Evaluating the Effectiveness of Resettlement Patterns in Improving Quality of Life Indicators in the Earthquake-Stricken Villages (Case Study: Varzeghan County)

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Abstract

Purpose- Nowadays due to the variety of hazards and inappropriate location of some villages, the necessity of their displacement and resettlement is sometimes unavoidable. In order to resettle the villages, they should consider a wide range of social, economic, environmental and political issues so that resettled villages can survive. The present study was conducted to investigate the effect of resettlement on the quality of life of the earthquake-stricken villages and explain the factors affecting it in the resettled villages of Varzaghan County.

Design/methodology/approach- The research methodology is descriptive and analytical and the required data were collected using the questionnaire instrument. The study population was 7975 people living in 11 resettled villages in Varzeghan County. The sample size was 382 people who were randomly selected. The validity of questionnaire was confirmed by experts and its reliability was also obtained 0.921 using Cronbach Formula.

Finding- Results indicate that the quality of life of villages in Likert six-point scale was equal to 3.47, and the highest and lowest levels of satisfaction are related to the areas of infrastructure, employment and income. In addition, the results of the factorial analysis were identified in four dimensions for quality of life. In this regard, the four factors of physical, economy, psychology, and housing clearly explain the 90.95% of the variance of quality of life. The results of T, Tukey, and Scheffe tests also showed a significant difference between the resettlement patterns and the quadruple dimensions of quality of life.

Practical implications- With respect to the importance of quality of life in the development and welfare of human societies in resettlement projects, it is necessary to considerate the effects and consequences concerning the quality of life in addition to selecting the optimal rural site in order to improve the residents' wellbeing while identifying the strengths and weaknesses of these projects.

Keywords: Resettlement, quality of life, rural settlements, Varzeghan, Iran.

Paper type- Scientific & Research.

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1. Introduction

Since man came in life on the Earth, nature has always challenged him. Studying the history of life on the Earth also suggests that "unwanted events of natural origin such as flood, earthquake, hurricane, lightning, landslides and hail have constantly challenged man's material and spiritual life". (Bathrellos., Gaki-Papanastassiou., Skilodimou., Papanastassiou., Chousianitis, 2012). Earthquake has existed over the life of the Earth as a receptive and non-preventive phenomenon. This natural disaster has always been "a serious threat to human societies and has torn apart the headband of many communities" (Blaikie et al., 2014). In order to prevent the further losses of life and property, "displacing and changing the location of the villages affected by natural disasters or implementing economic or even some natural, social and political projects become inevitable" (Tashi & Foggin). In fact, "locating and displacing rural settlements without conducting a detailed study will have different economic, social, political, environmental, and physical consequences; therefore, these interventions can lead to the instability and confusion of rural environment" (Fan et al., 2015). These conditions cause "economic, natural and physical values of land, such as the natural beauty, spirit and identity of places to experience erosive process" (Xu et al., 2011, pp. 59-60).

The general objective of rural resettlement is to create a suitable environment for the establishment of villages located in high risk areas and villages which should be displaced for various reasons. In this case, the livelihood and welfare of residents get improved from different aspects after displacement and with the passage of time; therefore, "it is necessary to resettle and locate the optimal location of villages based on appropriate methods and in accordance with environmental characteristics" (Connell, 2012).

The main purpose of rural resettlement is to pave the way for the establishment of villages located in high-risk areas and villages that their displacement is necessary for various reasons so that the residents' livelihood and well-being improve from different aspects after displacing and with the passage of time. As said above, it is thus essential to resettle and locate the villages based on appropriate methods consistent with environmental characteristics (Connell, 2012). Displacing human is often done along with anxiety, cost increases and the delay of actions, while inevitable displacement can be an opportunity for development. In displacement, the beneficiaries should participate in programs; this close relationship make them to overcome their problems easier. Spending more time and effort at this stage will reduce many of future issues (Dunford & Li, 2011). Displacing population is not a purely physical phenomenon and the nature of economic and social organization, especially in rural environments with the natural environment, has a twofold action. With regard to the close relationship of rural communities with the natural environment and the fact that major parts of villages are formed and affected by natural elements, such as rivers, spring, and mountain, displacing and transporting them to another location certainly breaks their social, economic, and natural bonds with nature and raises some problems concerning the residents' acclimatization to a new environment (Wilmsen et al., 2011). In addition, projects entitled "rural integration" have been implemented in Iran that their most important goal was to establish towns and assemble scattered and sparsely populated villages in order to facilitate the provision of services, expand productive activities, provide the welfare of the population, and reduce the discrimination against rural-to-urban migration (Afrakhteh, 1996).

In general, in reconstructing damaged regions and especially in improving earthquake-stricken villages, several executive policies are suggested. Therefore, as new practical models can be implemented in the damaged community, reconstructing and renovating in the unsuitable place can be prevented (Wang, 2015).

With respect to the importance of quality of life in the development and welfare of human societies, measuring quality of life and explaining its effective factors is highly important. Therefore, it is necessary to analyze the villagers' life status in addition to selecting the optimal location of the village after the resettlement of the villagers (Tersoo, 2014). Quality of life is "an interdisciplinary issue and a multidimensional and dynamic concept composed of objective and subjective dimensions" (Poomalar & Arounassalame, 2013, p. 137). Quality of life is "affected by the time and geographical location and the value system of the society and it refers to individual's satisfaction feeling of life conditions" (Rezvani, 2012, p. 17). Finally, the subjective indicators of quality of life are obtained from the survey of residents' perception, assessments and satisfaction of life, while objective indicators are relevant to observable facts, which are often obtained from secondary data (Petrosillo et al., 2013). Therefore, given the avoidance of the displacement and resettlement of some villages as well as the necessity and importance of examining its effects on the quality of rural life, the main objective of this paper is to examine and answer the following basic question: What are the effects of rural resettlement on the quality of rural life? Thus, the

overall satisfaction with the quality of life and areas as well as the dimensions and factors of affecting quality of life in the resettled earthquake-stricken villages of Varzeghan are studied and analyzed.

2. Research Theoretical Literature

Quality of life is a multifaceted and relative concept affected by the time and place, personal and social values, which covers objective and external as well as subjective and internal dimensions. Pacione (2003) believes that the term quality of life refers to "the environmental conditions in which people live such as pollution and housing quality as well as some of the traits and characteristics of people like health and access" (p. 19-20). Historically, "the first attempts to measure the quality of life are rooted in the movement of social indicators" (Biderman, 1974). In addition to the problem of the definition of quality of life, various discussions are suggested regarding the areas used in the study of quality of life. Micheal (2000) depicts the areas of quality of life as security, health, personal development, social development, physical environment, natural resources, goods, and services. Henderson et al. (2002) have proposed twelve areas, including education, work, energy, environment, health, human rights, income, infrastructures, security, reforms, and housing . Hagerty et al. (2001) stated that the seven areas including "relationships with family, emotional well-being, physical well-being, health, labor and productive activity, sense of belonging to society and personal security" can cover the space of quality of life" (p.1). In this regard, Ballesteros (2002) also considers nine areas, including economic resources and consumer conditions, labor and employment status, education and access to schools, health and access to health services, life and social relations, housing and its facilities, culture and leisure, personal security and resources, and political resources and participation.

