacity building, capacity development and ultimately sustainable development of rural communities. Considering that in an interview with respondents which was emphasized on the lack of governmental support, especially in the marketing department of products, therefore, planning is offered to increase government support to gardener in different affairs, such as increasing the insurance premium contribution for the apple crops, trying to determine the fair price or the guarantee purchase of the gardeners' crops and creating cooperatives to manage sales and marketing of the crop in order to reduce the role of mediators. Also, given that the volume of produced crops is high in the region and the most agricultural wastes related to orchard crops; it is necessary to pay attention to processing industries to complete the production cycle process, create value-added product, expand

job opportunities and income sources, and motivate the younger generation to work in gardening activity in the village and prevent migration to the city.

Not having the proper facilities for product promotion and packing in accordance with international standards for exporting products

The lack of adequate facilities to promote product and packaging according to international standards for product exports, it is suggested that branding and conversion of Semirom's apple brand into a well-known and reputable brand among the country's top brands be done and hold festivals to identify this product to customers and create units for processing, packaging and sourcing to achieve diverse markets. The training classes will be offered in the field of production and supervision of experts on the product process of the crop.

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تحلیل موانع توسعه ظرفیتی بهره برداری‌های باغی در نواحی روستایی (مطالعهٔ موردی: دهستان پادنا علیا، شهرستان سمیرم)

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چکیده مبسوط

1. مقدمه

با توجه به ماهیت فعالیت باغداری و جنبه‌های مثبتی که بر این فعالیت حاکم است، تحقق اهداف توسعه پایدار نظیر کسب استقلال اقتصادی، بهبود وضع کشاورزان، جلوگیری از مهاجرت، بالا رفتن سطح رفاه جامعه روستایی و خودکفایی کشور میسر خواهد شد. توسعه فعالیت‌های باغداری، افزایش درآمدهای حاصل از آن و کارایی فعالیت‌های باغداری تابعی از توانمندسازی، افزایش توسعه ظرفیتی و ظرفیت‌سازی است؛ اما تحقق توسعه این بخش در مناطق مختلف با موانع و مشکلات بسیاری مواجه است که این موانع را می‌توان در سه دسته عوامل محیطی، عوامل اقتصادی و عوامل اجتماعی طبقه‌بندی نمود. شهرستان سمیرم یکی از قطب‌های اصلی فعالیت باغداری در استان اصفهان است که با وجود توانمندی‌ها و ظرفیت‌های فراوان به علل مختلف نتوانسته از امکانات و ظرفیت‌های خود برای توسعه باغداری بهره چندانی ببرد. بنابراین، این پژوهش در پی شناسایی و بررسی این مسائل می‌باشد که: در بخش بهره‌برداری‌های باغی دهستان پادنا شهرستان سمیرم چه موانعی وجود دارند؟ و از میان این عوامل بازدارنده کدامیک بیشترین تأثیر را بر کاهش توسعه ظرفیتی دارند؟

2. مبانی نظری

توانایی یک کشور برای دنبال کردن مسیر توسعه پایدار تا حد زیادی به‌وسیله ظرفیت مردم و نهادهای آن و همچنین به‌وسیله شرایط جغرافیایی و اکولوژیکی آن تعیین می‌شود. به‌ویژه ظرفیت‌سازی شامل قابلیت‌های انسانی، علمی، تکنولوژیکی، سازمانی، نهادی و منابع می‌باشد. توسعه ظرفیتی به‌عنوان مکمل سایر ایده‌ها که در تفکر توسعه در چهار دهه اخیر مطرح بوده شامل مفاهیم نهادسازی، توسعه نهادی، توسعه منابع انسانی، توسعه اداری و مدیریتی و تقویت نهادی می‌باشد. ترکیب عوامل و نهاده‌ها و سرمایه‌گذاری در بهره‌برداری‌های باغی باید از دیدگاه نوآوری و به شکل بهینه تعریف گردد. به این ترتیب که ظرفیت‌های تولید شامل منابع آب، خاک، سرمایه و توامندی‌های نیروی انسانی مورد بررسی قرار گیرد و با شناسایی موانع توسعه این ظرفیت‌ها، جهت‌گیری‌های لازم برای رفع مشکلات ارائه گردد. برنامه‌ریزی کشاورزی بیشتر به مسائل و مشکلات تولید و عرضه محصولات کشاورزی می‌پردازد و تلاش می‌کند تا علاوه بر درنظرگرفتن نیازهای غذایی جامعه و مسائل زیست محیطی، عملکرد اقتصادی کشاورزان را نیز بهبود بخشد. موفقیت این راهبرد تابع دو مؤلفه سرمایه‌گذاری در فرایند تولید و بهبود مکانیسم بازار می‌باشد. در این میان نقش باغداری و بهره‌برداری‌های باغی در توسعه مناطق روستایی چشمگیر است. دخالت هوشمندانه و برنامه‌ریزی‌های راهبردی، همه جانبه و نیز واقع‌بینانه، در ارتباط با بهره‌برداری‌های باغی و باغداری متناسب با شرایط هر منطقه‌ای قادر خواهد بود ضمن رها ساختن جوامع، به ویژه روستاییان، زمینه و بسترهایی را فراهم آورد که موجب توسعه این مناطق و در نتیجه کشور شود.

3. روش تحقیق

پژوهش حاضر از نوع توصیفی- علّی و براساس براساس هدف، اکتشافی و از نوع کاربردی می‌باشد. به منظور گردآوری اطلاعات از روش‌های کتابخانه‌ای و میدانی از قبیل پرسشنامه، مصاحبه نیمه ساختاریافته و مشاهده مشارکتی استفاده شده است.

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روش تحقیق به صورت تلفیقی از روش‌های کیفی و کمی صورت گرفته است. محدوده مورد مطالعه در پژوهش حاضر دهستان پادنا علیا در شهرستان سمیرم واقع در استان اصفهان می‌باشد. جامعه آماری شامل 842 بهره‌بردار باغی می‌باشد. برای تعیین حجم نمونه از روش نمونه‌گیری تصادفی ساده استفاده شده است. در نهایت با استفاده از فرمول کوکران تعداد 273 پرسشنامه و براساس سهم نسبتی هر روستا، میان خانوار بهره-بردار توزیع شده است. تجزیه و تحلیل داده‌ها به روش کمی با استفاده از آمار توصیفی و استباطی (تحلیل مسیر و مدلسازی معادلات ساختاری با استفاده از نرم افزار ایموس گرافیک) و روش کیفی (با استفاده از نرم افزار اطلس) می‌باشد.

4. یافته‌های تحقیق

مفاهیم حاصل از تحقیقات کیفی در قالب سه مانع اصلی اقتصادی، اجتماعی و محیطی دسته‌بندی شده است. بررسی روابط همبستگی و اثرات میان متغیرهای مشاهده شده و پنهان پژوهش نیز با استفاده از نرم-افزار ایموس گرافیک مدلسازی شده است. تحلیل مسیر مؤلفه‌های مشاهده شده از قبیل موانع اقتصادی، اجتماعی، محیطی، موانع توانمندسازی و عدم گسترش ظرفیت‌های تولیدی صورت گرفته است. بالا بودن سطح پوشش آماره از مقدار 0/05 و همچنین نزدیک به یک بودن شاخص‌های برازش تطبیقی، نیکویی برازش و برازش هنجار مؤید برازش مناسب مدل می‌باشد. وجود ضرایب مثبت نشان دهنده رابطه مستقیم متغیرهای مستقل بر متغیرهای وابسته می‌باشد. همچنین مدل رگرسیونی نشان می‌دهد که موانع اقتصادی با ضریب کل 0/267 بیشترین تاثیر را در تبیین عدم توسعه ظرفیتی دارد. به غیر از موانع اجتماعی در ظرفیت‌های تولیدی و توسعه ظرفیتی، تمامی وزن‌های رگرسیونی بین پارامترهای این سنجش و مدل معادله ساختاری بیشتر از صفر و در سطح اطمینان 90 درصد و بیشتر قرار دارند. با توجه به اینکه ساختار روایی به غیر از دو مورد در تمام مسیرها بیشتر از 1/96 برآورد شده است می‌توان چنین استنباط کرد که کواریانس مسیرها در سطح 0/05 معنادار است. آماره آزمون یا نسبت بحرانی نیز دارای یک توزیع نرمال استاندارد با سطح معنی داری کمتر از 0/05 می-باشند. به این ترتیب فرضیه صفر بودن ضرایب در سطح خطای مشخص شده رد می‌شود و به این ترتیب تمام ضرایب مسیر (به جز سه مسیر) معنادار می‌باشند. خطای معیار در اکثر برآوردهای ضریب کمتر از 0/1 می‌باشد که این مطلب حاکی از میزان اثرگذاری هر مانع در عدم توسعه ظرفیتی می‌باشد.

