

Relocation of Livestocks in Rural of Canakkale Province Using Remote Sensing and GIS

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Abstract : Livestock production is one of the most important components of rural economy. Due to the urban expansion, rural areas close to expanding cities transform into urban districts during the time. However, the legislations have some restrictions related to livestock farming in such administrative units since they tend to create environmental concerns like odor problems resulted from excessive manure production. Therefore, the existing animal operations should be moved from the settlement areas. This paper was focused on determination of suitable lands for livestock production in Canakkale province of Turkey using remote sensing (RS) data and GIS techniques. To achieve the goal, Formosat 2 and Landsat 8 imageries, Aster DEM, and 1:25000 scaled soil maps, village boundaries, and village livestock inventory records were used. The study was conducted using suitability analysis which evaluates the land in terms of limitations and potentials, and suitability range was categorized as Suitable (S) and Non-Suitable (NS). Limitations included the distances from main and crossroads, water resources and settlements, while potentials were appropriate values for slope, land use capability and land use land cover status. Village-based S land distribution results were presented, and compared with livestock inventories. Results showed that approximately 44230 ha area is inappropriate because of the distance limitations for roads and etc. (NS). Moreover, according to LULC map, 71052 ha area consists of forests, olive and other orchards, and thus, may not be suitable for building such structures (NS). In comparison, it was found that there are a total of 1228 ha S lands within study area. The village-based findings indicated that, in some villages livestock production continues on NS areas. Finally, it was suggested that organized livestock zones may be constructed to serve in more than one village after the detailed analysis complemented considering also political decisions, opinion of the local people, etc.

Keywords : GIS, livestock, LULC, remote sensing, suitable lands

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