From the perspective of sustainable rural development, some criteria are effective to measure quality of life. In this general framework, the component of quality of life is defined in order to reach rural social stability, which includes the criteria of the quality of employment, income, services, and housing (Liu et al., 2013).

From another perspective, the indices effective in measuring quality of life can be divided into several categories. These indices include:

- Bioenvironmental indices such as protected areas, environment pollutants and natural landscapes

- Indicators related to natural disasters such as zoning (floods, earthquakes, etc.)

- Economic indices such as the distance from agricultural lands and active place of residence, economic value of land in a new location of establishment and land ownership of the mentioned lands

- Social indicators such as ethnic and cultural issues, and the social acceptance of a new place by residents, dependence on previous place and their level of willingness to displace;

- Physical indices such as the way of accessing roads, upstream service centers, plans and programs of executive departments in the new settlement location (Kolodinsky et al., 2013).

In recent studies, quality of life is measured through two methods. The first method uses objective indices to measure quality of life. Measurable objective, social, and economic indices reflect the total amount of satisfying human needs analyzed using official reports and statistics. In the second method, subjective indices evaluate individuals and groups' satisfaction levels, which are called "subjective well-being" (Costanza, 2007).

Hardoy and Satterthwaite (1993) believe that in the past, resettlement and displacement have been from high to low and government-led and refused public participation; therefore, it has led to housing that people were reluctant to accept it in the place where no one wanted to live there. Currently, planed displacement is continued in many developing countries in various forms. Based on the politics and strategies of the World Bank, resettlement sites should be in consultation with the displaced individuals and host communities. The resources and plans for land-use should be fully evaluated. Site selection, available options for shelter and infrastructure used in the new site should be reflected in terms of people's preferences and the best opportunities for the timely reconstruction of living site. Locating and protecting the community are among the most important fields considered in the resettlement site selection. Thus, resettlement sites should provide people with access to productive resources, employment, and business opportunities (Xu et al., 2011). In this context, examining the experience of the examples of India, Bangladesh, Philippines, and Thailand shows that resettlement benefits include the legal popularity of land or housing to ensure the tenure and improve the body and the infrastructure. However, these projects have failed in poor location, suffering from the lack of employment opportunities and high cost of transportation. Based on the lessons learned from the resettlement program in Dhaka, it was concluded that the five key forces including organizational issues, resources, cultural understanding, use of appropriate technology, and public participation constitute the process for the implementation of any resettlement program. The consideration of the issues relevant to the enhancement of resettlement discussions, the nature of the settlement

process and the significant beneficiaries has become a key to the success or failure of the projects (Townsend et al., 2014). The operational policies for reconstruction include assembly and integration, displacement or transmission, and reconstruction, which are analyzed in the following:

2. 1. Assembly and Integration

One of the executive policies in the reconstruction of damaged region due to natural disasters (earthquake) or human accidents is the policy of integrating damaged residence regions. In this way, small and disperse settlements, especially the settlements with massive damage or those with major problems due to great distance in terms of providing new services and infrastructures are assembled in a new site (without previous residence), or several villages are assembled in one village and the reconstruction is conducted in that particular site (Birch, 2012).

2.2. Reconstruction

In this method, a village is reconstructed in its original location. Reconstruction operations (without changing site) are implemented in order to promote the quality of environment and the available infrastructure, prepare social services and implement economic plans for people's welfare. Reconstruction policies are implementable in cases where:

- The previous village texture is garden house and family's dependence on the area of the existing house is high;
- The destruction resulted from calamities is less and excavation is economic;
- No suitable land exists for the reconstruction close to the settlement or the transfer is not needed.

2.3. Displacement and Transfer (Resettlement)

 he resettlement of destructed residence centers is one of the conducted ways in damaged areas depending on the site and sometimes due to inattention. In this method, owing to the high volume of destruction or intensive movements and ground sliding (concerning earthquake) in case of the appropriateness of lands surround the village, the residence site would be transferred to a location adjacent to the previous site and reconstructed (Chung, 2010).Generally, along with displacement plan, individuals' health and economic status should be controlled, and they should be informed of the public interest of national development plans and their identity should be maintained. Many people, especially the elderly, have emotional attachment to the place where were born and grown. Therefore, in these cases, they should be treated with care and respect, and compulsion should be always avoided. On the contrary, they should be encouraged to displace in order to enjoy higher living standards so that they are ensured that resettlement is on their behalf and can improve their conditions. Therefore, they should participate in it (Ibid., p. 432). The monitoring indices (assessing the potential effectiveness) of resettlement programs from the perspective of the World Bank (1996) include the following cases:

- How much enjoyment of the community is affected?
- Is the quality of built houses standard?
- Is the dislocated site selected and developed according to the standards?
- Are the displaced people resettled in new houses?
- Is there any supportive measure in the community?
- Are repair and reconstruction measures implemented for Social infrastructure and service infrastructure?
- Do the resettled communities have access to schools, services, health and cultural activities sites?
- Are income and livelihood restoration activities (such as alternative land use, restarting production and training individuals) included in the program?
- What changes have occurred in employment patterns, production and the use of resources compared to the previous status?
- What changes have occurred in the cost of living and income compared to the time before the project?
- What changes have occurred in social and cultural parameters associated with living standards?
- What changes have occurred in vulnerable groups? (Wilmsen et al., 2011).

Therefore, in resettlement of rural settlements, Sustainable rural environments are provided when stakeholders' perspectives, including local residents, spatial planners, farmers, managers and other groups are considered. In other words, rural managers need to understand rural development indicators and implement them in practice; In this case, the efficiency and effectiveness of these projects will be improved.

2.4. International Experience of Resettlement

In all parts of the world, displacement and resettlement occur due to development. In Asia, the number of people who have been displaced or homeless during construction projects is high, while the demographic proportion and the damaged areas during these projects are extremely lower than some projects in Africa. In addition, displacement in Latin American and Caribbean is not like Asia; however, the number of resettlement operations is reported extensive and noteworthy. A brief overview of these experiences is given below.

