

A Comparative Analysis of Rural Development of Oshnavieh Using Factor Analysis: Numerical Taxonomy and AHP Analysis

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Extended Abstract

1. Introduction

Rural development has a multi-disciplinary nature with the intersection of Agriculture, social, behavioral and management sciences. In other words, rural development is a process with the ultimate goal of improving the standards of life for people of rural regions. The selection of appropriate statistical methods for rural development in each region needs to compare the different methods and select methods and models appropriate for the reality of the present situation.

2. Theoretical Framework

So far there is no universally accepted definition of rural development. This term is used differently in different ways in many fields. As a concept, if development involves improving the quality of life of rural people, as a phenomenon, it can be under the influence of physical factors, technological, economic, and socio-cultural and institutional factors. Thus, rural development has been investigated from different points of view, and each of the experts has used a different method and approaches to rural development. These methods so far have been used inside and outside Iran in many studies. They include factor analysis, numerical taxonomy and AHP analysis. The scientific experts in different fields have investigated many different issues using these models. The result and outcome of all these models are to achieve unity through diversity and to maximize unity and homogeneity within the group's heterogeneity and different geographical groups.

3. Method

This is an applied research using descriptive-analytical method. The method for data collection is library and field methods have been used. For this purpose, various indicators including economic, infrastructure, social, health and cultural development indicators were extracted from the Statistical Yearbook of culture settlements. Then, a matrix of data with 35 rows of data (villages) and 22 columns (variables) was developed. In this study, 22 variables related to the index level of the infrastructure (water networks, electricity, gas, mail communications, paved road, distance to the main roads, implementation of the plans, home health), level of income (structure of employment in rural areas, the average annual income, number of households covered by the Relief and Welfare Organization, access to

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public and private transport, the level of household expenditure per year), level of social, cultural and political factors (population, number of households, population literate, mosque and Imam Jamaat, public library, elementary school, middle school, high school) were extracted from Yearbook 2011 under the title "culture of villages". This information was limited to 35 villages with a population of more than 100 people located in Oshnavieh plains. To ensure the reliability of the data, the collected data were controlled in terms of quantity and quality, and the statistical errors were corrected using data from the nearest rural health center.

4. Findings and discussion

Other studies and our inquiries showed that rural development is a complex process aimed at improving the standard of living of people in rural areas. For this purpose, you must first identify economic, social, cultural, and infrastructural sectors. In this study, the rate facilities in lowland villages with more than 100 people in Oshnavieh was investigated based on the economic, infrastructural, social, cultural and health indicators using the descriptive and comparative method. Thus, studies of factor analysis showed that the villages located in the first category including Amirabad, Tachin Abad and Nalivan had the most facilities and harmony, and villages located on the fourth category including 18 villages (51 percent of total villages) had the least facilities. Based on the taxonomy analysis, Amirabad, Tachin Abad and Nalivan respectively had coefficients (0.382, 0.379, and 0.291) had the most facilities and harmony, and the villages of Palieh, Doab, and Sardarreh had the least facilities. Furthermore, using AHP, it was also found that villages Montpellier, Doab, and Sardarreh had the least facilities.

5. Conclusion and Suggestions

The results of the comparative analysis showed that all three methods put the three mentioned villages in the first category. However, regarding the villages of the other categories, there were a few differences. Factor analysis had a better presentation of the truth in similar villages, and it was more precise compared to other villages. Accordingly, for planning and managing, the development of rural areas was proposed. Thus, according to the findings, the first research hypothesis was rejected. To prioritize the development of rural areas for the first hypothesis, the author suggests that to reduce rural deprivation, the results of the factor analysis method can be used as a standard for planners and policy makers. On the other hand, given that 8 villages near the city (23% of total villages) were among those with least amenities, the second hypothesis was not confirmed. So, the researcher suggests the second hypothesis to remove barriers. It should be taken into account for the formulation of programs and documents in the development of the city, especially the development of rural plains of Oshnavieh and distribution of resources and allocation of employment. It should be used as an instrument of government in providing infrastructure and investment for managers in rural, water resources and soil development.

Key words: Rural development, Factor analysis, Numerical taxonomy, Oshnavieh plain

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