

Determination of Relationship among Shape Indexes Used for Land Consolidation

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Abstract : The aim of the current experiment was to determine the relationship among shape indexes which are used by the researchers in many fields to evaluate parcel shapes which is very important for farming even if these indexes are controversial. In the current study, land consolidation project of Halitaga village in Mersin province in Turkey which has 278 parcel and cover 894.4 ha, was taken as a material. Commonly used indicators such as fractal dimension (FD), shape index (SI), form factor (FORM), areal form factor (AFF) and two distinct area-perimeter ratio (APR-1 and APR2) in land consolidation are used to measure agricultural plot's shape. FD was positively correlated with SI, APR-1 and APR-2 whereas it was negatively correlated with FORM and AFF. SI was positively correlated with APR-1 and APR-2 whereas it was negatively correlated with FORM and AFF. As a conclusion, it is likely that these indexes involved may be used interchangeably due to high correlations among them.

Keywords : GIS, land consolidation, parcel shape, shape index

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