Asia and the Pacific - China and India have the largest share in these statistics. The National Research Center for Resettlement estimates that the number of people displaced between 1950 and 2000 was 45 million. Taneja and Thakkar (2000) pointed out that owing to dam

projects in India, it is estimated that between 21 and 40 million people have been displaced. During the dam project of Sardar Sarovar in India, 127 thousand people were displaced, while probably it has been the greatest force for displacement and resettlement throughout history. In this case, due to local residents' dissatisfaction with the project, the World Bank refused to finance the project, and the governments of India alone proceed to advance the project without any foreign aid. In another research, the displacement of 40 to 50 thousand people in Indonesia during the construction project for the development of Jabotab City has been pointed out. This project includes the widening and improvement of roads in Jakarta and its nearby towns. Countries such as India and China have the largest number of development-related resettlements. But the number of people that affected by natural and human disasters is much lower than in African countries. For example, Akosombo Dam in Ghana displaced 80 thousand people, which is approximately one percent of the country population. In Sardar Sarovar Dam project in India, 127 thousand people were displaced, it is approximately 0.013 % of the Indian population. Furthermore, development projects in African countries have often included a large percentage of the country's territory, that is, the dam reservoir has flooded 3.5% of rich land. Estimates of environmental engineering and sustainable development engineers show that the refugees of Kariba Dam in Zambia approximately 57 thousand people.

Latin America and the Caribbean: Although displacement in Latin American and the Caribbean is not generally like the one in Asia, a large number of notable resettlement operations are performed. La Rovere and Mendes (2000) state a detailed description of Tucuri Dam in Brazil that its first phase was conducted from 1975 to 1984. In this project, 25 to 30 thousand people were displaced, while the displacement of only 1750 families in the area had been anticipated. The report by WFP (1996) with a brief overview of the dam project presented the components of resettlement and the impacts of the project on the displacement. Robinson (2000) presented a comprehensive study of the history of dam construction and resettlement in Mexico. The earthquake report indicates the region of Miguel Aleman in Mexico where 20 to 25 thousand Mezatec Indians were replaced. In this case, a program was not designed to prevent homeless people's poverty, but when many problems arose, the planners were forced to perform resettlement operations for the success of the project.

Europe, the United States, and Canada: Nowadays, displacement on a large scale is not common in industrialized countries of Europe and North America;

however, history is full of examples of displacement as a result of the implementation of various projects in these countries, especially in North America, even if it not written in the literature. Scudder's research (1996) is well-known owing to measuring the displacement of life site and political displacement in the project of James Gulf in Canada. The report by Ortolano et al (2000) provides an accurate survey of the dam project of Grand Coulee in the United States. The project took more than 42 years from 1933 to 1975 and had 5100 to 6350 native and non-native refugees while it strongly influenced the indigenous peoples of North America Strongly.

2.5. Resettlement in Iran

Among the provinces that have experienced resettlement in the form of assembly, displacement optimal settlement, and reconstruction plans of villages, the provinces of Gilan, Fars, Khorasan, Sistan and Baluchistan, East Azerbaijan, and Khuzestan can be mentioned. The sample of temporary and permanent resettlement can be extensively observed in Gilan, Zanjan, Roodbar Area, and Manjiland Lushan. Owing to the earthquake in 1990 in the vast area of 1600 villages, a massive damage was caused and some villages were destroyed (Rahmati, 2006). More than 80 percent of the displaced and assembled villages had more than 70% destruction. Finally, in the present paper, the quality of life in the resettled villages was measured by emphasizing the subjective approach. Since there is no single methodology to determine the number of life areas, choosing areas for each area is based on researchers' personal judgment, available data, and the features of the area and objectives of the study. In this study, seven areas, including housing, infrastructures, environment, utilities, information and communications, well-being and employment, and income are selected to investigate the quality of life in these areas.

3. Research Methodology

3.1. Geographical Scope of the Research

Varzeghan County as one of the earthquake prone cities in northwest of Iran has experienced numerous earthquakes. The last earthquake, which was higher than 6 degrees on the Richter Scale in the province, was within the surroundings of cities of Varzaqan and Ahar that damaged more than 200 villages, causing both financial and life losses. Aside from this earthquake, various earthquakes have occurred leading to the resettlement of 11 villages in the entire province since 25 years ago, which are studied in the present research. Among these villages, 2 villages were in the form of displacement, 5 villages in the form of integration, and 5 villages in the form of complete reconstruction.
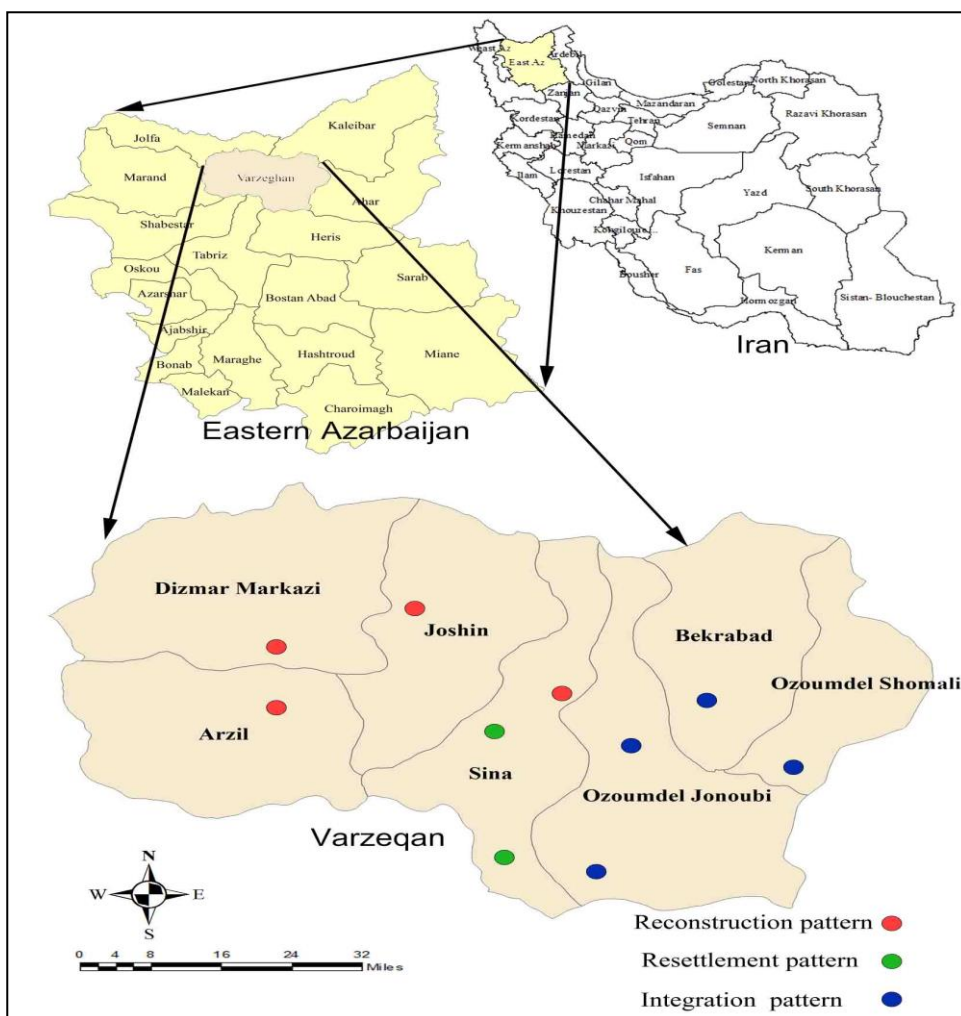
Figure 1. Study areaThe total of 11 villages in this study have 7975 people and 1996 households

A total of 45 villages in this study had 34785 people and 7782 households. Of the participants of the study, 29, 46, and 25 percent of people are resident in assembled,

reconstructed, and displaced villages, respectively. Other characteristics of the villages are shown in Table 1.

