

## Original Research

## Spatial analysis of environmental and physical aspects of living in Lahijan City

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## ABSTRACT:

The low living standards in rural areas which results in rural migration to the big cities have caused numerous social, economic and environmental and physical problems in both rural areas and cities. For this reason, the researcher evaluated quality of life in rural areas of Lahijan city in this research, as two environmental and physical aspects. The present research is based on descriptive - analytic method and has practical purpose. The statistical population of research consisted of 1212 villages of Lahijan in three categories which we are large, medium and small. Number of samples selected was 385 individuals using standard Morgan table. Data collection was done using field and library research and statistical population was villages of Lahijan city. Evaluated indexes and indicators have been selected in two environmental and physical aspects based on research objectives and similar studies that have been done in Iran. Analysis of data obtained from questionnaire has been done using Friedman test and correlation coefficient test in SPSS software. Studies on the quality of life in Iran have changed in different aspects due to this urgency in recent years. Evaluation of these changes can show the amount of attention to this issue in domestic studies and understanding of the quality of life in development studies. The present research has tried to evaluate two environmental and physical aspects of quality of life in 12 rural settlements with the population of 3773. Results of the research indicated that there is a direct and statistically significant relation between physical and environmental aspects and quality of life at the alpha level of 0.05.

## Keywords:

Village, Quality of Life, Environmental aspect, Physical aspect, Lahijan City

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## INTRODUCTION

Quality of life is a multidimensional concept which is affected by actors such as time, place, and individual and social exchange and depends on the development of communities (Rezvani and Mansourian, 2007) and some believe it to be livability of an area and some others consider it as a measure for attractiveness and some have interpreted it as public welfare, social welfare, happiness and so on (Pour, 2011).

So far, there had been different approaches about method and extent of development. The dominant focus was on economic growth in the beginning and the statement of "more wealth, more happiness" was accepted as a principle. In the early 1990s, factors such as social cohesion and social capital entered the concept of development and finally, social welfare and quality of life were at the head of Development Goals with emphasis of the United Nations which leads to the reduction of poverty and environmental degradation and increasing longevity and overall health and quality of life (Ghaffari *et al.*, 2011).

Two sets of objective and subjective indicators were used to measure the quality of life (Omidi, 2011). The objective indicators of quality of life generally focuses on the social and economic variables but subjective indicators of quality of life focus on information obtained from personal reports of individuals about their own life experiences and are in fact considered as complementary to social and economic indicators (Rezvani *et al.*, 2008). Cummins (2000), considered two objective and subjective aspects in his definition of quality of life and states that seven important Giteras including material welfare, health, productivity, belonging, safety, the local community and emotional welfare could be used to calculate the composite indicator of quality of life. In fact, the area related to quality of life and its measurement may have never been as extensive as it is today.

This makes implementing policies to improve the

quality of rural life more complex and more important. There is a necessity of evaluation and analysis of different aspects of satisfaction of inhabitants of rural areas due to undeniable role of villages, in producing and national sustainable development, satisfaction of the inhabitants of rural areas especially villages of Lahijan city and enhancement of quality of life (Bartlett *et al.*, 2007). Villages should be evaluated in terms of quality of life due to the location of Lahijan on the east of Gilan as a tourism hub and as a tea producing area because each day a large number of tourists visit these areas and rural areas and low quality of rural environment can reduce the number of visitors, reduce income rural economy and lead to reluctance of villagers to live in the village. Therefore, increasing the quality of life of living environment and its evaluation will prevent youth migration and making many villages empty which has been considered as a problem and rural areas in the region will be stable. Ultimately, this research attempts to answer the main question of quality of life at the villages of Lahijan from environmental and physical aspects.

### Research hypotheses

- There is a significant relation between physical conditions and quality of life of villages of Lahijan city.
- There is a significant relation between environmental conditions and quality of life of villages of Lahijan city.

