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The thesis submitted For The Degree Of Master Of Science  
(in The Field Of Geography and Rural Planning)

**The effects of 120-day winds and dust storms on  
livability of Rural Settlements**  
**(Case Study: Hirmand County)**

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## **Abstract**

Among the local winds of Iran, the 120-day winds of Sistan have a special reputation, which blow in the eastern part of Iran during a certain period of the year, and since the sediments in the region are fine-grained, these particles move with the wind. Therefore, it provides a very suitable platform for dust and sand storms. Its risks and consequences cause environmental damage, large costs in the individual to transnational dimension, social unrest and the failure of the physical structures of the settlements. Today, viability, as one of the effective parameters in the risk management process, is a community-oriented approach in order to improve the preparedness of rural communities against the instabilities caused by hazards and with the aim of making rural settlements more livable. The purpose of this research is to investigate the effects of 120-day winds and dust storms on the livability of villages in Hirmand city. The statistical population of this research was the rural households of Hirmand city, and also based on the Cochran formula and the sample size correction formula for the households, 351 questionnaires were considered. Excel, ArcGIS, SPSS software, Vicor model, and Friedman's tests, step-by-step regression, paired t-test, and Swara model were used to analyze data. The results show that in the villages of Hirmand city, we are facing many negative effects of 120-day winds and dust storms on the livability of rural settlements. Based on the analytical findings of the research, the effects of 120-day winds and dust storms on the livability of rural settlements in Hirmand city are more than average (3.)

**Keywords:** Livability, 120-day winds effects, Dust storms, Rural Settlements, Hirmand County