Table 1. Social profile rural area
Source: Research findings, 2017

Type of village	Percentage of males	Percentage of females	Employment of males	Employment of females	Literacy of males	Literacy of females
Displaced villages	50.45	49.55	82.20	75.31	64.40	57.50
Reconstructed villages	54.5	46.50	84.24	80.50	68.15	59.15
Assembled villages	52.25	47.75	83.15	78.11	71.30	62.2

3.2. Methodology

The main objective of this research is to investigate the role of resettlement (the displacement method, resettlement with integration and the complete reconstruction) in the

quality of life of resettled villages in the 2012 earthquake in Varzaghan. In this way, the indices affecting the quality of life were determined through various aspects of library studies and

reviewing the literature in different parts of Iran and the world. By studying the research literature, seven areas including housing, infrastructure, environment, utilities, information and communications, well-being and employment, and income were selected to analyze the negative and positive consequences of resettlement and their effect on the quality of rural life in order to identify the necessary principles and criteria for improving resettlement projects. The research statistical population is the households living in the resettled villages.

The research methodology is descriptive-analytical. To conduct the research using Cochran Formula, 382 samples were randomly selected among the population of the villages' residents. Their quality of life was studied using subjective indices. The data collection tool was the questionnaires that researchers prepared according to the research objectives. In addition, to complete

the questionnaire, the field survey method, Individual and group interviews with the villages' residents and local officials and reviewing available documents were used.

The used questionnaire included closed-ended questions with answers on a 6-point Likert Scale (from completely satisfied 6 to completely dissatisfied 1) in which the questions were defined within seven major areas of life. To measure the internal validity, first content validity was used to increase the questionnaire validity. In this method, using tested scales in the research of quality of life and also the professors and experts' views, the first step was taken. Then, 40 questionnaires were used to calculate the reliability of the questionnaire. The final questionnaire was developed. Alpha's Cronbach was employed to measure the reliability of the questionnaire (see Table 2).

Table 2. Indices of quality of life
(Source: Research findings, 2017)

Areas	Indices
Housing	Quality of housing in terms of used materials, housing facilities (bathroom, kitchen etc.), housing area, proportion of the number of rooms to the number of households, housing position to environmental and noise pollution, feeling peace and convenience in house, people's ability to provide appropriate housing, supervising housing construction, status of registering residential estate
Infrastructures	Condition of drinking water in the village, providence of oil products for cooking and heat, quality of power and lighting in houses and public passages, condition of roads to villages, quality of passages, streets, alleys and squares of villages, making villages safe against natural disasters normal such as flood and earthquake, distance between life location and agricultural lands and gardens, status of water required for watering farms and gardens
Environment	Condition of collecting and discharging surface waters, collecting and discharging sewage, collecting and discharging garbage disposal, cleaning streets, sidewalks and alleys, quality of natural and artificial landscapes of villages, quality of life environment beautification
Welfare services	Access to health facilities such as doctor and pharmacy, access to educational facilities such as schools, access to cultural facilities such as public library, access to recreational and sports facilities, access to food stores such as bakery, butchery, and supermarket
Information and communications	Access to public transportation and telecommunications facilities such as phone, access to postal facilities such as post box and post office, access to the Internet, newspaper, magazine, village residents' relationships with adjacent villages
Well-being	Feeling security in village, family health condition, relations with neighbors, feeling attachment to village, trustworthiness of villages' residents
Income and employment	Household income, household saving, household properties such as housing, land, and car, people's economic condition, job security

Subjective approach was used to measure quality of life. For this purpose, intuitive and logical responses were used to measure the overall quality of life. First, in the overall quality of life questionnaire, the respondents were asked and

after raising the questions concerning satisfaction with various areas of life, the respondents' overall quality of life was asked again. The first and second questions were considered as the intuitive

quality of life and the logical quality of life, respectively.

Descriptive statistics, factor analysis method and regression analysis were used to summarize the results of the survey, identify the quality of life dimensions, establish a causal model of quality of life or identify the factors affecting quality of life (through the SPSS Software), respectively.

4. **Research Findings**

According to the literature, seven areas of quality of life were identified and used to analyze the positive and negative consequences of resettlement and its effect on quality of life.

4.1. Life Satisfaction

To measure life satisfaction, the method proposed by Fu (1998), Ibrahim and Chang (2002), and Das (2008) was used. In this method, two questions in 6-point Likert Scale (from 1 completely dissatisfied to 6 completely satisfied) were used at the beginning and end of the questionnaire. The proposed questions at the beginning and end of the questionnaire were considered intuitive and logical answers, respectively. The value of the average of answers to these two questions shows the rate of life satisfaction in the study area. Using intuitive and logical responses to measure life satisfaction in addition to comparing the two answers provides the opportunity to a more accurate and more confident answer regarding the individuals' overall quality of life. The data analysis indicated that the average value of life

satisfaction was 3.47 in terms of the intuitive answers in the studied villages. According to the intuitive answer, in all the studied villages, in fact, 51.6% of the respondents were dissatisfied with their life in general. The average value of life satisfaction in terms of logical answer did not show much change in relation to the intuitive answer, whereas the average life satisfaction was 3.51 in terms of the logical answers. According to the logical answer, in the whole studied sample, 42.09% of respondents were dissatisfied with their life in general.

4.2. Satisfaction with Various Areas of Life

Respondents' satisfaction with the various areas of life based on 6-point Likert scale was asked. The objective was to measure the individuals' satisfaction with the study areas and identify the areas that individuals have the highest and lowest level of satisfaction with.

The highest and lowest average values were relevant to the areas of infrastructures as well as employment and income. Approximately 81.6% of respondents were satisfied with the status of the infrastructures in their village, while only 14.3% of respondents were satisfied with the status of employment and income in these villages. The area of housing also showed a good condition and had an average value of 2.31 on the 6-point Likert scale. The area of welfare services had an inappropriate condition with an average of 2.52 (see Table 3).