5. بحث و نتیجه‌گیری

به طور کلی موانع توسعه بهره برداری های باغی در سه دسته عوامل اقتصادی، اجتماعی و محیطی قابل بررسی هستند. تاثیرگذارترین عامل، موانع اقتصادی می‌باشد و از میان موانع اقتصادی نیز بیشترین تاثیر مربوط به بخش بازاریابی محصول است که در این بخش نیز دخالت واسطه ها و دلالان، هزینه های بالای تولید محصول و پایین بودن سهم باغدار از فروش محصول مهم ترین موانع در این بخش هستند. بعد از آن موانع محیطی بیشترین تاثیر را بر کاهش توسعه ظرفیتی داشته اند. موانع اجتماعی نیز به طور غیر مستقیم اثرگذار بوده است. میزان توانمندی و ظرفیت‌های تولیدی نیز به عنوان دو متغیر واسطه‌ای قادر به کاهش یا افزایش تاثیر موانع اقتصادی، محیطی و اجتماعی بر توسعه ظرفیتی بهره-برداری‌های باغی هستند. در محدوده مورد مطالعه موانع و مشکلاتی در بهره‌برداری‌های باغی وجود دارد که از طریق ارتقاء و بهبود آن می توان به افزایش توانمندی، ظرفیت‌سازی، توسعه ظرفیتی و در نهایت توسعه پایدار جوامع روستایی همت گماشت.

کلیدواژه‌ها: ظرفیت‌سازی، توانمندسازی، بهره‌برداری‌های باغی، استان اصفهان.

تشکر و قدرانی

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Second Home Tourism Discourses in Rural Areas: Identifying the Mental Perception of Urban Residents (Case Study: The Countryside Near Sabzevar City)

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Abstract

Purpose- In this study, the second home tourism discourses are represented to identify the subjective perception of urban residents (rural idyll experiences) in rural areas.

Design/methodology/approach- Qualitative approach and discourse analysis method was used to extract subjective perceptions of urban residents (rural idyll experiences). Accordingly, 38 semi-structured interviews were purposefully conducted with the owners of the second homes. The present study is carried out in the summer in the recreation surrounding of Sabzevar City known as Tabas area which includes Tabas, Sang Sefid, Razghand, Bazghand, and Divandar villages.

Finding- The results showed that the culture of the expansion of second homes is based on rural idyll experiences and the ideal concepts of the rurality which correlates with the common triple discourse in the history of research and empirical studies around the world. The results suggest that the Sabzevar second home landscape is seen as (1) wilderness, (2) life at second homes imitates visions of traditional rural life, and (3) the environment is used for traditional consumptive and leisure activities.

Practical implications- Other components of the village's past, such as agricultural production, contentment, and simplicity in construction, social solidarity, and collective actions should be added to the triple discourse, because they present a unique pattern of rural idyll images and should be considered.

Originality/value- It is argued that the culture of the expansion of second homes is based on post-productivist and consumerist views in order to have fun and leisure time and enjoy the pristine nature and the calm and healthy environment of the village. The theoretical framework of this research includes the redevelopment of the concept of rurality and the various types of rural idyll experiences associated with it derived from the general literature and empirical studies in the field of tourism on second homes. A three-fold image of the second home countryside can be presented such that the second home landscape is seen as wilderness landscape, traditional way life and second home activities.

Keywords- Rural idyll experiences, discourse, wilderness landscape, traditional way life, second home activities, Sabzevar.
Paper type- Scientific & Research.

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1. Introduction

Apart from the hustle and bustle of the cities, most of the country's metropolitan cities have been suffering from air pollution in recent years. But the authorities have not considered effective solutions to this major problem, except that they have prescribed some temporary solutions, such as closing schools and offices temporarily, extending the scope of traffic plan, dealing with air-pollutant cars and motorcycles, and closing some factories and mines. When people are asked about the ideal life, they are hoping to take a vacation to get away from the city for a few days so that they will no longer be in a rush of traffic (saying that the city is no longer suitable for life). For this reason, nowadays the counter- urbanization issue (Halfacree & Boyle, 1998) and the construction of second homes and villas in the countryside and rural areas has been taken into consideration. In the past, wealthy people were looking to build or buy villas outside the city for staying there with their family on weekends; however, the middle-class community has also been added to this group recently (Hugo & Bell, 1998). Exit demand is not limited to metropolitan areas and, surprisingly, in the middle and small cities we also see such interest, and there is a growing demand for lodging in the countryside and enjoying the clean air and the environment of rural areas. Due to the increasing demand, popular discourse of second homes and villas is considered parallel to the concept of suburban construction (Vepsalainen & Pitkanen, 2010), which can provide a good framework for analyzing the causes of urban residents' tendencies to lodge in the surrounding countryside. It should be noted that the summering culture in Iran does not last for several years or decades, but it has a long history. In the past, the royal family and many of courtiers, army commanders, aristocrats, nobles, and elites had homes in the countryside surrounding the city. In addition, in different parts of the country, seasonal and multi-place life was a common habit and it was normal to build and settle in the second homes due to the livelihood and economic conveniences of the countryside. While preserving their old functions, nowadays second homes are more likely to attract the attention of different class of the people with new motives and goals on a wider scale (Rye, 2011).

Nowadays, rural restructuring and its effects as post-produtivism, gentrification and multi-functionality it has been intensifying both in terms of scale and content in rural geography studies (Ilbery, 1998; Shucksmith, 1993; Crosta et all, 2006). Where the primary suburban industry (agriculture, fisheries, and mining) has traditionally been dependent on exporting manufactured goods to urban markets, we can see that features such as the provision of services, experiences, and the quality of life are attached to its economic and social structure (Rye, 2011) and has found a dual condition. In fact, the village can no longer be considered only as a place of production, since its producing function has relatively decreased and has gradually replaced by other economic sectors (Kneafsey, 2003). Such a situation reflects the general processes of commodification, privatization, and the individualism of rural economy, as well as the growth of the presence of outsiders (i.e. Urban Consumers) to influence the future of rural communities (Van Auken, 2010).

In human geography in general and in rural geography in particular, the importance of analyzing interpretations and images constructed from reality in the sense of rurality, which is the cornerstone of the formation of the actions and behaviors of the people, has been acknowledged (Cloke & Melbourne, 1992). Given this thinking, the demand for the use of the rural environment can increase through the advertising of various groups of society and be institutionalized in the form of popular discourses. In other words, as Hoggart suggests (1990), the village is located in the minds of people, and this is the fact that we cannot ignore it. That is, the culture of lodging in the countryside and the possession of second homes in the suburbs are somehow embedded in the minds of urban residents. Therefore, Halfacree (1995) suggests that the village idea is constructed as a cultural concept (mentally constructed) rather than a physical concept (a good place to stay away from any problems of life urban). For Halfacree, the village is a mix of traditional experiences and beliefs that are built through intellectual and promotional ideas of media, government, family, friends, and relatives. The objective is to make the village discourses meaningful and instill ethical

and ideological practices (Halfacree, 1993). Meanwhile, mass media and television, in particular, play a significant role in generating popular meanings (Phillips, Fish & Agg, 2001). In other words, the village has a discursive structure and, in general, it is a product of power (Jones, 1995), the meanings of which follow a particular purpose.

