

Spatio-temporal Analysis of Urban and Population Growths in Tripoli using Remotely Sensed Data and GIS.

ABSTRACT

The remote sensing data and GIS have been used widely to analyse and study the patterns of urban expansions. The capital of Libya, Tripoli was selected to perform this study and to examine its urban growth. Four satellite imageries and population censuses of the study area for the time period 1984 to 2010 were used in this work. The objectives of this paper are identifying and analysing the urban sprawl of Tripoli as a pattern and as process. Also to understand and assess the interchangeable relationship of urban growth and population growth of study area. Urban area extents in different time periods were extracted by supervised classification method of the satellite imageries. Then, the population data and urban extents data were coupled to perform the analysis. Additionally, Shannon's entropy technique was used for further assessment of urban growth. The study findings demonstrate that Tripoli had sprawled urban growth during the period 1984 to 2010. Moreover, during the above mentioned period, the urban expansion dispersion rate has shown in an ascending mode. Consequently, this uncontrolled dispersed urban development had resulted in high consumption land rate per capita despite of decrement in population growth rate.

Keyword: Urban Sprawl, Shannon`s Entropy, Population Growth, Remote Sensing, GIS, Tripoli.