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Study of pasture lands ecology with reference to livestock population in an arid environment

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ABSTRACT : The shrinkage of vegetation fraction cover and depletion of plant varieties in an arid environment show a higher susceptibility to land degradation. In fact, the pasture lands have very poor vegetative cover to sustain even lower pressures of the livestocks. The hot dry continentality stricken Churu district of Western Rajasthan covers an area of 13,740 sq. kilometers. It comprises six tehsils these are Sardarshahar, Taranagar, Rajgarh, Churu, Ratangarh and Sujangarh. These unit encompass nearly 12.40 of area of Indian arid lands which is endemic to desertification endangering the sustainability of the region. The increasing stress of livestock population and hectarage pasture per animal depicts valuable investigation on desert ecology. The study area reported decrease in percent of grazing lands on one hand and increase in number of livestock population on the other. The depletion of vegetation cover and declining land capability endanger the production potential of the land. In the present study vegetation bio-mass variability have been verified with Awifs 11 Feb. 2008 (Fig-1). Image with band ratio NIR-R/NIR+R using NDVI to estimate standing green biomass data and it has been correlated with livestock population in order to measure the risk of land degradation in the study area. It has been observed that there is risk of forage deficit due to uncontrolled grazing and poor rangeland management.

Key Words: Susceptibility, pasture, biomass, desert ecology.