Despite the socio-economic changes taking place in the rural environment and its related meanings, the ideological discourses of village and rural life are still in the past. In fact, popular and acceptable discourses often depict the countryside as a natural and untouched space, which is endowed with old features and associated with the forms of modern life (Halfacree & Boyle, 1998). This is the rural idyll experiences (Shucksmith Brown, Shortall, Vergunst, & Warner, 2012), which affects resettlement preferences and the immigration behaviors and refers to utopia and ideal life (Levitas, 2007). Although the rural idyll can be analyzed and interpreted in a variety of ways, the main meaning of this is that villages are morally and aesthetically superior to urban life (Woods, 2005). You will experience real life by residing in a village that you cannot find it in a city. It can be said that requests for the exit from metropolises and small middle towns into the countryside and surroundings simultaneously resulted from a discursive resource, rural idyll experiences, rather than everyday experiences. In this article, the role of rural idyll experiences in shaping residential habits and especially the construction and housing in secondary homes around the city has been studied. Of course the starting point for the researcher is to analyze the unique images of particular rural areas affecting the behavior of immigration and settlement. The key questions of the research are basically as follows: How urban residents and second home owners understand and define living in rural settings? And what cultural characteristics make housing in the second home become institutionalized in the minds of urban residents?

2. Research Theoretical Literature

A significant part of the studies in rural geography has focused on the rural idyll (Bell, 2006; Bell, 2007; Winchester & Rofe, 2005). The rural idyll refers to "popular images" of bucolic tranquility and communion with nature" (Bell, 1997, p. 94). Short (1992) describes the rural idyll as the postcard image of the rural life and maintains that "overly healthy and clean, overly spiritual, overly natural, and generally pristine, intact, and free of any impurities. The typical image of rural life which has a close connection with nature and exhibits the harmony among the song of the earth and the seasons" (Short, 1992, p. 30).

Halfacree (2007) points that rural areas are often considered “consuming idylls ", where characterized by leisure, residential and contemplation practices. From Halfacree's (2006) perspective, rural space has three components: Rural locality and unique local situations (in terms of landscape, nature, and environment), representations of the rural and the ideal space for planners and developers (in terms of political, economic, and cultural), and the everyday lives of rural populations and the ideal environment for local residents. Therefore, in order to build and habit in second homes, the rurality should be considered as commoditized and exploited by outside forces instead of a source for the refinement of the spirit and the attainment of calmness. As Ward and Ray (2004, 4) have pointed out, referring to the future and the rural in the same breath

may appear to be something of an oxymoron when rural areas are so often “cast as inherently

traditional and conservative”, lying in the domain of the past. Although the rural idyll experiences of the places the rural community is considered as the foundation of national culture and the guard of traditional customs, the backwardness of rural is always animadverted and the necessity of modernization is recommended as such (Woods, 2005). Moreover, the thought that the village is the repository of traditional culture is strongly contradicted by the undeniable thirst of villagers to access modern facilities and services, even if we believe in endogenous development (Terluin, 2003). However, in the era of modernity and globalization, the village is part of the process of changing ideology and identity, and changing its function from a place for production to a place for consumption should be considered normal. It thus emphasizes the importance of paying attention to the issue of power in the tourism of second homes and rural-urban movements. Bell (2006) has distinguished three types of rural idylls: pastoral farmscapes, natural wildscapes and sporting adventurescapes. Whereas the farmscape emphasises a picturesque and traditional

agricultural landscape (not modern agribusiness), the wildscape portrays the countryside as a sublime wilderness; pre-cultural, pre-human and untamed. From Bell's perspective, these rural idyll experiences three forms, including "a mobile combination" of the following elements: nature (natural wonders and proximity to nature), romanticism and originality (acknowledging our own ontological freedom) and nostalgia (for simpler ways of life), all stamped or printed onto the land and its inhabitations (plants, animals, and people) (Bell, 2006, p. 150). The concept of rural idyll experiences is experimentally investigated by a number of researchers. Based on the results, the motivation of closeness to nature has the greatest impact on the attraction of urban residents to suburban areas (Halliday & Coombes, 1995). In addition, the role of rural culture and lifestyle, escaping from the busy of routine life and spending time with family and friends are also the reasons for the migrating of urban residents and housing around the city. In summary, many conclusions are emphasized on the infrastructure role of rurality (structured images) in expanding the tourism of the second home. Sharpley and Jepson (2011) Have stated that this point can be analyzed in the light of relaxation as a valuable outcome of the experiences of living in rural areas. However, rural imagery has been symbolized and idealized in various forms, as mentioned above, by the trends of modernization and globalization, and in particular the tourism from it. That is why the formation of rural idyll experiences cannot be distinguished from discourses of artistic and media structure such as novels, paintings, magazines, music, films and TV advertising. For example, Phillips, Fish, and Agg (2001) focused on the elements of rural idyll experiences in British television programs. Their review shows that a set of rural views is reproduced and attracted the attention of the audience. Vepsäläinen and Pitkänen (2010) also conducted a study on rural idyll experiences in Finland and its connection with popular discourses of the second homes. This research was parallel to the intellectual line of Bell, the division of natural and agricultural landscapes, and the traditions of rural life and adventure from rural idyll experiences. They also confirm the strong presence of rural idyll experiences as middle ground between traditional and historic rural life and commodification rural life. Baylina and Berg (2010) critically investigated rural idyll experiences as an accepted discourse of the middle class of society. It should be mentioned that the demand for living in rural areas and enjoying the landscape and nature of the village is not only related to rural idyll experiences and mediatization of rural, but also the knowledge, expectations, and interests of the tourists from the place are involved (Zhou, 2014). In the present study, it is highlighted that due to spatial and temporal requirements and cultural and social characteristics, the formation of second homes and the mentality of the urban inhabitants about presence in the village cannot be attributed solely to the predominant post-productivist, the phenomenon of counter urbanization in the world, and the tendency to the suburb and suburbanization, because the connection with the birthplace Or ancestral village and preserving the village and its related economic activities can also be the cause of the expansion of second homes Or even setting up economic businesses and creating incomes from non-indigenous people can be considered as a factor in the formation of second homes and the encouragement of urban residents to rural areas. Hence, many different causes can be considered, which, according to the characteristics of each region, may represent a different nature than the view of the expansion of second homes solely by rural idyll or leisure and recreation, and This is the distinction of the present research with dominant discourse in relation to the mentality of urban residents about a second home in rural areas. This is the difference between the present research and the dominant discourse in relation to the mentality of urban residents about a second home in rural areas. Generally, a priori causes in each region can also contribute to the development and formation of post-productivist tendencies and recreational and tourism characteristics, which will be explained in more detail.

