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THE SPATIAL MODEL OF NOISE POLLUTION CAUSED BY INCOMPATIBILITY OF LAND USE IN AHVAZ CITY, IRAN

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Abstract

Noise, as unwanted and unfavorable sound, affects people both psychologically and physiologically. When there is either an extreme quantity of noise or a disagreeable sound that causes a short-term disruption in the environment balance, we have been exposed to noise pollution. Nowadays, because of the new trends in urbanism which are based on various equipment capable of producing a large amount of noise, cities have become major hotspots for noise pollution. In addition, poor urban planning and lack of attention to the principles of urban land use have added to the severity of noise pollution and led to the reduction of acoustic comfort.

Ahvaz, as a strategic and industrial metropolis in southwestern Iran, is one of the cities facing the challenge of noise pollution. The purpose of this study is the preparation of spatial model of noise pollution, determination of compatibility coefficient, and evaluation of urban land use proximity using GIS at Ahvaz regions and zones. The research approach is spatial and its methodology is based on compatibility matrix in GIS software. The findings of this study indicate an intense unbalanced distribution of noise pollution in Ahvaz. The results show that two regions from zone one with a coefficient equal to (0.857) and region five from zone one with a coefficient equal to (0.792) had the highest incompatibility coefficient and the lowest level of acoustic comfort. Also, the lowest incompatibility level is related to region four from zone five with the coefficient of (0.015) and region four from zone two with a coefficient equal to (0.016).

Keywords: acoustic comfort, Ahvaz, land use compatibility, noise map, noise pollution

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