Table 3. Satisfaction with areas of quality of life
(Source: Research findings, 20170

Domains of quality of life	Average	Quite satisfied	Very satisfied	Satisfied	Dissatisfied	Very dissatisfied	Completely dissatisfied
Housing	3.778	6.3	15.2	49.4	17.7	6.1	5.3
Infrastructure	3.549	5.1	27.8	45.6	7.6	6.3	7.6
environment	3.149	1.3	12.7	32.9	22.8	12.7	17.7
welfare Sevices	2.558	1.3	2.5	17.7	39.2	12.7	26.6
Information and communication	3.445	2.5	7.6	43.0	34.2	5.1	7.6
Welfare	3.554	7.6	11.4	43.0	13.9	13.9	10.1
Employment and income	2.567	1.2	2.6	12.8	41.7	18.7	23.1

4.2. Quality of Life Dimensions

According to the multi-dimensionality of the concept of quality of life, in this study, factor analysis was used to identify the dimensions of quality of life. To identify the dimensions of quality of life, 37 subjective reagents studied in

the survey of households were used. In general, factor analysis is a statistical technique that is often used to extract the unclosed subsets of the reagents, which explains the observed variance in the initial data set. The value of KMO for this study was 0.912 and Bartlett's test had a

significance level of 0.000, which indicates that the data were suitable for factor analysis. The results of factor analysis are shown in Table 4.

The number of extracted factors by Eigen value and scree plot were four factors. These four factors explained 81.756% of the total variance of the data.

The First Factor: This factor has the highest load in determining the quality of life indices, which is loaded by 14 factors, including condition of roads to villages, distance between life location and agricultural lands and gardens, cleaning streets, sidewalks and alleys, making villages safe against natural disasters such as flood and earthquake, quality of natural and artificial landscapes of villages, quality of passages, streets, alleys and squares of villages, collecting and discharging garbage disposal, ability of people in providing appropriate home, the location of house in accordance to environmental and acoustic pollutions, sense of comfort and peace in the house, the facilities and amenities of house, the relation of village with adjacent cities and the proportion between the number of rooms and households. This factor is called "physical development". This factor with the value of 12.657 explains 37.364% of variance).

The Second Factor: In this factor, four variables are loaded, including household savings, household income, household assets such as housing, land, cars, etc., the economic situation of the people. These are 4 variables, with a special amount of 8.653, can be explains about 24.615% of variance changes.

The Third Factor: This factor is loaded with five coefficients of the feeling of belonging and attachment to the village, the reliability of the people, neighborhood affairs, the health status of the family, and the feeling of security described as a psychological factor. This factor with amount of 5.367 explains 16.912 of variance. The highest factor load is for housing area, proportion of the number of rooms to the number of households, household facilities (bathroom, kitchen etc.), and people's ability to provide appropriate housing. This factor can be called "household facilities". The factor is loaded with five factors with the eigen value of 5.367 explains 16.912 % of variance.

The Fourth Factor: This factor is loaded with three coefficients of supervision of construction, quality of housing in terms of materials and property registration status called "house" factor. The factor with the eigen value of 4.647 explains 12.065% of variance.

Table 4. Matrix of factorial loadings for quality of life
(Source: Research findings, 2017)

variables	1	2	3	4
The status of roads leading to the village	0/985			
Cleanliness of the streets, sidewalks and alleys of the neighborhood,	0/981			
Distance of residence place to the agricultural lands and gardens	0/967			
Immunization of the village against natural disasters such as floods and earthquakes,	0/912			
Collection and disposal of sewage,	0/897			
People's ability to provide adequate housing	0/887			
The quality of natural and artificial landscapes of the village,	0/869			
Quality of passages, streets, alleys and squares of the village,	0/848			
Housing location in accordance to environmental and noise pollution,	0/809			
Feel calm and comfort in housing,	0/796			
facilities for housing	0/719			
The relationship between villagers and neighboring towns	0/717			
Relations with neighboring villages	0/707			
The proportion of the number of rooms with the number of households	0/703			
The status of roads leading to the village	0/985			
Cleanliness of the streets, sidewalks and alleys of the neighborhood,	0/981			

Table 4.

variables	1	2	3	4
Distance of residence place to the agricultural lands and gardens	0/967			
Household savings		0.686		
Household income		0.668		
Household assets such as housing, land, cars and ...		0.659		
The economic situation of the people		0.694		
A sense of belonging and attachment to the village			0.746	
Trustworthiness of the villagers			0.736	
Relations with neighbors			0.721	
Self and family health status			0.718	
Sense of security in the village			0.676	
Supervision of housing construction				0.862
The quality of materials used in building house				0.852
Residential Real Estate Registration Status				0.816
special amount	12.657	8.653	5.367	4.647
Percentage of variance	37.364	24.615	16.912	12.065

4.3. T-test results for variables related to the physical factor

Variables in the field of physical factor include: social trust, distance between houses and agricultural lands and gardens, cleaning streets, sidewalks and alleys, protect the village against natural disasters such as flood and earthquake, quality of natural and artificial landscapes of villages, collecting and discharging garbage disposal, ability of people in providing appropriate home, the location of house in accordance to environmental and acoustic pollutions, sense of comfort in house, the facilities of house, the relation of village with adjacent cities and proportion between the number of rooms with family members, significant differences were observed at the confidence level of 0.05% in all three studied patterns in this index. The average scores of the physical index in displacement and reconstruction and aggregation patterns are 2.3652, 2.4285, and 3.0421, respectively, which indicates a decrease in the status of displacement and reconstruction indices as compared with the aggregated pattern. Most of the items in both of the analyzed models are faced with a completely different view of the respondents. Also, the results of aggregation of items explaining the physical index in the table below indicate a significant difference between the physical indices of the studied patterns and the average of the items, which is the number 3, that is, the theoretical moderate (see Table 5).

Also, t-test results of independent samples showed a significant difference in the physical index between the three patterns among the studied villages (see Table 6).

Table 5. Estimation of the significance of the difference level of physical index from the mediocre of the items in resettlement common patterns
(Source: Research findings, 2017)

index	pattern	average	Difference in average	T	Significant level
Physical factor	displacement	2.3652	-0.16985	-3.687	0.000
	reconstruction	2.4285	-0.3999	-12.639	0.000
	integrated	3.0421	0.3785-	-12.487	0.000

Table 6. Comparison of displacement patterns, reconstruction and aggregation in physical index
(Source: Research findings, 2017)

component	pattern	Number of samples	average	Standard deviation	T test	
					T statistic	Significance level (percent)
Physical component	displacement	100	2.8371	0.36520	5.658	0.000
	reconstruction	170	2.5159	0.36750		
	integrated	112	2.6985	0.75632		

4.4. T test results for variables related to the economic factor

According to the obtained results of factor analysis method, and in order to calculating the significance of indexes related to economic factor, the four variables of household savings, household income, and household assets such as housing, land, cars, and economic status of people were analyzed. A significant difference was found

in the confidence level of 0.05% in all three considered patterns (displacement, reconstruction, and aggregation). The average scores of the economic index in the pattern of displacement and reconstruction and aggregation were 2.1658, 2. 5324 and 2.2693, respectively. Table 2 shows the effect of resettlement on the social trust component of displacement and aggregation patterns (see Table 7).

