# Leveling and Spatial Grouping of Tourism Components Affecting the Sustainability of Rural Areas (Case Study: Sample Tourism Rural of Astane City)

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### **Abstract**

Today, tourism is mentioned as one of the effective factors in the sustainability of rural areas. Because the prosperity of tourism causes the social, economic, physical and environmental development of the village and causes employment and prevents the exit of labor. For this purpose, in this study, based on the effective components of tourism in the sustainability of rural areas, 12 sample tourism villages in Astana city have been classified and grouped. In this regard, 12 questionnaires in the form of 17 social, economic, physical and environmental items were presented to the villagers. The reliability of the questionnaire based on Cronbach's alpha test was equal to 0.643 (average) and the validity of the items was confirmed by experts. Hierarchical analysis (AHP) method was used to determine the weight of items and Vickor model (Q) was used to level tourist villages. Cluster analysis (CL) and baseline component analysis (PCA) were also used for spatial grouping of villages. The results showed that Dastak and Allah Vajeh Sar villages in the coastal part, Perkapasht Yavarzadeh village in the central part and Gisom and Kateh Shast Abadan villages have a value of Q equal to zero and have better conditions than other villages. Also, cluster analysis of tourism components divided villages into 3 groups and analysis of baseline components into 5 groups. Spatial analysis of groups in the city shows the lack of uniform development of components in the villages of this area. First, these differences are due to the tourism capabilities of the villages and then the lack of comprehensive spatial planning at different levels, including national, regional and local.

**INTRODUCTION:** Tourism is considered as an efficient tool for economic and social reconstruction and development of rural areas. In such a way that in order to solve the economic and social challenges of marginal rural areas or villages that face the reduction of traditional agricultural activities, tourism should be the focus of rural development planners. In addition to this, the existing capabilities of tourism and the knowledge of the impact of these capabilities in the development of rural tourism are very important for the sustainability of rural areas. In this research, tourism sample villages have been ranked and grouped based on social, economic, physical and biological/environmental components from the spatial dimension in order to correctly understand their behavior in the studied space.

**METHODOLOGY:** In this research, the leveling and grouping of tourism components effective in the sustainability of rural areas of Astana Ashrafieh has been investigated. Data collection was done in the form of 12 questionnaires at the level of sample tourism villages in

the city. For this purpose, 17 items were presented to the villagers in the form of social, economic, physical and environmental components. The reliability of the questions using Cronbach's alpha test was equal to 0.643 and it shows that the reliability of the items is moderate. Also, the validity of the questions was confirmed by experts. In this research, Vikor (Q) method was used to stratify villages, as well as cluster analysis and principal component analysis for grouping sample tourism villages based on the questions of social, economic, physical and environmental components with the Ward's method.

**RESULTS:** The results of Vikor (Q) model showed that the villages of Parkaposht Yavarzadeh, Lele Vei Sar, Gisom, Kate Shast Abadan, Dastak, Temchal, Anbarsar, Mohsen Abad Payn, Nazok Sara, Nyako, Tejn Goke and Safra Basteh respectively with Q value equal to 0, 0, 0, 0, 0.1128, 0.6704, 0.7084, 0.8391, 0.8561, 0.8664, 0.9354 and 1 are in the first to twelfth order. For a proper spatial analysis of the coordination of this index in the studied villages, the results of the cluster analysis method showed that the studied villages are in three groups Cl1 (Parkaposht Yavarzadeh, Dastak and Lele Vejeh Sar villages), Cl2 (Gisom, Temchal and Anbarsar villages) and Cl3 (the villages of Kate Shast Abadan, Nazok Sara, Safra Basteh, Mohsen-Abad Bayan, Nyako and Tajen Goke) can be classified. The grouping of the same villages with the method of principal components analysis places the villages in 5 groups, so that the first to fifth components explain 26.463, 16.021, 16, 13.665, and 12.378 of data variance respectively. In total, these five components explained 84.827% of the data variance. As a result, the first to fifth components include 5, 2, 1, 2 and 2 respectively. Therefore, it is obvious to identify the cluster and scattered pattern that shows the non-random impact of social, economic, physical and biological/environmental factors in the villages of a certain area of the city.

**DISCUSSION AND CONCLUSION:** In general, the spatial analysis of the groups in the County shows the lack of uniform development of the effective components of tourism in the studied villages. As a result, the uncoordinated development of tourism causes the creation of spatial clusters of tourism, which in case of spatial continuity, we will face the continuous growth and strengthening of tourism components in some villages and its lack of growth or weakness in other villages. This importance is quite clear in the tourism villages of Astana County, and these differences, in addition to the existing tourism capabilities in the villages, are due to the issue of not paying attention to comprehensive spatial planning at different levels, including national, regional and local. Therefore, paying attention to tourism in the direction of sustainable rural development can guarantee the all-round development of villages. In other words, sustainable tourism in rural areas is the result of the multifaceted performance of the aforementioned components, which the continuation of tourism development programs can increase the employment and income generation of rural people, reduce immigration, balanced physical development and clean environment. This implies the government's integrated and long-term policy and the government's support to the villagers through the granting of employment loans in line with the development of tourism and the education of the villagers, the development of infrastructure, etc. Because the comprehensive realization of the above components will guarantee the stability of rural areas.

Keywords: Leveling, Grouping, Vicor (Q), Cluster Analysis (CL), Astana County.

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