

Localization of range improvement plans using GIS and comparing with suggested projects of range management plans in Lar region

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Introduction One of the major causes of land degradation in Iran is overgrazing by livestock (Moghaddam, 2001). In order to have a proper management in rangeland ecosystems, ecological factors in nature should be understood. Ecological factors include climate, soil, topography, vegetation and organisms. Present range development programs are based on curtailing the conservation of range land, improving forage production by seeding or transplanting forage species under scientifically sound range management plans.

This study was carried out to obtain an approach for designing range management plans through Geographic Information System (GIS), to make the planning process quickly with accuracy.

Material and methods In this research, some ground information including slope, elevation, vegetation, soil, range trend and condition were recorded. Based on integration of these information with the basic consideration of resource management it is possible to improve the existing condition or stabilize the current optimum state. While the new model is ready, then the new and old model should be compared. Based on the results of this method, the GIS integrated model could help us to achieve the information more convenient and quickly. Clarification is an other attribute of this model. The management of rangeland would be better as well. Information of the basic studies would never be lost during integration. Correction of errors would be done quickly as well. Finally these aforementioned items, would lead to higher accuracy.

Results and discussion Result of this study, which was performed in Lar rangelands, showed that the total area of rangeland which should be managed in balance method is 7805 ha. The area to be managed in natural method is 4998 ha, the area to be under enclosure is 2916 ha, the area to be seeded is 6579 ha, the area to be inter seeded is 6269 ha, the area to be hoe sowed is 2925 ha and the rest is rocky, river and farmland. Comparison of suggested plans for range management projects with results of this study (through integration of information using GIS) indicates that some suggested plans are not corresponded with Lar rangelands ecological condition and needs to be revised.

Regarding the results obtained from this research, when information layers such as soil, climate, vegetation, topography, . . . are used and considering plan suggestion indices, range improvement planning will be done with high accuracy.

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