3. Research Methodology

3.1 Geographical Scope of the Research

The present study was carried out in the summer villages and mountains around the cities of Sabzevar with an internal approach, including Sang Sefid, Tabas, Razghand, and Bazghand. In a case study with an internal approach, the researcher seeks a deep understanding of a particular case, which means that it only has one unique thing and is not treated in the same way as in other cases (Stake, 2005). In fact, the rural idyll does not have a uniform structure and is not homogeneous in any

way (Cloke & Melbourne, 1992), and it can take a different shape depending on each region and location and its social connections. Sabzevar is known as a desert city. Everyone who wants to travel to Mashhad will experience this feature on the Tehran-Mashhad route. But in this route there are places where the mountains and the desert are interconnected, creating unique landscapes. The main and perhaps the only natural and spectacular site in Sabzevar is the Black Mountains known as the Tabas area, which is only a few kilometers away from the central desert of Iran, Mazinan and Kal Shour. This summer village with favorable climate and green valleys, high mountains, rivers, numerous waterfalls, and a variety of unique landscapes, deserves to become a tourist destination even in Khorasan Razavi. Due to the good weather of this region, citizens of Sabzevari, especially in recent years, have been buying land and building villas and second homes in the vicinity of the villages. Hallikainen (1998) shows that the rural perspectives of those who have rural roots and living for some reason in the city are different from people born in a city who have not experienced rural life, especially for young people. Most of the owners of the second homes in Tabas, if not belong to this area, have a rural root and are familiar with the life of village. Now, one has to pay attention to whether the goal of urban residents of building second homes is to have aesthetic motives and take advantage of the natural and traditional views of the village or to invest and acquire property and income from the village. However, taking advantage of the rural idyll is a multisensory experience that can simultaneously correspond to nature, food, work, and even income (Daugstad, 2008). Of course in recent years, with the downturn in the housing and land market in the city, the unrealistic propaganda of brokers and dealers has been intensified for selling the lands of villagers to citizens, and this has over shadowed the aesthetic dimension of second homes.

Table 1. Characteristics of the study area
Source: Statistical center of Iran, 2018.

rural	The population of local residents	Population of second homes	Number of second homes	Number of interviewees
Tabas	642	300	100	12
Sang-e sefid	438	160	80	10
Razghand	228	75	25	5
Diwandar	210	50	20	4
Bazghand	139	130	50	7

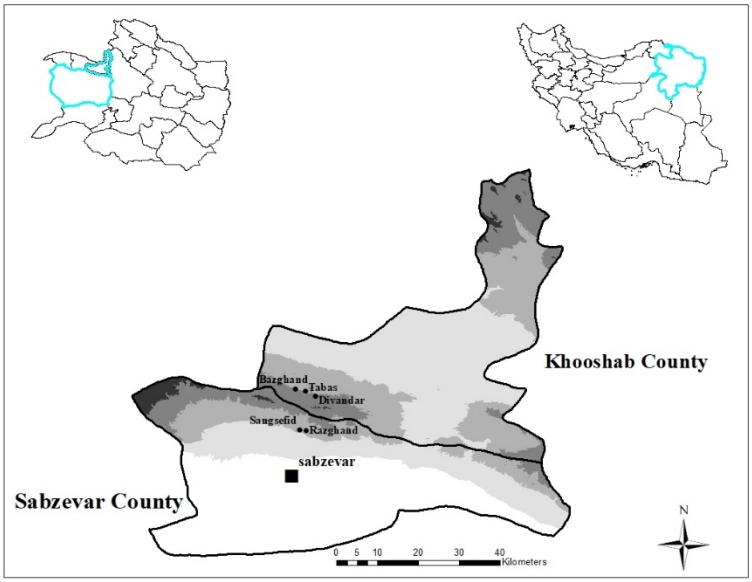

Figure 1. Study area
(Source: Research findings, 2018)

3.2. Methodology

Foucault (1994) suggests that people's behavior is shaped by daily discourses and conversations rather than conflicting situations. Thus, the movement of people to the villages around the city is not only due to the fact that rural life is merely an alternative to escaping the problems and irregularities of urban living; however, modern capitalism and the market model have commodified rural space and promoted the culture of the expansion of second homes. Now, this trick is practiced through the discourse of rural idyll, namely nature, beautiful landscapes, calm and silence, security and health, simplicity and intimacy, healthy and organic food, and rich culture. Therefore, the present paper does not have an option other than the use of discourse analysis method to understand the motivations of urban applicants to take second homes in the villages around the city. This methodology will surely act in the form of rural idyll, that is, the Bell's (2006) division and discourses of natural and agricultural perspectives, rural traditions, and adventure. But first of all, these pictures of the suburb and countryside must be matched to the natural, economic, and cultural conditions of the villages, especially in the studied region. What is evident is that some of the elements of the rural idyll pictures mentioned above do not fit or are less used in our villages, such as adventurous and high-risk sports activities. Therefore, the generalized and modified Anglo-american-Bunce's (2005) model, with the characteristics given in Table 2, is more generalizable than highly specialized and the fancy elements of other divisions such as the Bell model. In addition, field experiments obtained from this paper can add new elements to this whole and can be used in subsequent studies. Regarding the choice of the method of discourse analysis, basically a qualitative approach should be put into the agenda. Accordingly, the research data were obtained through a semi-structured interview with the owners of the second homes in the rural areas under study. According to Brewer et al. (2002), a selection of 20 to 30 participants for identifying a coherent set of cases in qualitative research are usually sufficient. The narratives are considered as "the Textual Actualization of a Story at a Specific Time and Context "(Nimegeer & Farmer, 2016). The purposeful sampling strategy was used to select the participants in the interview due to specificity of the studied community and the relative similarity of the second homeowners (Bryman & Bell, 2007). Sampling typically continues until information redundancy or saturation occurred. Data saturation in this study was obtained after 30 interviews and 8 other interviews were done to ensure sampling adequacy. Interviews were recorded with the consent of the participants using a mobile phone for 30 minutes, and then were written by the researcher on the paper. Next, the important paragraphs were identified based on theoretical frameworks and previous experimental studies (Creswell, 2017). Subsequently, a code was assigned to each paragraph or key phrase; coding was done with MAXQDA Software. In the next step, based on the constant comparison of similarities, differences, and proportions, codes denoting a single issue were classified in one class and were categorized into sub-categories. Finally, by comparing the sub-classes with each other and their deep and thorough review, the content of the data was introduced as the main class or as the key discourse in this research. The topics of the interviews are presented in the following table.

Table 2. Interview Questions / rural idyll experiences and its discourses

(Source: Research findings, 2018)

Key discourses	Rural idyll elements/Questions
wilderness landscape	How is the landscape seen? (Nature and wildlife, cultivation, agriculture, and pasture)
traditional way life	How is the social environment experienced? (Agriculture and animal husbandry, with family and relatives, with friends and relatives and with the rural community)
second home activities	How is the environment used? (Spending leisure time, recreation, and relaxing)

4. Research findings

4.1. Key elements of mental perception (rural idyll experiences) of the owners of second homes in the countryside near the Sabzevar

The analysis of the written interviews of the participants in this research resulted in the extraction of 90 primary code, 8 sub-categories and three major categories (discourse), including wilderness landscape, traditional way life and second home activities (Table 3).

Table 3. Coding results with main and secondary categories
(Source: Research findings, 2018)

General category	main category	Secondary category
Intellectual perception of urban residents (rural idyll experiences) / Culture of the second homes	A) wilderness landscape	1. nature 2. Agriculture
	B) traditional way life	1. Agricultural activities 2. Rural root and preserve rural and agriculture 3. Kinship relationships and relationship with friends and families 4. Relations with the rural community
	C) second home activities	1. Spending leisure time and entertainment 2. Relaxation

4.2. Wilderness landscape discourse

Interviews show that the culture of the expansion of second homes in the countryside surrounding the Sabzevar city is primarily centered on nature: access to pristine and intact landscapes. The use of mountainous beauty in many narratives is considered as the main motive for the expansion of second homes. Lush valleys, hills, springs, and rivers of this territory are a cozy place to enjoy pristine nature in spring and summer. One of the owners of a second home explains:

"This area has a very beautiful landscape .... Because it is located on a hillside and view of the mountain is a spectacular... When I sit at the terrace and watch these beauties, I feel very good sense. "(Code: Nature /Interview 3/ Man: 56 years old / newcomers / Occupation: Free / Tabas).
Another urban resident states that:
"The intact area ... less manipulated by human ... enclosed in the mountains ... covering trees..... rivers and springs ... The sounds of the birds ... is very beautiful" (Code: Nature / Interview 16 / Man: 60 years old / Native / Occupation: Employee, retired / Raz Qand).

