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Abstract: Forests are valuable natural resource. The goods and services provided by forests are of immense importance. The population explosion in India has resulted drastic change in the environment, habitat as well as on number and variety of species. In India Present forest cover is about 21.02% (690,899 km²) of total geographical area, whereas, in Jharkhand state which is characterized by hill, minerals and tribals, the forest cover is about 29.61% (23,605 km²) of the geographical area of the state. However, this much percentage of the forest is not sufficient to meet the people's demand as a result the forest wealth is facing lot of problems. Ultimately the forest of the area is also affected due to intensive rate of deforestation or tree removal. Man and his domestic animals are the most important factors affecting forest vegetation, although man has been managing forests on scientific basis principle for the past 100 years or more, yet maximum destruction is cause by man in many part of the world. The present study has been conducted to assess the effect of biotic disturbances on two forest areas of Rarha Road identified as biotically disturbed and biotically undisturbed sites, which is located in hilly region of Chotanagpur Plateau of Jharkhand at distance of 25 km from Ranchi on Ranchi-Patratu. The data was collected by partial sampling techniques taking the randomly distributed sample plots on both the sites in 5 ha area on each type. For collection of data on trees, shrubs, herbs and climbers, separate sample plots of the size 10.00 m X 10.00 m, 5.00m X 5.00m and 1.00 m X 1.00 m are selected, respectively. All the plant species whether it is tree, shrub, herb and climber occurred in a sample plot was recorded with respect to the number and basal area. In case of tree species diameter and height was also measured. Study on species composition of biotically disturbed and undisturbed sites indicted presence of 73 plant species distributed to different families. Out of a total of 19 tree species, 12 species was found at both the sites viz. biotically ii disturbed as well as undisturbed sites, while at of 10 shrub species, 6 shrubby species were common at both sites. Total number of herbaceous species was noticed as 31, out of which, 19 were common at both the sites. Out of 13 climber species, 8 were found at both sites. While remaining 5 climber species was found only at undisturbed site. The maximum value of density, frequency and abundance were found for Sal (*Shorea robusta*) among ten selected economically important tree species at biotically disturbed and undisturbed sites. Similarly, maximum relative dominance values were found for Sal (*Shorea robusta*) at both the sites. However, maximum variation, were noticed in case of Palash, Kendu and Semal. Among 8 commonly occurring species at disturbed and undisturbed sites in 7 tree species (Asan, Jamun, Kendu, Mahua, Piar, Palash and Sal) more average diameter at undisturbed site was found. The top diameter at undisturbed site for Asan, Jamun, Kendu, Mahua, Palash and Sal was found greater than disturbed site, while on disturbed site Semal and Piar have shown more diameter. The average height of Sal among ten species was found more at undisturbed site (17.86m) than disturbed site (13.33m). The top height estimated to know site quality of a forest area has indicated at maximum value in case of Jamun (15.50 m), followed by Semal (15.00 m) and minimum in case of Rori (9.75 m) an disturbed site, while at undisturbed site, maximum top height was calculated for Sal (20.41 m) and minimum in case of Kendu (11.50 m). At disturbed site maximum form quotient value has of Kushum (0.99) indicated cylindrical form, while at undisturbed site, Sal bearing on value of 0.90 for form quotient showed cylindrical form. The total volume of Sal was found maximum as compared to all most all the tree species. The total volume of Sal at undisturbed site (268.90 cu.m/ha) was found almost eight time greater than its value at disturbed site (33.17 cu.m/ha). Fair regeneration Sal (36.7%) and Palash (29.5%) at disturbed site, while moderate (59.8%) in Sal and deficient (19.5%) in Palash at undisturbed site is noticed. Other species found at both the sites showed deficient regeneration. iii Physico-Chemical properties of soil in biotically disturbed and undisturbed sites of Rarha forest area has indicated sandy loam soil on both the sites, while percentage of silt and sand was found more at undisturbed site. The soil pH ranged from 6.15 to 6.93 at biotically disturbed site, and 5.27 to 5.90 for undisturbed site. The value of organic carbon (%) was found more at undisturbed sites. The difference of available nitrogen between two sites (undisturbed and disturbed) was highly significant than available phosphorus and available potassium.

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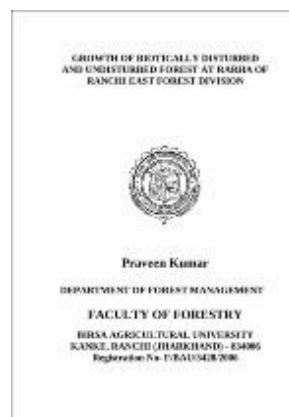
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