



University of Zabol
Graduate school
Faculty of Literature and Human Science
Department of Geography

**Thesis for the degree of Master of Science (MSc)
Field of geography and rural planning**

Title

**Analysis of the role of wind energy in the Sustainable development of villages
Sistan**

Supervisor:

Dr. Hamid Heidari Mokarar

Advisor:

Dr. Sadegh Asghari Lefmjani

By:

Mohammad Ali Bondehi

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Abstract

Today, Renewable energies adapt well to local conditions and are increasingly considered as a promising opportunity for the sustainable development of rural areas. In this regard, the current research has been done with the aim of analyzing the role of wind energy in the sustainable development of Sistan villages. In this research, the necessity of using renewable energies such as wind energy has been investigated and evaluated, which will lead to the development and improvement of villages in the country and will solve the employment problem to some extent and prevent the migration of villagers to cities. The research is applied in terms of research purpose, descriptive and analytical in terms of research plan. The statistical community of this research consists of experts in the field of energy and rural development planning and university professors. In order to perform the required analysis, SPSS software, fuzzy analysis and Grounded Theory are used. The results of the t-test showed that there was a significant and positive relationship between the dimensions of sustainability (economic, social and environmental) at a significance level of less than 0.05. Based on the results of Friedman's test, the economic dimension with a value of 2.64 has the highest and the environmental dimension with a value of 1.00 has the lowest impact of wind energy. Also, the results of the fuzzy Aras model showed that the economic dimension with the obtained weight of 0.455 is in the priority of the highest degree of influence of wind energy. Further, the results showed that there is a significant difference between the villages in terms of the ability to exploit wind energy So that the village of Mil Nader has received the most impact. Finally, in the qualitative part of the research, from the conducted interviews, a set of effective drivers in the optimal utilization of wind energy in the direction of sustainable development of the villages of Sistan in the form of categories such as: (efficient and capable management, decentralized approach (bottom-up) In rural areas, compilation of the ideal vision of rural areas with emphasis on wind energy, strengthening of participation) was extracted.

Key words: Renewable energy, Wind energy, Sustainable rural development, Sistan.