In addition, motivations based on using garden attractions and farms are often indicated in the statements. The high altitudes of Northern Sabzevar, have turned into a lush and beautiful garden due to the abundant water from melting snow, as well as the efforts of hard-working farmers. Walking under the shadows of trees and alley gardens of the garden is an unforgettable experience for the second-house population. One of the owners of a second home explains:

"The green gardens ... The current water in it ... Alley gardens [Walking in gardens] ... The cool weather … have attracted us ... Living here [with all the beauty "] is very satisfying." (Code: Agricultural Perspective / Interview 21 / Man: 47 years old / newcomers / Occupation: Agency driver / Sang Sefid).

In addition, the interviewees mentioned the growth of various herbs with medicinal properties such as rhubarb, Echium, thyme, and Mugworts, which also have high prices given their high value. Therefore, the expansion of second homes in the countryside surrounding the Sabzevar is further matched by natural rural idyll experiences, the unspoiled scenery. We rarely encounter incentives exclusive of unique mountainous and natural ecosystems, which means utilizing the human facilities for recreational facilities (restaurants, hall green garden, parks, and Luna parks). Respondents have always been pleased with the eye-catching scenery of the upland mountains and the deep valleys and the meandrous streets of the region. Of

course the most amazing human handmade, the Qantas in the villages of Sabzevar, should not be overlooked. Interestingly, the owners of the second homes spoke the same words about rural life that are heard every day from mass media such as television. One of the urban residents explains:

"Seeing beautiful mountains ... green trees ... springs [and Qantas] ... clean and healthy air ... as well as the intimate people ... make us happy. "(Code: Nature / Interview 12 / Man: 60 years old / newcomers / Occupation: Architect / Baz Qand).

Now, let's take a look at the speeches of the president on the rural national day in media, Which is similar to the narratives obtained from the interviewees. According to the reporter of Fars news agency, the President pointed to the important concessions of the village: The attraction of the village is its nature and its clean air, the villagers are healthier, happier and more resistant. He continued: The village is a community that engages in peaceful coexistence and has a brotherly and kindly relationship, and a place where there is no oppression because the village means purity, honesty, fulfilment of the obligation, bailment, and faith in God. Surprisingly, the owners of the second homes outside the illustration by external actions have no much knowledge about the past of the village and the rural of the area where they live, and they are limited to perceptions about the use of nature and landscape of the mountains. For example, they have no experience about planting and harvesting practices in gardens and farms, as well as milking from animals and products (such as cheese, yogurt, butter, and animal oil), and baking bread and cooking local foods. However, they are interested in planting trees, flowers, vegetables, and fruits, and even keeping hens and roosters in their second home.

4.3. Traditional way life discourse

As stated earlier, the owners of second homes are interested in the traditions of rural life, but symbolically. Second homes in the villages around Sabzevar are often developed as garden villas, which typically have garden plots with fruit trees such as cherry, sour cherry, plum, apple, and peach. For this reason, the residents of the second homes should provide water and irrigation, pruning trees, supplying labor and harvesting fruits according to the daily agricultural activities in the rural areas. In many secondary homes, wells are drilled, and extracted water is stored in the pool for use in agriculture and irrigation. On the other hand, newcomers in many cases have started to build dairy and chicken farms in the villages mentioned above and have provided employment for rural residents. One of the owners of the second home explains:

"We cultivated (fruit trees) the empty (arid) land... it also created the greenery and freshness of the village ... And also created employment. "(Code: Agricultural Activities / Interview 14 / Man: 62 years old / Native / Occupation: Employee, Retired / Tabas).

Another owner of a second home states that:

*"*We shovel the land [... and trees around] ... we prune trees ... irrigation every few days ... is both fun ... and suitable for earn money and economics "(Code: Agricultural activities / Interview 9 / Man: 54 years old / newcomers / Occupation: Doctor / Tabas).

In fact, the construction of second homes in rural areas has led urban residents to work in the agricultural and production sectors such as local residents. In this regard, each year each of them looks for agricultural equipment and product packaging and sales in the market and supplies directly. For this purpose, they have also built warehouses for product storage, as well as places for the sale of manufactured goods, which it is generally matched with the lifestyle and rural work. Of course it should be noted that the agricultural production and cultivation activities are in the new form and associated with the expansion of products rather than the traditional products of the village, such as walnut gardens.

As stated above, as stated above, most newcomers to the villages are natives of the same place and returning to the village of birth, either temporarily, on paternal terrain, and most of them have revived past economic activities or promoted by adding other jobs. One of the owners of a second home explains:

"We use [paternal land] the village environment [in the whole of our hometown … By planting ... Keeping chickens, cocks and livestock ... As my ancestors used the environment here, I try to continue it ... To survive the smell of the village [And the passion in it]. *"*(Code: Rural root and

Preservation of Agriculture / Interview 17 / Man: 65 years old / Native / Occupation: Employee, retired / Raz Qand).
In this regard, another owner of a second home explains:
"I am farming in this village..... The grape garden is left by my father ... [I take care of it] ... I also plant trees ... Fruits like cherry and plum ... have a good income. "(Code: Rural Root and Preservation of Village and Agriculture / Interview 13 / Man: 61 years old / native / occupation: employee, retired / Baz Qand).

In addition to productive and economic activities, the social narrative of second homes in the villages surrounding the Sabzevar City reveals the characteristics of rural life, namely close relationship and social relations. In the narratives, the relationship between friends and relatives is more important than kinship relationships. One of the owners of a second home explains:

"In order to gather together on weekends and holidays, I bought a territory and built the house... This leads to a close relationship.... and creates memorable moments"(Code: Social Environment: Kinship Relations and Relationships with Friends and Families / Interview 29 / Man. 48 years old / newcomers / occupation: employee, teacher).

In this regard, another owner of a second home explains:

"Through our neighbour in the city who was from Sang-e Sefid, I was encouraged to buy land [and build a house] ..... I have a good and sincere relationship with our friends [in the village]. ..... We help each other in times of need [to solve problems]. " (Code: Social Environment: Kinship Relations and Relationships with Friends and Families / Interview 22 / Man.: 54 years old / newcomers / Occupation: Self-employed / Sang-e Sefid).

Most of the interviewees referred to the Tasooa and Ashoora ceremonies, especially in the Tabas village, and the hospitality of the mourners, and the sense of solidarity between the urban residents and the villagers in order to hold them as glorious as possible. One of the owners of a second home explains:

"There is a keen interest in participating in religious gatherings and ceremonies, especially Tasua and Ashura [urban or local]… and in good [and spiritual] works, there is a great correlation with each other"(Code: Social Environment: Relationship with the Rural Community / Interview 11 / Man: 66 years old / newcomers / Occupation: Employee, Retired / Baz Qand).

Also, another owner of a second home explains:

"By engaging in religious ceremonies, we have a good relationship with the people of the village ... This has led a collective collaboration [in various fields]." (Code: Social Environment: Relations with Society Rural / Interview 28 / Man: 46 years old/ newcomers / Occupation: Teacher).

In addition to collective actions in the field of religious and cultural events, cooperation and assistance from owners of the second homes to local residents has been taken to improve the infrastructure and service delivery, including broadening the asphalt passage, supplying water to various districts, constructing the educational and sports places and environmental health. Since many newcomers are retired or currently working in various government departments, they play an important role in attracting and accelerating the service delivery. Overall, the most important factors that urban residents tend to build second homes and buy territory in the studied villages are the close neighborhood relations, the acceptance of newcomers and collective labor, and collaborations with them in different fields by local residents. Interestingly, these factors have also created social solidarity and a sense of security in these rural areas.