## MATERIALS AND METHODS

The main method in any scientific research is determined based on its objectives. Thus, the present research which is entitled spatial analysis of quality of life in Lahijan City with environmental experiment approach is based on descriptive- analytical method and field observations. Research data has been obtained through documentary sources and field studies and information related to defining problems, theoretical and conceptual framework and background of research and literature and geographic and demographic characteristics of the study area have been obtained using field studies and surveys.

Descriptive and inferential statistical methods such as Cronbach's alpha test and Spearman correlation coefficient have been used for data analysis. 12 villages with 3773 households have been selected from villages of the city with three plains, foothills and coastal levels and a total of 385 sets of questionnaires have been completed.

Indicators have been determined in environmental and physical aspects in order to evaluate the quality of life in rural areas at the villages of Lahijan. These aspects were measured in the form of items as explained below.

**RESULTS**

**The physical aspect**

For centuries, people inherently have sought to have a good life and have tried to improve their living conditions to maximize the utilization of their talent and abilities. Thus, the main problem has always been determination of good life and quality of life.

**Having newly built and high quality houses in village**

39 percent of people in rural areas of Lahijan have newly built houses, 26.5 percent of people in rural areas of Lahijan have somewhat newly built houses and 22.1 percent of people have somewhat suitable houses.

**Having enough light in houses**

20.6% of houses in rural areas of Lahijan have appropriate light, 27.8% have good light and 16.1% are quite bright.

**Having beautiful shape and form of houses in the village**

According to field studies, 36.1% of houses in rural areas of Lahijan have moderate level of beauty form, 32.5% of houses in rural areas have beautiful form and shape and 18.7% of individuals have quite beautiful houses.

**Using resistant and suitable materials in construction**

In Lahijan, 31.2% of houses are somewhat resistant, 33% of houses are quite resistant and 23.9% of houses have resistant materials in constructions.

**Separating houses form location of keeping livestock**

In Lahijan, 37.1% of households keep livestock and houses separated and 23.1% of the villages keep livestock and houses separated.

Results of studies related to the quality of life (Table 1) can help in policies, rating places, the development of management strategies and planning in the village and facilitate understanding and prioritization of social issues for planners and managers to enhance the quality of life of villagers. Findings of quality of life can be used in the understanding of previous political strategies and designing planning policies. In addition to these, studies of quality of life can help in the identification of problematic areas, causes of dissatisfaction, rural priorities in life and evaluation of effectiveness of the policies and strategies in this regard.

According to the result of Table 2 and 3, quality

**Table 1. Quality of life in physical aspect**

Sl. No	Parameters	Description	Completely agree	Agree	Somewhat Agree	Disagree	Completely disagree
1	Having newly built and high quality houses in village	Number	85	150	102	26	22
		Percent	22.1	39	26.5	6.8	5.7
2	Having enough light in houses	Number	118	139	107	15	6
		Percent	30.6	16.2	27.8	3.9	1.6
3	Having beautiful shape and form of houses in the village	Number	72	139	125	28	21
		Percent	18.7	36.1	32.5	7.3	5.4
4	Using resistant and suitable materials in construction	Number	92	127	120	22	24
		Percent	23.9	33	31.2	5.7	6.1
5	Separating houses form location of keeping livestock	Number	58	89	143	62	33
		Percent	15.1	23.1	37.1	16.1	8.6
6	Using roper and resistant material for houses	Number	92	127	120	22	24
		Percent	23.9	33	31.2	5.7	6.1

**Table 2. Friedman test mean scores of quality of residential environment (physical)**

Sl. No	Item	Average	Rank
1	We have new homes with good quality in our village	4.30	5
2	Our houses in this village have appropriate facilities (sanitary, heating, cooling)	4.46	4
3	Our residential units are without proper sanitation bathroom	7.03	1
4	Our homes have enough Skylights and lighting	3.68	7
5	Our houses are beautifully formed in this village	4.47	3
6	Proper and resistant material have been used in our homes	4.20	6
7	Place for keeping livestock is separated and far in the village	5.38	2

of residential environment and consent of villagers of and sloped lands.

