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The thesis Submitted for the Degree of M.Sc (In the Field of Geography and Urban Planning)

## Constraints and environmental capabilities of deep water in the development and planning of Zabol city

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## Abstract

The increase in water demand due to population growth and the reduction of available conventional water resources due to climate change has caused the country's nonconventional water resources, especially deep underground water resources, to be in the spotlight. The lack of sufficient information about deep water resources has caused the identification and exploratory studies of these resources with the aim of explaining the country's situation in terms of their existence to be placed on the agenda of various governing bodies. In this context, two separate main studies have been carried out with the titles "Zoning of deep water prone areas in the country" and "Exploration of Sistan's deep water resources", which in these studies are more about identifying the location of deep aquifers and the volume of usable water. Their removal is the focus. Considering the existence of global experiences in this field, it is necessary to pay attention to other important aspects related to these resources, such as social, environmental, renewable, water quality and other issues. Based on this, the aim of the current research is to investigate the limitations and capabilities of the environmental effects of deep waters in the development and planning of Zabol city. Therefore, this research is applied in terms of purpose and descriptive-analytical in terms of type. To analyze the data from Excel, SPSS software, the Importance-Performance Analysis (IPA) technique model has been used. The results of the status and importance of the water issue on the life of Zabol city and the capabilities and limitations were identified through the importance-performance analysis, the relative position and priority of attention to each of the components in the framework of the quadrant matrix, it shows that the important priorities of the first quadrant of the capabilities matrix : Supplying water to rural areas through deep water in this area; and preventing large-scale migrations in the Sistan (Zabol) region and the important priorities of the first quarter of the matrix of limitations: heavy expenses for their development and exploitation (identification, exploration and exploitation); And deep water sources may have low environmental quality (salty, under pressure, with high temperature) due to passing through different manufacturers.

Key words: limitation, capability, ecology, deep waters, Zabol city.