Table 7. Estimation of the significance of the difference level of economic index from the mediocre of the items in resettlement common patterns
(Source: Research findings, 2017)

index	pattern	average	Difference in average	T	Significance level
Economic componenet	displacement	2.1658	-0.16985	-3.687	0.000
	reconstruction	2.5324	-0.3999	-11.639	0.000
	integrated	1.2693	-0.3785	-9.487	0.000

In addition, the t-test of independent samples was used to determine the significant difference, which shows a significant difference in the physical index between the three patterns among the villages studied. In other words,

with a t-value of 5.658 and a significant level of 0.000 in terms of economic variables, there are differences between the three common patterns of resettlement (see Table 8).

Table 8. Comparison of displacement patterns, reconstruction and aggregation in economic index
(Source: Research findings, 2017)

component	pattern	Number of samples	average	Standard deviation	T test	
					T statistic	Significance level (percent)
economic component	displacement	100	2.2358	0.4569	4.3655	0.000
	reconstruction	170	2.2378	0.5863		
	integrated	112	2.2793	0.8754		

4.5. T-test results regarding the variables related to the psychological factor

To measure the significance of the indices related to the psychological factor, five variables, such as the feeling of belonging and attachment to the village, the reliability of the population, neighborhood relationships, the health status of the family, and the sense of security were

investigated. The results showed a significant difference in the confidence level of 0.05% in all three considered patterns (displacement, reconstruction, and integration). The average score of the psychological index in displacement, regeneration, and aggregation patterns are 2.0365, 2.1245, and 1.1698, respectively (see Table 9).

Table 9. Estimation of the significance of the difference level of psychological index from the mediocre of the items in resettlement common patterns
(Source: Research findings, 2017)

index	pattern	average	Difference in average	T	Significance level
psychological component	displacement	2.0365	-0.7452	-3.125	0.000
	reconstruction	2.1245	-0.6985	-8.365	0.000
	integrated	1.1698	-0.7839	-10.236	0.000

Also, the t-test of independent samples was used to determine the significant difference, which indicates that there is a significant difference in the physical index among the three studied villages. In other words, with a value of t=5.3655

and a significant level of 0/000 there is differences between the three common patterns of resettlement in terms of economic variables (see Table 10).

Table 10. Comparison of displacement patterns, reconstruction and aggregation in psychological index
(Source: Research findings, 2017)

component	pattern	Number of samples	average	Standard deviation	T test	
					T statistic	**Significance level (percent)**
psychological component	displacement	100	3.5873	0.2145	6.5241	0.000
	reconstruction	170	3.6575	0.3258		
	integrated	112	3.8745	0.2548		

4.6. T-test results for variables related to the housing factor

To calculate the significance of indices related to housing, three variables of construction, supervision, the quality of materials were used in housing and the status of real estate was reviewed. The results showed a significant difference in confidence level of 0.05% in all three considered

patterns (displacement, reconstruction, and integration). The average scores of the economic index in the pattern of displacement, reconstruction, and aggregation were 2.1368, 2.7542, and 3.6985, respectively, which shows that the economic situation of the people in case of reconstruction is better than the two cases of displacement and aggregation (see Table 11).

Table 11. Estimation of the significance of the difference level of housing index from the mediocre of the items in resettlement common patterns
(Source: Research findings, 2017)

index	pattern	average	Difference in average	T	Significance level
housing component	displacement	3.1476	-0.3265	-3.369	0.000
	reconstruction	3.2148	-0.4212	-10.785	0.000
	integrated	3.0698	-0.2659	-12.698	0.000

In addition, the t-test of independent samples was used to determine the significant difference, which shows a significant difference in the physical index between the three patterns among the villages studied. In other words, with a value

of t=6/5241 t and a significant level of 0/000 there is differences between the three common patterns of resettlement in terms of economic variables (see Table 12).

Table 12. Comparison of displacement patterns, reconstruction and aggregation in housing index
Source: Research findings, 2017

component	pattern	Number of samples	average	Standard deviation	T test	
					T statistic	**Significance level (percent)**
housing component	displacement	100	2.1368	0.6548	4.2478	0.000
	reconstruction	170	2.1978	0.7542		
	integrated	112	2.2008	0.6985		

The results of Tukey and Scheffe following up the tests showed that the internal difference between the three groups of studied patterns in any of the research stages was not significant; however, the external differences in the terms of the effects of the triple resettlement patterns on the quality of resettlement villages had a significant difference. Overall, the results indicate that there is a significant difference between the effects of these three patterns in terms of the residents of the three spectra of the studied villages (see Table 13).

Table 13. The results of Tukey and Scheffe's tests on the gap between the effects of rural guidance plans in terms of triple groups
(Source: Research findings, 2017)

Effects of Resettlement		Triple groups	Average difference (1,2,3)	Est.error	Sig	Confidence interval	
						Lower bound	Upper bound
Tukey-HSD	Displacement (X₁)	X_2	-2.6000	1.62617	X_2	-6.5065	0.6985
		X_3	-5.2000	1.62617	X_3	-8.9095	-1.2547
	Reconstruction (X₂)	X_1	2.6000	1.62617	X_1	-0.9095	6.3658
		X_3	-2.4000	1.62617	X_3	-6.1095	1.3647
	Integration (X₃)	X_1	5.2000	1.62617	X_1	1.4905	8.6857
		X_2	2.4000	1.62617	X_2	-1.3095	6.3652
Scheffe	Displacement (X₁)	X_2	-2.6000	1.62617	X_2	-6.6760	1.1458
		X_3	-5.2000	1.62617	X_3	-9.0760	-1.6587
	Reconstruction (X₂)	X_1	2.6000	1.62617	X_1	-1.0760	6.3625
		X_3	-2.4000	1.62617	X_3	-6.2760	1.7854
	Integration (X₃)	X_1	5.2000	1.62617	X_1	1.3240	9.3695
		X_2	2.4000	1.62617	X_2	-1.4760	6.3625

4.7. Factors Affecting Quality of life

To determine the most important areas of subjective quality of life that explains the variance of satisfaction with quality of life, stepwise regression analysis was used. Logical quality of life was considered as the dependent variable. In addition, the nine factors of subjective quality of life including physical development, welfare services, housing quality, economic status, well-being, housing resistance, hygiene, comfortable housing, and the relationship with neighboring cities and villages were used as predictors. In this model, four factors explain 63.5% of the variance of logical quality of life. Regression analysis results are shown in Table 5. The adjusted coefficient also indicates that other variables have been in the rate of the quality of life in the studied villages, which is not investigated in the present study.

5. Discussion and Conclusion

In the present research, quality of life and the factors affecting it in the resettled villages were measured and explained. The approach used to measure quality of life is subjective approach and the emphasis is on individuals' overall satisfaction with life and different areas of life. The results showed that the mean value of life satisfaction in terms of intuitive response was 3.47. The average value of life satisfaction in terms of the logical answer is 3.51. Comparing the scores for the intuitive and logical answer of the quality of life indicates a low average value of the quality of rational life versus intuitive quality of life. This shows that respondents have changed their views on life satisfaction after considering all dimensions and areas of life. However, the average value of 2.31 for the whole studied sample shows satisfaction with the mean life in the resettlement villages.

