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

**Investigating the Factors Affecting Urban Space Changes with
Emphasis on Land Use (Case Study of Zabol)**

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December 2021

Abstract

The city is a social and physical phenomenon that is under the pressure of urban development and in terms of quantity and quality, many spatial changes occur in them. One of the most common of these changes is urban land use change that disrupts the cohesion of urban space. Land use change has been caused by factors such as population growth, technology development, economic growth and changing community needs. Land is in cities and these changes are in favor of urban uses and to the detriment of non-urban uses.

The purpose of this study is to investigate the trend of changes in urban space and the factors affecting these changes in the years 1380 to 1399. The research method is applied and the nature of the descriptive-analytical method and in order to collect the required data, the method of documentary studies, field and questionnaire, which is simple random sampling, has been used. In this study, Landsat satellite images were evaluated to evaluate land use changes in the two periods of 1380 and 1399, which were processed in ENVI5.3 software environment after making corrections on Landsat TM5 and OLI satellite images for 1380 and 1399. The images were classified using the supervised classification method. The land use map was obtained for each year and the city was classified into four classes: constructed lands, barren lands, orchards, and agricultural lands; And then the modeling output maps were predicted by the CA_MARCOVE method for the year 1419 using idrisi software.

The study of the factors affecting land use change in Zabol city from the community of urban experts was done by simple random sampling method and by distributing a questionnaire. Data were analyzed using descriptive statistics including mean and standard deviation as well as inferential statistics including t-test. The results showed that the factors of urban development plans, urban planning and economic criteria are effective on land use changes. The results obtained between 1380 and 1399 show that the area of developed lands has increased by 1056 hectares, barren lands have increased by 346 hectares and agricultural lands in this period have decreased by about 1356 hectares; Therefore, according to the comparison of classifications and study of land changes, most of the changes in this period are related to agricultural lands. Finally, by using the Markov chain model, land use changes for 1419 are predicted. Therefore, according to the results of forecasting changes, it is likely that in 1419 the amount of 739 hectares of land will be increased and 351 hectares of barren land, 378 hectares of agricultural land and 10.8 hectares of orchards will be reduced.

Keywords: Urban Space, Urban Development, Land Use Change, Zabol