

## Research Paper

## Evaluating the Objective and Subjective Effects of Annexation of Nourabad Villages to the City in Lorestan Province, Iran: A Case Study

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**ABSTRACT**

Rapid urban population growth of Iran in recent decades, has expanded physical boundaries of cities and annexation of rural settlements around the cities within the formal boundaries of cities. The annexation and integration of surrounding villages in the city, according to the spatial and temporal conditions has unique features and effects. Therefore, this study aimed to evaluate the social, economic, environmental, and spatial effects of annexation of four villages of Kazem Abad, Karim Abad, Khalifa, and Khani Abad to Nourabad City in Lorestan Province. To achieve the objectives of this study we used the results of the general census of population and housing, satellite images, and data obtained from household surveys using a researcher-made questionnaire. The results show that the adjunction of villages to cities is a complex, multi-dimensional and multi-stage process, which according to spatial and temporal conditions need specific measures. Evaluating the subjective effects of annexation show that in most indicators, the conditions of local residents have improved after the annexation. Among the components of factor analysis, four components of physical condition of village, the level of production and motivation in agriculture and livestock activities, access to facilities and infrastructures are the most important predictors for the level of satisfaction from annexation of village to city.

**Key words:**

Annexation village to city, Objective and subjective effects, Nourabad

**Extended Abstract****1. Introduction**

**D**uring recent decades, Nourabad City in Lorestan Province, like many cities in Iran, has experienced a rapid growth in population from 2253 people in 1966 to 71000 in 2016. The annual growth rate in population of this city in the last 50 years has been 7.15%. The important factors for this issue are high increase in natural population growth rate, rural-urban immigrations, and junction of rural settlements to

formal boundaries of the city. Despite decreasing growth in the population of Nourabad in recent years, its physical growth and sprawling to the countryside villages still continues. The uncontrolled physical growth of Nourabad and its nearby villages in the last decade is mainly due to lack of a centralized management in areas that are near the cities, population inflation of the countryside villages, sprawling of the governmental organizations to the agricultural lands near the cities, and land speculation. In this regard, the present study aimed to examine the subjective and objective outcomes of annexation of rural areas near Nourabad City in the last decade.

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## 2. Methodology

Our research method was descriptive and analytical. We used population data, satellite images, and researcher-made questionnaire to analyze effects and outcomes of annexing villages to the city both objectively and subjectively. Population data were provided by reports from general population and housing census. Satellite images (provided by Google Earth) were used to analyze objective changes with respect to population. Subjective effects caused by joining village to the city were assessed by a researcher-made questionnaire comprising 37 questions in different subjects, including social, economic, environmental, and physical ones. To gather subjective data, 200 subjects were randomly chosen among inhabitants of four villages and the effects of joining villages to the city were studied using subjective indicators in different aspects in their lives.

The questionnaire mainly comprised close-ended questions with answers scored by 5-point Likert-type scale (5=much better, 1=much worse). Afterwards questions were asked about personal and family qualifications. To evaluate internal reliability, the content validity was used to increase reliability of the questionnaire. In this method, in addition to receiving scholars and experts' opinions, the questionnaire was tested using criteria in related research. Then the designed questionnaire, in two stages, primarily and finally was filled out. By checking received answers from 40 questionnaires and doing suitable statistical calculations, the final questionnaire was designed. For final evaluation, the Cronbach  $\alpha$  tool was used that was equal to 0.833.

The descriptive statistics were used to summarize the results of the measurements. Independent sample t test was used for the comparison of the averages, factor analysis was used to recognize the effects of the subjective dimensions from joining villages to city, and finally regression analysis for creating causal model to show the effects of joining villages to city. All statistical analyses were done by SPSS. In addition, Google Earth was used for preparing satellite images; and ArcGIS to handle images and observing the changes in the structure of the studied villages. Our studied region included Nourabad area in Delfan Township, Lorestan Province. This area comprised four villages; Khalife-abad, Karamabad, Kazemabad, and Cheshmakhany. These four villages joined to Nourabad area in recent decade.

## 3. Results

To analyze the social, economic, and environmental effects of joining villages to cities, different views of local residents were evaluated. In other words, the local

residents were asked to evaluate the effects of joining their living environment to Nourabad City with regard to economic, social, and environmental aspects in 5-point Likert-type scale. The results show that the highest average values belonged to access to drinkable water through pipes, gas and electricity availability, quality of the construction of the buildings, and feeling security. On the other hand, the lowest average values belonged to employment, especially for the youth and women, tendency toward raising domesticated animals and poultry, dairy production and motivation for activity in agricultural sector.

## 4. Discussion

The findings generally suggest that the satisfaction was high out of joining villages to cities, and according to local residential opinions positive effects were more than negative ones in this process. Some positive aspects were improvement in accessing to public services, infrastructural installations, and development in physical qualification of the village. However, we should consider its negative effects as well. For example, reduction in raising domesticated animals, and agricultural production sector, less motivation for working in these two mentioned sectors, vast changes in landscapes from agricultural to residential and commercial, were some of the most important negative effects of joining villages to city in the studied area. A total of 79 hectare agricultural lands out of these four studied villages had changed to residential areas only in recent decade. Results of this study partly confirms the results of [Firooznia and colleagues \(2012\)](#), [Ahmadian and Ghasemi \(2013\)](#), [Asghari Zamani and colleagues \(2013\)](#) studies.

## 5. Conclusion

Findings of the current study show that the process of joining villages to cities is a multi-dimensional process; factor analysis recognizes 8 subjective dimensions coming out of this process. Among them, physical condition of the village, production rate and motivation for activity in raising domesticated animals and working in agricultural sectors, accessing to facilities and infrastructural installations were the most important satisfying factors for joining villages to the cities.