Analyzing land degradation due to road development using Remote Sensing and GIS in Umnugoi province of Mongolia

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ABSTRACT : Nowadays sector of mining has been developing in Umnugovi province of Mongolia, in which some coalbunkers are currently taking action and because of it, coal transportation roads have begun to contributing land degradation. Given load capacity of coal transporting heavy weight trucks is 38 tons, but overloading coal transportation such as 80 to 100 tons, cause an increase in degradation of improved dirt road. This study aims to determine how much area is degraded from coal transportation and surrounding dirt road using a Modified Soil-adjusted Vegetation Index /MSAVI/ and Grassland Degradation Index /GDI/. In order to create map of land degradation factors, we used advanced GIS modeling functions. Climate factors: precipitation, air temperature, and vegetation condition and socio-economic factors: goat number, population number and mining activities of the study area were analyzed n the research.