

Effect of Population Growth and Syrian Refugees on Rangelands Degradation in Jordan

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Abstract

The influence of population growth and Syrian refugees settlement on rangelands degradation in Jordan has been assessed. During the study, 11 Landsat 8 OLI Imagery (cloud free) were used. Maximum likelihood classification was applied to estimate rangeland, vegetation, urban, water and forest percentages over the study period (2013-2015). Then, change detection technique was performed on both 2013 and 2015 images. Change detection analysis using remotely-sensed data revealed a markedly expansion of urban area and a reduction in rangeland percentage especially, in north-western Jordan. Across the study period (2013-2015), Jordanian rangelands percentage decreased by 10.4%, forests by 0.4% and water by 0.5%. Meanwhile, urban lands increased by 10.8% and agriculture area by 0.5%. We attributed this change mainly to Syrian civil war and refugees settlement rather than to normal population growth. This settlement process increased the demand for food and water and accelerated the desertification process in Jordanian rangelands, especially those in the north-western part. Overall, I suggest initiating rigorous urban settlement and land conservation control programs to mitigate land degradation in Jordanian rangelands.