4.4. The discourse of Second home activities

The third way to encounter the second home environment wasthrough activities. As described above, the represented activities were often fairly traditional and suggested a utilitarian relationship with nature and land. However, the most typical activities related to the second home environment were recreational ones These can be further divided into homes and outdoors recreation. In interviews, more attention is paid to indoor recreation. Since the issue is more about the privacy of families, it is not permissible to enter into details of the activities. One of the most common and popular recreations in the second homes is the cooking of barbecues

and hot drinks. Of course, the preparation of the necessary equipment for the recreation including the supply of firewood and heating, the stages of tasting food and the cooperation between family members and friends and acquaintances in this regard can be a kind of self-entertainment. One of the owners of a second home explains:

"[At the weekend] preparing a fire ... barbecue .... [And also] Fire tea ...Together.... is one of my main motives to be present in the village and build a home ... It'd a pleasant feeling ". (Code: Spending leisure time and entertainment / Interview 8 / Man: 45 years old/ newcomers / Occupation: Self-employed / Tabas).

In addition, the interviewees mentioned recreational activities in the village and open space, including hiking, walking in a garden alley, climbing, visiting river views and fountains and aqueducts, and visiting religious places with the aim of enjoying nature and rural life.
One of the owners of a second home explains:
"One of my usual tasks is walking ... I walk in the garden alley... I see the aqueduct and drink healthy water... I sit under the shadow of plane trees ... And I go to the old mosque in the village of… in general, it is soothing. "(Code: Spending leisure time and entertainment / Interview 29 / Man: 43 years old / newcomers / Occupation: road maintenance employee).

Another homeowner of a second home explians:

"I establish a garden in the village as a camp and a resort for mountaineers ... on Fridays [early morning] we gather here for mountain climbing, eat breakfast and then go to climbing and sport [as a group] “. (Code: Recreational Activities: Spending leisure time and entertainment / Interview 25 / Man: 54 years old/ newcomers / Occupation: businessman / Sang e Sefid).

However, most narratives express that the most important function of the second home is to rest and have a cozy environment for spending time. Because staying away from the urban life and taking refuge in the quiet and simple village life alongside the beautiful and pristine nature is always one of the main priorities of urban residents for staying in the villagOne of the owners of a second home explains:

"Escape from the city ... traffic and bustle ... Noise ... Social anomalies ... Access to healthy air ... The quiet environment ... Having social security ... were the main reasons for the presence and construction of a house in the village. " (Code: rest and relaxation / interview 19 / Man: 44 years old / newcomers / occupation: businessman / Raz Qand).

Another owner of a second home mentioned:

"Human inherently needs mental and emotional relaxation ... rest .... Therefore, we built a second home in a mountainous village with beautiful landscapes to meet this need "(Code: rest and relaxation / Interview 30 / Man: 51 years old/ newcomers / occupation: Self-employed).

Of course new recreational activities such as cycling, horseback riding or sightseeing with cars and motorbikes have become prevalent in rural areas around the city of Sabzevar.

5. Discussion and Conclusion

In this study, the expansion of second homes in mountainous villages around Sabzevar was studied and analyzed based on discourses including natural and agricultural landscapes, rural life traditions, and recreational activities. The narratives have shown that rurality and rural space are represented through rural idyll experiences and ideal concept, and the culture of the expansion of the second homes is based on these abstractions (the results are consistent with the findings offered by Bell, 2006; Bunce, 2003; Cloke, 2003). Briefly, rural idyll experiences of urban residents and the owners of second homes about the presence and stay in the village can be described in a triple framework: natural landscapes known as intact wildlife; lifestyles of the second homes and the presence of the village are an imitation of the traditions of rural life; and ultimately, a residential environment is used for recreation and spending leisure time. Although identifying the mental perception of urban residents (rural idyll experiences) in mountainous villages around Sabzevar is unique in many respects (in general, this study can be investigated as the culture of the second homes in Iran), there are many similarities with the second home culture in the world. (European countries,

North America, Australia, and South-East Asia). This is also highlighted in the studies by Halseth (1998), Williams and Kaltenborn (2013), and Müller (2007). Because in the narratives from the second-home owners, we find keywords such as pristine and intact wilderness landscape, traditional way life, second- home activities, which are all highlighted in the literature on second-home tourism and empirical studies. The three ways of representing second home landscapes are not exclusive of each other, but in many cases overlap and complement each other producing a special image of the second home countryside.

The analysed rural representations excluded all signs of modern agriculture and postproductive sources of livelihood. Furthermore, rejected from the representations were those elements of the commodified countryside created to correspond to tourism demand. The analysed rural representations excluded all signs of modern agriculture and postproductive sources of livelihood. Furthermore, rejected from the representations were those elements of the commodified countryside created to correspond to tourism demand. Therefore, the representations of second homes offer a different social and cultural environment than is actually seen in rural areas and are associated with new interests and demands regarding the use of rural environments. In a way, the second home discourses represent a middle ground between the dystopic realities of the modern countryside and the overly idealised marketing images. However, second homes in the mountainous villages around Sabzevar often lack symbols and elements, such as pools (saunas and Jacuzzi), artificial gardens, open space, flowers and decorative plants in the style of the modern rural countryside. Living in second homes is mostly formed based on the nature and the traditions of rural life to the post-productivist characteristics and lifestyles (Barke, 2008; Van Auken and Ray, 2011). This life takes place in the same way as in the traditional way in the village, with the maintenance of poultry and livestock, planting trees and plants, and even taking care of estate and fatherly inheritance. But since lifestyle in the villages of the country in general and in the villages around Sabzevar city, in particular, the implementation of the guideline and urbanization of the construction is changing, or that many activities outside the village and in the agricultural lands and garden and pastiche. So the culture of the second homes is rural idyll and abstract image of rural life that rebuilds the landscape of tourism and post- productivist in some other way, and can be in the form of a unique pattern of the expansion of second homes in the mountain villages surrounding the city of Sabzevar. Although, second homes owners have been attempted to maintain the tradition of cultivating the village, it has to be said that this effort has been towards modern agriculture and the expansion of engineering gardens with marketable varieties in the second homes, which is different from the current products in the village. Their common point is merely an emphasis on agricultural activities and not similar practices of the past, both in the case of newly arrived urban residents and urban residents who returned to their place of birth. In parallel with the line of thought, Vepsalainen and Pitkanen(2010), second home tourism is not merely a phenomenon of the post-productive countryside, but the long history of second-home ownership has made them an established part of the rural landscape and thereby also contributed to the formation of that post-productive countryside. In addition, second-home owners often exhibit higher place attachment than the permanent residents and showing components of social solidarity and close relations between residents in particular, in the organization of religious ceremonies, as well as collective actions for solving problems.

