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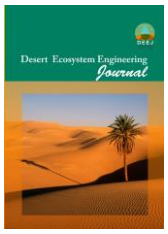

The effect of run off harvesting methods on vegetation condition in arid lands (Case Study: Godar Herisht)

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Abstract

Based on the importance of runoff harvesting method in arid lands, effect of these systems on vegetation production and cover and soil moisture was evaluated. Soil and vegetation were sampled in three sampling areas (Control, Curved pits, Catchment ponds) using randomly-systematic method and in each site (50 hectares), 98 plots were sampled with intervals of 70 m within plots of 1*2 m and in total, 294 plots were used. Yearly growth of the vegetation was cut within 25% of the total plots (294) and was dried and its weight was considered as vegetation production. Twenty percent of total plots related to vegetation cover in each site were selected and two soil samples were sampled in each plot to evaluate soil moisture variation in two depths. The results revealed that the cover percentage as well as vegetation production increased at about 2 times in catchment ponds site and 1.5 times in curved pits site in comparison to the control site. According to the results, it seems that catchment pond method has better performance in comparison to the curved pit for increasing soil moisture and vegetation production and therefore priority of these systems can be advised for rangeland improvement and reclamation in arid lands.

Keywords: cover percentage, vegetation production, Curved pit, Catchment pond, soil moisture.

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