Analysis of spatial-temporal data for urban land use changes in Municipality of Nakhonratchsima City, Thailand

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Abstract: Urban environment is essentially key one in Nakhonratchasima City Municipality (NCM) that is caused by land use changes particularly changing from green areas to any sort of housing construction, shopping mall, roads and streets, and other infrastructures. This paper aims to analyse spatio-temporal data for urban land use changes in NCM from 2007-2019. Data collection included the available land use data from Land Development Department (LDD) in year 2007, 2011, 2015 and 2019 (download from Google Earth and land use interpretation). Then, these land use data were processed and analysed in open source Quantum GIS (QGIS) software. The results showed the highest of urban and built-up lands (UBL) in NCM, have increased continuously from 31.60 km2 (83.65%) in 2007 to 34.06 km2 (90.15%). On the other hand, the lowest of forest land (FL) in NCM, has not changed from 2007 to 2019. Agricultural lands decreased from 3.7 km2 (9.80%) in 2007 to 2.16 km2 (5.72%) in 2019. The other land use areas are rarely changed. As conclusion, urban growth of NCM could not stop while FL of NCM areas are still stable. We suggest that official of NCM should suitable implementation of different strategies together with local agencies and communities for adding urban green spaces.
Keywords: Spatial-temporal change; Urban Land use, Nakhonratchasima City Municipality