Lahijan from physical aspect which can be considered to be an important and infrastructure indicator because quality of the construction of the new house features, form and quality have great impact on both quality and satisfaction with family life of rural residents (objective) and on their family life satisfaction (subjective). Villages of this city have good residential houses due to being near Lahijan and Rudboneh cities and nearby cities such as Astaneh, Langerud, Siahkal and availability of construction materials and ease of transport. According to the report of General Administration of gas of province in August 2016, all of the villages of Lahijan have gas and do not have heating and cooling problems. They have good conditions in terms of bathroom, baths, light and even fight against harmful organisms and according to objective observations, except for mountainous villages, either there is no livestock in plains and coastal villages or if there is, there is a distance of at least one hundred meters and more between place of keeping livestock and rural living place.

#### **Environmental aspect**

Environmental quality in this research refers more to potentials of natural environment at that area itself. In fact, environmental quality has been evaluated with items such as rural housing placement in range of floods, soil erosion and destruction of agricultural land

**Table 3. Friedman test results**

Sl. No	Test Statistics	
1	N	321
2	Chi-square	500.722
3	df	8
4	Asymp. Sig.	.000.
5	a. Friedman Test	

#### **Having landfill sites in the village and existence of multiple problems**

Based on the field studies, 39.6% of the villagers have stated that there are no landfill sites in the village. 19.7% of people have stated that there are many landfill sites in the village and there is a landfill site for 10% of villagers.

#### **Lack of hygienic methods of collecting and sewage disposal systems**

Collecting animal waste is done with unhygienic practices in some villages. Animal waste piling up in the houses and streets of the village creates an ugly sight with bad smell that provides a room for the growth and development of insects such as flies. On the other hand, groundwater and surface water pollution, especially in the event of rainfall and flood are among the consequences of unhygienic collection and storage of animal waste. Family members, especially children who exposed to animal waste in streets and homes (in case of having houses near places of keeping livestock) are at risk of infectious, parasitic and skin diseases. Waste is collected by Village Council one to two times a week in plain villages and the cost is paid by residents but the problem of collecting wastes in mountain villages is significant and wastes collection are not done for various reasons. 29.1 percent of people in the villages of Lahijan city have stated that there is no hygienic method of waste disposal in the village. 26.3% of people have stated that there is hygienic method of waste disposal in the village to some extent. 18.7% of people have stated that there is hygienic method for disposal of wastewater.

**Table 4. Environmental aspect of quality of life**

S. No	Description	Description	Completely agree	Agree	Somewhat Agree	Disagree	Completely disagree
1	Having landfill sites in the village and existence of multiple problems	Number	74	92	97	82	40
		Percent	19.2	23.9	24.9	21.3	10.4
2	Lack of hygienic methods of collecting and sewage disposal systems	Number	112	101	72	61	39
		Percent	29.1	26.3	18.7	15.8	10.1
3	Construction of houses on sloped and dangerous lands	Number	9	29	77	162	108
		Percent	2.3	7.5	20	42.1	28.1
4	Construction of houses in range of floods and rivers	Number	13	28	66	154	124
		Percent	3.4	7.3	17.1	40	32.2
5	Large coalition (losses) and contamination of water sources in the village	Number	44	79	139	77	46
		Percent	11.4	20.5	36.1	20	11.9

**Construction of houses on sloped and dangerous lands** village to some extent. 20.5% of villagers suffer from Villages of Lahijan are on plains, 42.1% of water pollution and 20% of the villagers have stated that people have stated that their houses are safe and are not on there is no sources of water pollution in their village and sloped and dangerous lands and 28.1% of people have 11.9% of villagers do not face water pollution at all. stated that their houses are safe places and 20% have houses with moderate safety.

**Construction of houses in the range of floods and rivers**

Some houses at some villages of Lahijan face floods. 40% of rural people have said that their houses face floods, 32.2% of rural people have said that their houses do not face floods. 17.1% of rural people have said that their houses somewhat face floods.

