

An approach for rangeland suitability analysis to apiculture planning in Gharah Aghach region, Isfahan-Iran

ABSTRACT

The Irano-Touranian biogeography region is exposed to degradation because of anthropogenic activities and overgrazing. One of the important indirect applications of this ecosystem is Apiculture, which can be considered for reduce degradation of land and over coming for indigenous people, that were live in this area. It is possible to increase Apicultural ability in an appropriate area by identifying the essential factors and ranking suitability of the rangeland. After considering the factors affecting range suitability for beekeeping, final suitability map is created by using of suggested method of FAO and GIS software. Random sampling was done in vegetation types using 30 (1m 2) quadrates along three 200m long transect. Investigation on quality and characteristics of rangelands showed that three sub models of vegetation cover, environmental factor and water resources had the main role in determination of range suitability for bee keeping. In sub model of Vegetation cover (flowering period, the rate of attractiveness of plants and vegetation cover percent), in sub model of community factors also road and access road to vegetation, elevation and temperature and soil (its indirect influence on vegetation cover),and finally in sub model of Water were most important factors in the model. Decreasing of nectar or pollen vegetation cover, existence of III, IV classes of attractive and shortage of flowering period, soil and road in some vegetation types were most limiting factors of range suitability for bee keeping. In contrast suitable distribution of water resources, good climate condition (temperature, elevation,...) and dominate unpalatable species by over grazing and flowering period increased the rangelands suitability for bee keeping. According to the results from 7158.69 hectares of studied rangelands, 2102.68 hectares (29.37%) classified as S1 class of suitability (without limitation for bee keeping), 3751.81 hectares (52.4%) classified as S2 class (with low limitation), 836.87 hectares (11.69%) classified as S3 class (with high limitation) and 467.55 hectares (6.53%) were classified as N class (non suitable). Generally 82% of the area had acceptable score as excellent suitability for bee keeping. Therefore, considering Apicultural use of the rangeland have important role to increase landholders and promoting rangeland condition.

Keyword: Apiculture; FAO; Nectar and pollen producing plants; Range suitability model