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مجلّهٔ پژوهش و برنامه‌ریزی روستایی
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گفتمان‌های گردشگری خانه‌های دوم در نواحی روستایی: شناسایی ادراک ذهنی ساکنان شهری (مطالعهٔ موردی: روستاهای ییلاقی پیرامون شهر سبزوار)

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چکیده مبسوط

1. مقدمه

اکثر کلانشهرهای کشور چند سالی است که علاوه بر بیماری شلوغی و تراکم جمعیت گذشته- دچار ویروس ویرانگر جدیدی یعنی آلودگی هوا شده اند. این در حالی است که مسوولان امر جز تجویز نسخه های موقتی همچون تعطیلی مدارس و ادارات، گسترش محدوده طرح ترافیک، برخورد با خودروها و موتورسیکلت های دودزا و تعطیلی برخی از کارخانجات و معادن چاره ای برای درمان این معضل بزرگ نیاندیشیده اند. وقتی از مردم درباره زندگی ایده آل سوال می شود آرزو می‌کنند تعطیلاتی پیش بیاید تا چند روزی از شهر دور شده و به جایی بروند که دیگر از شلوغی و آلودگی خبری نباشد(با این گفته که دیگر شهر برای زندگی مناسب نیست)؛ به همین خاطر است که در حال حاضر بحث جریان های شهرگریزی و اقامت در مناطق ییلاقی خوش آب و هوا و ساخت خانه های دوم و ویلایی داغ است. تقاضای خروج صرفا مختص کلانشهرها نبوده و با کمال تعجب در شهرهای میانی و کوچک نیز شاهد چنین حرکت هایی هستیم و تقاضای روز افزون برای بهره‌گیری و اقامت از مناطق ییلاقی خوش آب‌وهوا وجود دارد. در سایه این گستردگی تقاضا، گفتمان عامه‌پسند خانه‌های دوم و ویلایی به موازات مفهوم حومه و حومه سازی قرار می‌گیرد که می تواند چارچوب مناسبی را برای تحلیل چرایی گرایش‌های ساکنان شهری به مناطق ییلاقی پیرامون فراهم سازد. می توان گفت، تقاضاهای خروج از کلانشهرها و شهرهای میانی کوچک به نواحی ییلاقی و پیرامون به طور همزمان از یک آبشخور گفتمانی یعنی تصویر شاعرانه از روستا آب می خورد تا تجربیات به ترجیحات سکونتی و خاصه ساخت و اسکان در خانه‌های دوم پیرامون شهر پرداخته شده است. البته، نقطه شروع برای محقق تجزیه و تحلیل تصاویر منحصر به فرد از محل های خاص روستایی است که رفتارهای مهاجرتی و اسکان را تحت تاثیر قرار می‌دهد.

2. مبانی نظری تحقیق

بخش قابل توجهی از مطالعات در جغرافیای روستایی بر موضوع تصویر شاعرانه از روستا متمرکز شده اند. تصویر شاعرانه از روستا به «تصورات عامه پسندانه» و عمومی مردم از "آرامش و سادگی زندگی دهقانی و همبستگی با طبیعت" اشاره دارد. شورت (1992) در مطالعه خود تصویر شاعرانه از روستا را این گونه توصیف کرده است: بیش از حد سالم و پاکیزه، بیش از حد روح انگیز و معنوی، بیش از حد طبیعی؛ و به طورکلی بکر و دست نخورده عاری از هر گونه ناخالصی. تصویر رایج از زندگی روستایی که ارتباط نزدیک با طبیعت دارد و هم آوایی با آهنگ زمین و فصول را به نمایش می گذارد: به عبارتی، تصویر کارت پستالی از زندگی روستایی. بل(2006) سه نوع از تصویر شاعرانه از روستا را از یکدیگر متمایز کرده است، یعنی تصویر شاعرانه شبانی از کشاورزی که منعکس کننده چشم انداز کشاورزی هنرمندانه است تا صنعتی و مهندسی شده؛ تصویر شاعرانه طبیعی از حیات وحش که تاکیدی است پیشافرهنگی، ماقبل انسانی، زمین دست نخورده و بکر و طبیعت رام نشدنی؛ و تصویر شاعرانه ورزشی از ماجراجویی که در آن روستا به عنوان زمین بازی و به نوعی خطر کردن قابل شناسایی است. وپسالینن و پیتکانن(2010) نیز مطالعه ای درباره تصاویر شاعرانه روستاهای فنلاند و ارتباط آن با گفتمان های عامه پسند خانه های دوم انجام داده‌اند.

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این پژوهش به موازات خط فکری بل یعنی تقسیم بندی چشم اندازهای طبیعی و کشاورزی، سنت‌های زندگی روستایی و ماجراجویانه از تصاویر شاعرانه روستایی قرار داشت. آن ها نیز بر حضور نیرومند تصاویر شاعرانه به عنوان "نقطه مشترک" ما بین زندگی سنتی و تاریخی رو ستایی و زندگی کالایی شده رو ستایی، صحه می گذارند.

3. روش شناسی تحقیق

رویکرد کیفی و روش تحلیل گفتمان برای استخراج ادراک ذهنی ساکنان شهری(تجربیات تصاویر شاعرانه) در دستور کار قرار گرفت. بر همین ا ساس، 38 مصاحبه نیمه ساخت یافته با مالکان خانه‌های دوم و به صورت هدفمند به عمل آمد. مطالعه حاضر در تفرجگاه‌های ییلاقی پیرامون شهر سبزوار معروف به منطقه طبس صورت گرفته است: شامل روستاهای طبس، سنگ سفید، رازقند، بازقند و دیواندر.

4. یافته های تحقیق

در این پژوهش گسترش خانه‌های دوم در روستاهای کوهستانی پیرامون شهر سبزوار مبتنی بر گفتمان‌های شامل چ شم اندازهای طبیعی و کشاورزی، سنت‌های زندگی روستایی و فعالیت های تفریحی مورد برر سی و تحلیل قرار گرفت. روایت‌های به د ست آمده نشان داد که روستاگرایی و فضای روستایی از طریق تصاویر شاعرانه و مفاهیم ایده‌آل و آرمانی بازنمایی شده و فرهنگ گسترش خانه‌های دوم با تکیه بر این انتزاعات شکل گرفته است. به طور خلاصه، تجربیات ت صاویر شاعرانه ساکنان شهری و مالکان خانه‌های دوم از حضور و اقامت در روستا را می توان در یک چارچوب سه گانه معرفی نمود: چشم‌اندازهای طبیعی به عنوان حیات وحش بکر و دست نخورده شناخته می شود؛ شیوه زندگی در خانه‌های دوم و ح ضور در رو ستا تقلیدی از سنت‌های زندگی رو ستایی ا ست؛ و در نهایت، محیط سکونتگاهی برای تفریح و گذران اوقات فراغت مورد استفاده قرار می گیرد.

گرچه شناسایی ادراک ذهنی ساکنان شهری(تجربیات تصاویر شاعرانه) در رو ستاهای کوهستانی پیرامون شهر سبزوار از بسیاری جهات منحصر به فرد ا ست (به طورکلی این مورد مطالعاتی می‌تواند به عنوان فرهنگ خا نه های دوم در ایران بررسی شود)، ا ما شباهت‌های فراوانی هم با فرهنگ خانه دوم در سطح جهان (کشورهای اروپایی، آمریکای شمالی و استرالیا و جنوب شرق آسیا) دارد. چراکه در روایت های بدست آمده از مالکان خانه‌های دوم به کلیدواژه هایی همچون چشم ا نداز های بکر و دست نخورده، سنت‌های ز ندگی روستایی و تفریحات طبیعت محور برخورد می‌کنیم که در ادبیات عمومی گردشگری خانه‌های دوم و مطالعات تجربی صورت گرفته برجسته شده ا ست. به طورکلی، تصاویر سه گانه یاد شده به هم پیوسته و از یکدیگر مجزا نیستند، اما ترکیب آنها تصویری خاصی از فرهنگ خانه‌های دوم ارائه می دهد، همان الگویی که در رو ستاهای کوه ستانی پیرامون شهر سبزوار بد ست آمده است.