**Large coalition (losses) and contamination of water sources in the village**

There is water pollution at some areas of villages of Lahijan city. Based on the results, 36.1% of the villagers have stated that there is water pollution in their

village to some extent. 20.5% of villagers suffer from water pollution and 20% of the villagers have stated that there is no sources of water pollution in their village and 11.9% of villagers do not face water pollution at all.

Based on the Table 4, most of the villages of Lahijan city are in plains and coastal areas and do not have environmental problems which are sloped lands, range of flood and wasting water which includes 170 villages. Only 16 villages which are in the mountainous area have different status but there is a general concern about sanitary methods for garbage collection and disposal place. Although, a significant number of village administrations have tried to insert a metal housing supply and garbage collection in rural areas and transferring those by Nissan car has partly met their concerns (Table 5 and 6).

**Table 5. Friedman test mean scores of Environmental Quality**

SL. No	Categories	Average	Rank
1	There is no place of landfill in our village and residents are facing several problems	3.80	4
2	There is no hygienic methods of collection and sewage disposal network in our vil- lage and residents are facing several problems	3.34	5
3	Our houses are built on slopes and dangerous lands	5.98	1
4	Our houses are built near rivers and range of floods	5.85	2
5	Wasting (loss) and contamination of water resources is high in our village	3.98	3

**Table 6. Friedman test results**

SL. No	Test Statistics	
1	N	385
2	Chi-square	511.147
3	df	7
4	Asymp. Sig.	.000
5	a. Friedman Test	

#### Evaluating the relation between physical condition and quality of life in the villages of Lahijan

As it can be observed in the Table 7, there is significant relation between physical condition and quality of life based on Spearman test at the level of one percent. The coefficient of this test is 0.683 which shows a direct relation between the quality of the physical environment and quality of life.

#### Evaluating the relation between environmental condition and quality of life in the villages of Lahijan

As it can be observed in the Table 8, there is no place for waste disposal in more than 70 villages of Lahijan. The sewage collection network has problems in more than 70 percent of villages and destruction of agricultural lands and gardens can also be observed in more than 70 percent of villages. Thus, it can be observed that villagers are dissatisfied with their natural environment. Thus, there is a significant relation between the natural environment and quality of life. As it can be seen in Table 8, there is a significant relation between environmental quality and quality of life based on Spearman test at the level of one percent. The coefficient of this test is 0.516. This is a direct relation with increased quality of the environment that increases the quality of life.

This research has studied nine theoretical approaches associated with quality of life, which was derived from the published literature as theoretical support and the basis of the idea. Given that the objective of this study is to measure and assess quality of life of a place, capabilities approach has been used as a backing theory but it does not cover the whole concept of quality of life and structuralism approaches have also been used to address this deficiency. The present research has been done with this attitude to evaluate quality of life in rural areas from view of sample population, which was examined 67 items in the form of four social dimensions of economic, environmental, and physical, and institutions and the obtained results indicated that this city has relatively good situation in this regard.

#### DISCUSSION

Given that understanding, measuring and improving the quality of life are of the main objectives of researchers, planners and governments in recent decades, this field of science and research is of interest to a large number of different fields including geography. The results of this study indicate that the condition of villages under study has been generally appropriate in terms of quality of life, and most of components represent good condition that can be due to several factors such as having a desired service level, sources of income in the area, and the feeling of public safety.

The component of physical quality, with a total average rating of 9.34, has achieved a good rating; in fact, it can be due to having adequate land, exposure to

**Table 7. The relationship between Physical quality and quality of life**

Correlations				
		Physical quality		Quality of Life
Spearman's rho	Physical quality	Correlation Coefficient	1.000	.683**
		Sig. (2-tailed)	.	.000
		N	350	350
	Quality of Life	Correlation Coefficient	.683**	1.000
		Sig. (2-tailed)	.000	.
		N	350	380

\*\* . Correlation is significant at the 0. 01 level (2-tailed).

