

Evaluation of the role of rural housing reconstruction credits in resident life quality improvement. Case Study: Sojasrod County-Khodabande Township

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Abstract

Rural houses in most developing countries are as the symbol of the sovereignty of physical structures with a very high risk that have low resistance against seismic forces generated by earthquakes, so that in the opinion of some experts, more than 95 percent of the death toll caused by the earthquake are caused by the house destruction. Therefore, paying attention to the reconstructing them against such disasters is of great importance to achieve optimal and sustainable settlements. This study is done to evaluate the role of rural housing retrofitting in the last decade and its impact on the residents' life quality indices in Sojasrood County (Khodabande Township- Zanjan Province). This research is descriptive analytic and the data were collected through field studies and questionnaires. For this purpose from 3,500 families residing in the county, 170 households were selected as the sample by using modified formula Cochran, and the questionnaires were distributed randomly in selected villages. The reliability of variables was calculated 0.702 by using Cronbach's alpha of 702/0. For data analysis, statistical methods such as cluster analysis, chi-square test (χ^2), multiple regression analysis, variance analysis and correlation coefficient were used. The research results show a significant difference in quality of life indices in two periods before and after houses retrofitting and also a direct and high relationship between quality of life indices and housing retrofitting. Moreover, among the studied indicators in the context of rural housing retrofitting, the indices of using resistant materials in house construction and using building codes of Housing Foundation, respectively, have the highest impact on the quality of life in rural households and the index of housing designing based on household needs has the lowest impact on it.

Keywords: Rural housing, physical development, housing reconstruction, life quality, Khodabande Township

Introduction

Housing as the smallest form of physical embodiment of the rural settlement and as the major structural part of it, plays an essential role in the formation of spatial- physical structure and identity of rural architecture. From the viewpoint of sustainable development, having affordable housing is recognized as one of the basic needs of every individual and family to live with human dignity; and it is a key indicator in relation with the quality of life of residents.

The key issue with regard to the consequences of the earthquake in rural habitations is the unsafely of physical structures. The investigation of scholar studies indicates that more than 95 percent of death tolls in earthquakes disasters are the result of the destruction of the houses and other physical structures. That is related to its vulnerability. With respect to the instability in geographical conditions in relation to earthquake natural disaster in Iran, factors such as Little regard to the using technical standards in the construction and principles of building code, use of traditional non-resistant building materials, Heavy weight and maximum weight imbalance, economic savings from the owners, Little technical information among the local architecture, etc. have led to greater vulnerability of rural settlements in earthquake disaster. In addition, the location of non-compliance, development of settlements in the vicinity of the fault, poor

supervision of construction, etc. could increase the adverse effects of a traumatic event can lead to earthquakes. On the other hand, due to the extremely high cost-resistant housing, a number of studies in different countries reflects the fact that in most cases the protective measures as in a "and luxury of the luxury goods" are mentioned; And why are willing to pay more for their housing strengthening, The problem sometimes is true even among people with higher education.

Thus, from the perspective of sustainable development, the construction industry due to the wide participation in the quality of life of its residents, should the welfare of individuals in "good place" for life and the environment. So that, if this process continued gradual changes in economic structures and social - in order to create a favorable settlement should include housing retrofit combined with better land use planning in risky areas is; Fulfillment of the conditions in the rural areas, overall contribution to the people, local authorities and government agencies with the aim of improving living conditions. The aim of this study is to investigate the role of housing retrofitting provided housing loans in rural areas in reducing its vulnerability to earthquake disasters; and it tries to answer this question: The present study attempts to 2 answers:

- 1- Does a rural house retrofitting lead to improve life quality indexes?
- 2- Witch retrofitting indexes have had the highest impact on life quality indexes?

Methodology

Methodology used was descriptive-analytical research and Data collection method used in the study was library and field method (questionnaires and interviews). The spatial scope of this study villages located in Sojasrod County (Khodabandeh Township- Zanjan Province) and Research done in 1392. From the 30 villages in Sojasrod County, 15 villages with according to the geographic- topographical zoning, number of populate and approximate distance from faults have been selected. The number of households living in these villages was 3500; and using the modified sampling Cochran, 170 households were selected as a sample. Questionnaire to collect data samples were distributed randomly in the sample Villages. For data analysis, methods of descriptive statistics and statistics tests such as (cluster analysis, chi-square homogeneity test, multiple regression analysis and correlation coefficient in SPSS software) were used.

Discussion and Conclusion

The Results of Data Analyzes Showed that

A: The Results of Analyzing the Role of Rural Housing Retrofitting in the Improving the Indexes of Life Quality from the Viewpoint of the Sample Represent a Meaningful Difference in 2 Periods of Before and After Applying Mentioned Procedures. So that the Use of these Procedures Besides Giving Needed Credits Caused that the Owners, by Using the Consolation of Housing Foundation Engineers Without Paying Cost and Supplying Materials, Use their Regulatory Services to Improve their Own Building Quality. On the other hand, it can be noted that the Improvement of Rural Housing Quality had led to the Increasing of its Financial Value and could have helped the Improving of its Residents' Social Class and Relationship.

B: The Results of Findings Related to Cluster Analysis of Retrofitting and Indexes Dimensions of Life Quality Index (in 3 Groups of Low, Medium and High) by Using Crosstab Tables. Analysis Indicate that there are Pearson Correlation Coefficient of 0.979 (High) and Meaningfulness at the Level of %99 these Results Show that there is a Straight Relation between Housing Retrofitting Index and Life Quality. On the other hand, the Results of Analyzing Non- Parametric Correlation between Life Quality Index and Housing Retrofitting Index from the Viewpoint of Respondents Indicated a Positive Correlation. So that the Physical Quality had the most and Economic Quality had Least Correlation.

C: The Results of Multivariate Regression Analysis Between Life Quality Index (Depended Variable) and Rural Housing Retrofitting Dimension (Independent Variable Indicated) that Life Quality Indexes have been Directly Affected Using Retrofitting Principals (the Use of Materials, Building Codes, the Use of High Quality Materials, Fitting the House Design for

Family Needs, Use of Engineers' Supervision and their Local Representative and Rate of Satisfaction of Building Resistance) so that According to Determination Coefficient of Regression Equation this Relation was 0.612. on the other hand, the Amounts of Standardized Coefficients (β) Showed that Among 5 Rural Housing Retrofitting Indexes the Indexes of Using High Quality Materials in House Building and Applying the Expected Building Codes of Housing Foundation with the Coefficient's of 0.456 and 0.326 had the most Effect and House Design Based on Family Needs with the Coefficient of 0.023 had the Least Effect on the Life Quality of Rural Families.