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A GIS model for determination of water resources suitability for goats grazing

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Abstract

Proper use from water resources, especially in arid and semi arid of Iranian
rangeland are very important. In this area water is one of a valuable ecosystem
component. The study was conducted in Ghareh Aghach watershed region is
located, Isfahan province, in central part of Iran. Four criteria's of water quality,
water quantity, water distance and livestock information were integrated to water
resources suitability for goats grazing. According to the results, water distance and
accessibility to water is a most declining factor for suitability. A quality and quantity
factor is a no limiting factor in part of study area. The results show that from
7158.69 ha of studied rangelands, 6245.93 ha (87.25%) classified as S_1 class (with
no limitation), 810.58 ha (11.32%) classified as S_2 class (with low limitation), and
102.3 ha (1.43%) classified as N class (non suitable). Based up on slope classes,
areas that far from water point more than 75% of slope is not suitable and less than
15% are very suitable. Good distribution of water resources increases water
suitability and cause better and monotonous utilization of rangeland.

Key words: Water resources suitability, rangeland, FAO, goats, GIS, Iran.