**Table 8. The relationship between environmental quality and quality of life**

		Correlations		
			Environmental quality	Quality of Life
Spearman's rho	Environmental quality	Correlation Coefficient	1.000	.550**
		Sig. (2-tailed)	.	.000
		N	347	347
	Quality of Life	Correlation Coefficient	.550**	1.000
		Sig. (2-tailed)	.000	.
		N	347	380

\*\* . Correlation is significant at the 0. 01 level (2-tailed)

skylight from the four sides, suitable materials, especially in recent decades, issuance of building permit by village municipalities approved by the Engineering Council, nature, and beautiful landscape. The data of this component are consistent with the findings of Rezvani *et al.* (2008) and Omidi (2011) based on the reciprocal impact of space and culture on the quality of life and residential variable. And due attention in recent years, the assessment is above average.

Component of environmental quality with an average rating of 9.17 indicates that environmental quality is slightly lower than the previous component, because all the villages, even the centers of rural districts have no sewage disposal systems. Moreover, there is no garbage and animal waste collection sites, except in a small number of villages. Recently, the rural managers of big villages put large metal garbage collection boxes in a few parts of each village. They evacuate the boxes twice a week which has led to public satisfaction. The findings of this component are consistent with the findings of Ghafari (2012) on strengthening and preserving the environment and the natural environment in order to improve the quality of life.

**CONCLUSION**

We can theoretically conclude based on the studies carried out that quality of life is basically a complex and multidimensional concept affected by the time, place, individual and social values which has objective and subjective aspects. Thus, providing a comprehensive definition for it is not easy because it

depends on both subjective or qualitative indicators and objective or quantitative indicators. Thus, it is difficult to carry out all studies on the quality of life under two headings of objective and subjective indicators. Consensus of scholars believed that quality of life can be evaluated in five physical, social, economic, psychological and environmental aspects and this research has tried to consider a combination of these five aspects with an emphasis on environmental and physical aspects and eventually analyze a combination of objective and subjective indicators based on the literature available. Subjective indicators emphasized more on attitudes and objective indicators emphasized more on realities.

Analysis of a view of inhabitants of villages using Spearman test showed that quality of infrastructure, environmental quality, physical quality determined by the researchers have significant relation. Descriptive findings showed that environmental quality in studied rural areas is weak and this area has poor environmental quality and it is necessary to be addressed with proper planning.

**SUGGESTIONS**

The following suggestions are offered based on research findings.

- Emphasis on education for rural people in the field to increase job skills in various sectors, especially agriculture through the ministry of Construction Jihad, Agriculture and Education.
- Strengthening health facilities and easy access to this center by the state.

- Strengthening of cooperative and fuels stores with public participation and technical and financial support from the government through relevant organizations.
- Prevent contamination of soil and water resources and efforts to strengthen and create green spaces in villages through the rural cooperative, be priority programs of Village Council.

## REFERENCES

**Bartlett J, Gebremet T and Schaffer P. (2010).** Analysis of Quality Rural Development.

**Cummins J. (2000).** Language, Power and Pedgogy: Bilingual Children in the Crossfire. Clevedon: Multilingual Matters.

**Ghaffari, Gholamreza and Omidi Reza. (2011).** Quality of life in development programs of Iran. *Quarterly Scientific – Research of Social Welfare*, 8: 34-35.

**Jomeh Pour, Mahmoud and Roshnoodi Behzad. (2011).** Examines the role of small cities in developing, *Journal of Geography and Regional Development*, 20.

**Rezvani and Mansourian. (2007).** Measure quality of life: study the concepts, indicators, models and provide suggested models for rural areas. *Village and Development Journal*, 11(3).

**Rezvani Mohammad Reza, Ali Reza Shakiba and Hossein Mansoorian. (2008).** Quality of life in rural areas. *Social Welfare Quarterly*, 8:30-31.

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