To measure individuals' overall satisfaction with life, intuitive, and logical answers were considered. The results indicated that the average value of life satisfaction in terms of intuitive answers is 3.677. The average values of life satisfaction in terms of logical answers is 3.669. The comparison of the scores related to intuitive and logical quality of life answers shows the low average value of quality of life as compared with the intuitive quality of life. This shows that the respondents changed their views on life satisfaction after considering all aspects and areas of life. However, the average value of 3.673 for the entire studied sample represents the average life satisfaction in the

resettled villages. The average value of life satisfaction in terms of the logical answers in the study of Fu (1998) using a 5-point Likert Scale, Ibrahim and Chang (2002) using a 5-point Likert Scale, Das (2008) using a 5-point Likert Scale, and Rezvani et al. (2012) using a 10-point Likert Scale was 3.65, 3.637, 3.37 and 6.56, respectively. The results of the logical quality of life in the present study also showed almost the same status as compared with the mentioned studies. To measure individuals' satisfaction with areas of life, seven areas including housing, infrastructures, environment, utilities, information and communications, well-being and employment, and income were considered. The results of the respondents' satisfaction with the seven areas of life showed the highest satisfaction was related to the area of infrastructure with the average value of 2.36, while the lowest level of satisfaction was related to the area of employment and income with the average value of 2.52. The results of measuring respondents' satisfaction with the areas of life indicate the desirable plan and preparation of infrastructure and housing in the resettled villages; however, only paying attention to some areas of life does not bring good quality of life for the residents. The area of income and employment in the resettlement of the studied areas are utterly ignored, because displacing many income sources has discredited households in the previous location and it is also designed for employment and income in the new location.

To identify the factors affecting the quality of life in the resettled villages, stepwise regression analysis was used. Before stepwise regression, facto analysis was employed in order to identify aspects of quality of life. The results of the factor analysis provide us with components that are inconsistent and independent. Therefore, entering these components as independent variable in the regression analysis creates the possibility of establishing a causal model with the lowest error for us. The results of the factor analysis identified nine components for quality of life in the studies area. These four factors including physical development, welfare services, housing quality, economic status, well-being, housing resistance, hygiene, comfortable housing and relationships with neighboring cities and villages explain approximately 63% of the variance of the initial data. The results of regression analysis indicated four factors of physical, economic, psychological

and housing that totally explain approximately 63.5% of the initial data. The results of regression analysis showed that the four physical, economic, psychological and housing factors explain 90.95% of the variance of logical life quality. The results of T-test, Tukey, and Scheffe's also show the effect of resettlement patterns on changes in quality of life as well as the difference between resettlement patterns and the quality of life.

In addition to the above-mentioned analysis results, the group interviews with residents and local authorities, which were conducted with regard to the qualitative approach in these two villages, indicate the fact that rural communities are closely linked with their surrounding natural environment, and a major part of villages are formed and affected by natural factors, such as rivers, springs, and mountains. Therefore, displacing and transporting them to another location certainly breaks their social, economic, and natural bonds with nature and raises some problems concerning the residents' acclimatization to a new environment. In addition, according to the displacement, problems such as distance from agricultural lands, the degradation of pastures and livestock due to the lack of access to mountains and pastures and the reduction of site attachment due to the lack of collective memories of the past can be mentioned. Furthermore, with respect to the displacement and integration, problems such as disturbance of the neighborhood system, fading of social relationships due to the disruption of the past system, fading of traditional customs owing to the arrival of people from other villages and the integration of the residents of different villages in one location can be stated. About visiting of villages, the mismatch between the width of accessing paths and the volume of traffic, residents' need, the lack of green spaces and visual beauty suitable for the rural environment is visible. Moreover, according to the interviewee' views in each of the studied villages, building incomplete houses due to the lack of loans and owners' financial affordance in completing the buildings after their displacement can be mentioned. Therefore, the suggested planned by government organization not be welcomed by villagers. Therefore, it is suggested that the people themselves propose plans and the government will be responsible for supporting these plans.

Although the socioeconomic, physical, and bioenvironmental effects of resettlement are

considered so far, this framework cannot be perfect. According to the results of this study and the impact of resettlement on the different areas of quality of life, it is proposed to regard the framework of quality of life in the evaluation prior to the implementation of the plan of resettlement and the assessment of the potential impacts of these projects, because quality of life regards all aspects of human life and includes the subjective and objective aspects.

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ارزیابی کارایی الگوهای اسکان مجدد در ارتقای شاخص‌های کیفی زندگی در روستاهای زلزله‌زده (مطالعۀ موردی: شهرستان ورزقان)

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چکیده مبسوط

۱. مقدمه

هدف کلی اسکان مجدد روستایی، ایجاد زمینه مناسب برای استقرار روستاهای واقع در پهنه‌های پرخطر و روستاهایی است که بنا به دلایل مختلف جابجایی آن‌ها ضروری می‌باشد، به‌طوری‌که وضعیت معیشتی و رفاه ساکنین از جنبه‌های مختلف پس از جابجایی و گذشت فاصله زمانی از آن بهبود یابد؛ لذا بر این اساس ضروری است اسکان مجدد و مکان‌یابی بهینه مکان استقرار روستاها بر مبنای روش‌های مناسب و منطبق با ویژگی‌های محیطی صورت پذیرد، بنابراین با توجه به اجتناب‌ناپذیری از جابه‌جایی و اسکان مجدد برخی از روستاها همچنین با توجه به‌ضرورت و اهمیت بررسی اثرات آن بر روی کیفیت زندگی روستائیان هدف اصلی این مقاله بررسی و پاسخ‌گویی به این سؤال اساسی می‌باشد که اسکان مجدد روستایی چه تأثیراتی بر کیفیت زندگی روستائیان دارد؟ بر این اساس رضایت کلی از کیفیت زندگی و قلمروها، ابعاد و عوامل مؤثر بر کیفیت زندگی در روستاهای زلزله‌زده استان آذربایجان شرقی که اسکان مجدد یافته‌اند، موردبررسی و تحلیل قرار می‌گیرند.

۲. مبانی نظری تحقیق

تجمیع و ادغام: یکی از سیاست‌های اجرایی در بازسازی مناطق آسیب‌دیده براثر حوادث طبیعی (مورد خاص زلزله) یا حوادث انسانی، سیاست ادغام یا یکپارچه‌سازی مناطق سکونتی آسیب‌دیده است.

درجاسازی: در این روش روستا در محل اصلی خود موردبازسازی قرارگرفته است.

عملیات درجاسازی (بدون تغییر مکان) به‌منظور ارتقای کیفی محیط‌زیست و زیرساخت‌های موجود و تهیه و تدارک خدمات اجتماعی و اجرای برنامه‌های اقتصادی جهت رفاه افراد اجرا می‌گردد. در نزدیکی سکونتگاه هیچ‌گونه زمین مناسب برای بازسازی وجود نداشته باشد و یا نیازی به انتقال نباشد.

