

عنوان مقاله:

Rural sustainability under threat– The assessment of land use changes to urban area and its impact on surroundings rural settlements, using multi temporal satellite imagery and GIS: a case study on Znanjan

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خلاصه مقاله:

In developing countries, urban development and rural to urban transition usually takes place in an unmanaged way. and they are associated with a series of socio-economical and environmental issues and problems. Urban growth has enlarged the modification of natural resources and has changed land use and land cover patterns in these countries. Land-use and landcover change, as one of the main driving forces of global environmental change, is central to the sustainable development debate. Rapid land use/cover changes leading to the degradation of natural resources that are major problems impeding sustainable development. Detection of such changes may help decision makers and planners to understand the factors in land use and land cover changes in order to take effective measures and can help them to minimize these negative impacts. Remote sensing and GIS techniques may be used as efficient tools to detect and assess land use/cover changes. In this work Zanzan city has been taken as a case to study the urban expansion and land cover change that took place in a span of 27 years from 1984 to 2011. Zanzan has experienced a huge urban growth during the last three decades. This transition has led to the destruction of natural and agricultural lands and rural settlements. In this paper, using Landsat Satellite images in 1984, 1991, 2000 and 2011 land use changes in Zanzan city area were evaluated. In order to detect and evaluate land use changes, image differencing, principal component analyses and Fuzzy ARTMAP classification method are applied. The results revealed that the land use change has occurred for the area of about 4518.32 hectares in the period 1984-2011 in built up area and dry farming and regolith and waste land have most change to built -up area that respectively 1986.84 and 2520.63 hectares. These changes have led to merger of two of the rural settlements including Sayan and Gavazang in Zanzan city.

کلمات کلیدی:

Urban growth, rural to urban transition, sustainable development, change detection, Fuzzy.

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