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FACTORS AFFECTING GRASSLAND COMMUNITIES IN JALAUN DISTRICT (U.P.)

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ABSTRACT

A field observation was made to work out the factors affecting the grassland communities in Bundelkhand region of Jalaun district which is ecologically degraded. For two types of grasses selected for the study were Site 1 in forest protected area (PA) while Site 2 outside the protected area. *Sehima nervosum* was the dominant grass on Site 1 and *Aristida royleana* on Site 2.

There was more homogenous distribution of vegetation on Site 1 whereas Site 2 had a patchy distribution of annual grasses with dominance of forbs. Site 1 had an exclusive stand of high perennials *i.e.* did not show significant difference in diversity and dominance index.

Excessive grazing at Site 2 resulted not only in removal of plant cover but also brought reduction in compaction of soil. A considerable decrease in the number of palatable grasses has been observed. The grasses appeared weak and species grew singly. Protected Site 1 showed high diversity index (0.82) than the grazed Site 2 (0.60).

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KEY WORDS : *Aristida royleana*, Diversity Index, Protected Area (PA), *Sehima nervosum*, Site 1, Site 2.

Introduction

In India, grasslands are not entirely natural. They owe their existence to biotic interferences. Habitat fragmentation coupled with management practices like burning and grazing alter important grassland characteristics, such as biodiversity, community structure, primary productivity, biogeochemical cycling and soil stability[3]. There is a need to optimize production and to minimize the degradation factors of these communities and find out the corrective measures for the same. In the present study an attempt has been made to understand the type of grasslands and factors affecting these communties in Jalaun district of Bundelkhand region (U.P.)

Materials and Methods

Jalaun District is located in northern part of Bundelkhand region (U.P.). The district is encompassed by north latitudes 25° 59' and by east longitudes 79° 37' and 141.61 m above mean sea level. It is confined along the bank of Yamuna river which represents the level of ancient flood plain but at present is badly cut into deep ravines. However, the area selected for the study has an undulated topography.

In general, the climate is typical monsoonic (dry sub-humid) with extremes of temperature and well demarcated by three distinct seasons *viz.* rainy (hot and humid) July to October, winter (cold and dry) November to February and summer (hot and dry) March to June. The average annual temperature is uniformly high (25°C) but the mean monthly values vary considerably (13.9°C mean minimum to 34°C mean maximum). The mean annual precipitation is 1169.2 mm of which 84% falls between July to October. The climatic data are depicted in Fig.1 (2009-2010). There are four wet months (July-October) and remaining eight dry months of the year.

The soil is light olive-brown in colour and slightly loam in texture of residual type with shallow