5. بحث و نتیجه گیری

بی شک تصاویر شاعرانه و بازسازی مفاهیم روستاگرایی و حومه‌سازی و م صرفی شدن رو ستا (جریان‌های پ ساتولیدگرایانه) برای تفریح و گذران او قات فرا غت با بهره‌گیری از طبیعت و محیط سنتی و فرهنگی روستا یکی از مهمترین دلایل گسترش خانه‌های دوم در رو ستاهای کوهستانی پیرامون شهر سبزوار محسوب می شود، اما بسیاری از مولفه های گذشته نظیر کشاورزی، قناعت و ساده زیستی در ساخت و ساز، همبستگی اجتماعی و اقدامات جمعی به آن اضافه شده و ساختار متفاوتی از تصاویر شاعرانه را عرضه می دارد.

کلیدواژه ها: تصاویر شاعرانه، گفتمان، چشم اندازهای طبیعی و کشاورزی، سنت‌های زندگی روستایی، فعالیت های تفریحی، سبزوار.

تشکر و قدردانی

پژوهش حا ضر حامی مالی نداشته و حاصل فعالیت علمی نویسنده است.

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9. 3. 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.

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

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

12 . 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.

13 . 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.

14 . 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.

15. 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.

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

17. 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.

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

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

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

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

این جانب .....شغل .....با ارسال فیش بانکی به مبلغ.....ریال به حساب جاری شماره 425299638 بانک تجارت شعبه دانشگاه مشهد کد 4250 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:

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

2. مقالات انگلیسی با قلم نازک Times New Roman11 با نرم افزار Word تهیه شود. مقالات، روی کاغذ A4 (با حاشیه از بالا 3 و پایین 2 و راست 2 و چپ 2 سانتی‌متر) تایپ شود. متن به صورت دو ستونی با رعایت فاصله 1 سانتی‌متر بین دو ستون و فواصل بین خطوط به صورت single باشد. 3. حجم مقاله نباید ازحدود 9500 کلمه و یا حداکثر 15 صفحهٔ چاپی به قطع نشریه بیشتر باشد (با در نظر گرفتن محل جداول، اشکال، خلاصه فارسی و فهرست منابع).

4. عنوان مقاله با در نظرگرفتن فواصل بین کلمات نباید از 60 حرف تجاوز کند و با قلم Times New Roman14 سیاه تایپ شود.

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

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

7. شکل‌ها و نمودارهای مقاله حتماً اصل و دارای کیفیت مطلوب باشد. فایل اصلی اشکال (تحت PDF، Word،Excel) و با دقت 300 dpi ارائه شود. اندازهٔ قلم‌ها خصوصاً در مورد منحنی‌ها (legend) به گونه‌ای انتخاب شوند که پس از کوچک‌شدن مقیاس شکل برای چاپ نیز خوانا باشند.

8. ساختار مقاله شامل عناصر زیر است:

8. 1 صفحهٔ عنوان: در صفحهٔ شناسنامه باید عنوان مقاله، نام و نام خانوادگی نویسنده (نویسندگان)، درجهٔ علمی، نشانی دقیق (کد پستی، تلفن، دورنگار و پست الکترونیکی)، محل انجام پژوهش، مسؤول مقاله و تاریخ ارسال) درج شود. عهده‌دار مکاتبات باید با علامت ستاره مشخص شود.

8. 2 چکیده: شامل چکیده‌های فارسی ساختار یافته (شامل هدف؛ روش؛ یافته‌ها؛ محدودیت‌ها؛ راهکارهای عملی؛ اصالت و ارزش و واژگان کلیدی (3 تا 6 کلمه)) است. تا حد امکان چکیدهٔ مقاله از 300 کلمه تجاوز نکند . علاوه بر چکیده ساختار یافته، لازم است چکیدهٔ مبسوط فارسی بین 750 تا 1000 کلمه نیز حاوی مقدمه، مبانی نظری، روش، نتایج و بحث، نتیجه‌گیری و کلیدواژه‌های مقاله تهیه شود، به طوری که حاوی اطلاعاتی از کل مقاله باشد و بتوان جداگانه آن را چاپ کرد. با توجه به این که مقاله بعدا به صورت کامل به انگلیسی برگردانده خواهد شد، نیازی به ترجمه چکیده مبسوط به انگلیسی نیست.

8. 3 مقدمه: شامل 1- طرح مسئله؛ 2- اهمیت و ضرورت؛ 3- اهداف و سوالات اصلی تحقیق.

8. 4 ادبیات نظری تحقیق: شامل 1- تعاریف و مفاهیم؛ 2- دیدگاه‌ها و مبانی نظری؛ 3- پیشینه نظری تحقیق و ... .

8. 5 روش‌شناسی تحقیق: در برگیرندهٔ 1- محدوده و قلمرو پژوهش؛ 2- روش تحقیق و مراحل آن (روش تحقیق، جامعهٔ آماری، روش نمونه‌گیری، حجم نمونه و روش تعیین آن، ابزار گردآوری داده‌ها و اعتبارسنجی آن‌ها)؛ 3- سؤال‌ها و فرضیه‌ها؛ 4- معرفی متغیرها و شاخص‌ها؛ 5- کاربرد روش‌ها و فنون.

8. 6 یافته‌های تحقیق: ارائهٔ نتایج دقیق یافته‌های مهم با رعایت اصول علمی و با استفاده از جداول و نمودارهای لازم.

8. 7 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.

8. 8 تشکر و قدردانی: قبل از منابع مورد استفاده ارائه شود و از ذکر عناوین دکتر و مهندس خودداری شود.

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

9. 1 ارجاعات در متن مقاله باید به شیوهٔ داخل پرانتز (APA) نسخه 6 باشد؛ به گونه‌ای که ابتدا نام مؤلف یا مؤلفان، سال انتشار و صفحه ذکر شود. شایان ذکر است که ارجاع به کارهای چاپ شده فقط به زبان فارسی بوده و در اسامی لاتین معادل آن در زیر نویس همان صفحه ارائه شود. به عنوان نمونه: (شکوئی، 1387، ص. 50) یا (وودز، 2005، ص. 27).

9. 2 در پایان مقاله، منابع مورد استفاده در متن مقاله، به ترتیب الفبایِ نام خانوادگی نویسنده بر اساس الگوی فهرست نویسی APA تنظیم گردد.

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بسم الله الرحمن الرحيم

دانشکده ادبیات و علوم انسانی

مجلّهٔ پژوهش و برنامه‌ریزی روستایی

سال هشم، شمارهٔ 1، زمستان 1397، شمارهٔ پیاپی 24

صاحب امتیاز: دانشگاه فردوسی مشهد

مدیر مسئول: دکتر حمید شایان

سردبیر: دکتر علی‌اکبر عنابستانی

دستیار سردبیر: مهدی جوانشیری — **مدیر اجرایی**: زهرا بنی‌اسد

ویراستار انگلیسی: مرکز ویراستاری ادبیات — **حروف‌نگاری و صفحه‌آرایی** : الهه تجویدی

شمارگان: 50 نسخه

نشانی: مشهد، دانشگاه فردوسی مشهد، دانشکدهٔ ادبیّات و علوم انسانی دکتر علی شریعتی، کد پستی 9177948883، نمابر: 38796840 (051)

بها: داخل کشور: 20000 ریال (تک‌شماره) خارج کشور: 25 دلار (آمریکا - سالانه)، 20 دلار (سایر کشورها - سالانه)

درگاه الکترونیکی: http://jrrp.um.ac.ir/ E-mail:Rplanning@um.ac.ir

*** این مجله در جلسهٔ کمیسیون بررسی نشریات علمی کشور مورخ 1392/2/25 رتبهٔ علمی - پژوهشی دریافت و طی نامهٔ شمارهٔ 3/18/35728 در تاریخ 1392/3/13 ابلاغ گردیده است.**

این مجلّه در پایگاه های زیر نمایه می‌شود:

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

دانشگاه فردوسی مشهد

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مجله پژوهش و برنامه ریزی روستایی

(علمی - پژوهشی)

سال هشتم، شماره ۱، زمستان ۱۳۹۷، شماره پیاپی ۲۴

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