جابجایی و انتقال (اسکان مجدد): در این شیوه به علت حجم زیاد تخریب‌های ایجادشده و یا به سبب حرکات شدید و ایجاد لغزش‌های زمینی (در مورد زلزله)، در صورت مساعد و مناسب بودن اراضی پیرامون روستا، مکان سکونتی به نقطه‌ای در جوار مکان قبلی انتقال‌یافته و اقدام به ساخت می‌کنند.

۳. روش تحقیق

روش انجام تحقیق توصیفی-تحلیلی است و برای انجام تحقیق با استفاده از فرمول کوکران تعداد ۳۸۲ نمونه از بین ساکنین روستاها به‌صورت تصادفی ساده انتخاب و با استفاده از شاخص‌های ذهنی، کیفیت زندگی آن‌ها موردمطالعه قرار گرفت. ابزار اصلی گردآوری اطلاعات، پرسشنامه‌ای است که محققین آن را با توجه به اهداف پژوهش تهیه‌کرده‌اند. علاوه بر تکمیل پرسشنامه، با رویکردی کیفی از تحقیقات میدانی، انجام مصاحبه‌های موردی و گروهی با ساکنین روستاها و مسئولین محلی و نیز بررسی اسناد و مدارک موجود نیز استفاده و اطلاعات این دو جامعه جمع‌آوری گردیده است.

* . نویسندۀ مسئول:

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۴. یافته‌های تحقیق

عامل اول: این عامل با ۱۴ عامل بارگذاری شـده اسـت. ایـن عامـل "توسعه فیزیکی" نامیده می شود. عامل بـا ارزش ۱۲/۶۵۷ ۳۷/۳۶۴ درصد واریانس را توضیح می دهد. عامل دوم: چهار ضریب در ایـن عامل شامل پس انداز خانوار، درآمد خانوار، دارایی های خانوار مانند مسکن، زمین، اتومبیل ها و غیره، وضعیت اقتصادی مردم است کـه با مقدار خاصی از ۸/۶۵۳، حدود ۲۴/۶۱۵ توضیح می دهد درصد تغییرات واریانس. عامل سوم: عامل با چهار عامل بارگـذاری شده با مقدار خاصی از ۲/۵۵۹ توضیح می دهد ۶/۸۷۵٪ واریـانس. این چهار عامل، ۸۱/۷۵۶٪ از واریانس کل داده را توضیح می دهند. عامل چهارم: این عامل با پنج ضریب بارگذاری می شود. این عامـل دارای بالاترین بار در تعیین شاخص های کیفیت زنـدگی اسـت کـه توسط ۱۴ عامل بارگذاری شده است. این عامل "توسـعه فیزیکـی" نامیده می شود. عامل با ارزش ۱۲/۶۵۷ ۳۷/۳۶۴ درصد واریـانس را توضیح می دهد .

در هر سه الگوی مطالعه شده در این شاخص تفاوت معنـی داری در سطح اطمینان ۰/۰۵٪ مشاهده شد. نمره متوسط شـاخص فیزیکـی در جابجـایی و الگوهـای بازسـازی و تجمـع ۲/۳۶۵۲، ۲/۴۲۸۵ و ۲/۰۴۲۱. در هر سه الگو در نظر گرفته شده (جابجـایی، بازسـازی و تجمع) اختلاف معنی داری در سطح اطمینان ۰/۰۵٪ مشاهده شـد. نمره متوسط شـاخص اقتصـادی در الگـوی جابجـایی و بازسـازی و تجمع ۲/۱۶۵۸، ۲/۵۳۲۴، ۲/۲۶۹۳ بود. نتایج نشان داد که اختلاف معنی داری در سطح اطمینان ۰/۰۵ درصد در هر سه الگوی در نظر گرفته شده (جابجایی، بازسازی و ادغام) وجود دارد. نمـره متوسـط شاخص روانشناختی در الگوهای جابجـایی و بازسـازی و تجمـع بـه ترتیب ۱/۱۶۹۸، ۲/۰۳۶۵ و ۱۲۴۵/۲ بوده است. نتایج نشان داد کـه اختلاف معنـی داری در سـطح اطمینـان ۰/۰۵ ٪ در هـر سـه دوره وجود دارد. ارزش متوسط شاخص اقتصادی در الگـوی جابجـایی و بازسازی و تجمع ۲/۱۳۶۸، ۲/۷۵۴۲ و ۲/۶۹۸۵ است. نتایج حاصل

از آزمون پیگیری توکی و شفاف نشان داد که تفاوت درونی بین سه گروه از الگوهای مورد مطالعه در هر یک از مراحل تحقیـق، معنـادار نبود. اما تفاوت های خارجی در زمینه اثرات الگوهای اسکان مجـدد سه گانه بر کیفیت روستاهای اسکان مجـدد، تفـاوت معنـی داری دارند

۵. بحث و نتیجه گیری

نتایج نشان داد که میانگین رضایت از زندگی بـا توجـه بـه پاسـخ بصری ۳/۴۷ بود. میانگین ارزش رضایت از زندگی با توجه به پاسخ منطقی ۳/۵۱ است. نتایج نشان داد که میـانگین رضایت از زنـدگی عینی برابر با ۳/۶۷۷ و میانگین رضایت از زنـدگی ذهنـی برابـر بـا ۳/۶۶۹ است. نتایج تحلیل عاملی ۹ مولفه را برای کیفیت زندگی در منطقه مورد مطالعه شناسایی کرده است. این چهار عامل از جملـه توسعه فیزیکی، خدمات رفاهی، کیفیت مسکن، وضـعیت اقتصـادی، رفاه، مقاومت در برابر مسکن، بهداشت، مسکن راحـت و روابـط بـا شهرها و روستاهای همسایه حدود ۶۳ درصد از واریانس داده های اولیه را توضیح می دهد. نتایج تجزیه و تحلیل رگرسیون نشان داد که چهار عامل فیزیکی، اقتصـادی، روانشناختی و مسکن کـه تقریبـا ۵٪/۶۳ از داده های اولیه را توضیح می دهد. نتایج تجزیه و تحلیل رگرسـیون نشان داد که چهار عامـل جسـمانی، اقتصـادی، روانـی و مسکن ۹۰/۹۵ درصد واریانس کیفیت زندگی منطقی را توضیح مـی دهد. نتایج آزمون T ، آزمون‌های توکی و شفه نیز نشان دهنده اثر الگوهای اسکان مجدد بر تغییرات کیفیت زندگی و همچنین تفـاوت الگوهای اسکان مجدد و کیفیت زندگی است.

کلمات کلیدی: اسکان مجدد، کیفیت زندگی، سکونتگاه روستایی، ورزقان، ایران.

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