

## Abstract

Graveyards in Iran have long been one of the most important urban parts, since their uses have not only had a direct relationship with urban planning rules but they have also been under the influence of religious beliefs and customs of people, so organizing and locating them also own certain sensitivities. In terms of the structural situation, the current cemeteries of Pars Abad city are not in good conditions. On the other hand, they lack a suitable burial capacity to meet the new demands of the urban dead. Therefore, this study first aims to review and strengthen the position of these graveyards to survive them as a cultural and value element. In the second step, it has been attempted to optimize the sites around the city to build a new cemetery using Boolean logic and Fuzzy Logic in the form of GIS. In order to identify the most fundamental factors in determining the appropriate place for the urban cemeteries, the role and affectability of each of the above- mentioned factors in the site selection was determined. Then, using the fuzzy membership functions (Gaussian, large and linear), different maps were prepared based on the nature and role of these factors in site selection. Next, through designing the inference network and taking advantage of the Fuzzy Logic model and its operators (Prod, Sum, and gammas of 0.7, 0.8, and 0.9), the data combination was performed non- linearly. Ultimately, the most suitable sites obtained by the inference network were compared according to the degrees of membership and their distance to the defined boundaries. The results show deep differences between facilities and the desirable status quo site selection of the graveyards. In the end, several measures aimed at restoring the long-standing role of the urban graveyards in the structure of civil life and its attitudes' changes towards its executive and research are suggested.

**Keywords:** Arc GIS, Boolean Logic, Cemetery, Fuzzy Logic, Pars Abad



University of Zabol  
Graduate school

Faculty of Literature and human sciences  
Department of Geography and urban planning

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**Supervisors:**  
Dr. Gh. Khammar

**Advisors:**  
Dr. A. Kiani

**By:**  
V. Pasban Easlloo

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